## Levi, Andrew (COMM)

**From:** Eldon McIlwain <Eldon.McIlwain@gov.ab.ca>
**Sent:** Monday, July 10, 2017 6:56 PM
**To:** Contact, Commissioner (COMM)
**Cc:** MN_COMM_Pipeline Comments; Doug Lammie; Carrie Clifford; ryan loney
**Subject:** Government of Alberta Technical Submission
**Attachments:** Technical Submission.docx; Government of Alberta - Minister Letter.pdf

Commissioner Mike Rothman,

On behalf of the Minister of Energy for the Government of Alberta, attached please find our written comments on the Draft Environmental Impact Statement in support of the Enbridge Line 3 Replacement Project.

Thank you

**Eldon McIlwain** Chief of Staff
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ALBERTA
ENERGY

*Office of the Minister*
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AR28503

July 10, 2017

Mr. Mike Rothman
Commissioner
Minnesota Department of Commerce
Golden Rule Building
Suite 280, 85 7th Place East
Saint Paul MN 55101
U.S.A.

CN-14-916 and PPL-15-137

Dear Mr. Rothman:

I am writing to provide the Government of Alberta's written comments on the Draft Environmental Impact Statement in support of the Enbridge Line 3 Replacement Project. Alberta supports Line 3, as this pipeline is part of a large, integrated energy and economic system that generates jobs for millions of Americans and Albertans.

Please find Alberta's submission enclosed, which includes:

- an updated account of Alberta and Canada's recent climate action initiatives;
- an overview of Alberta's oil sands and greenhouse gas emission intensity; and
- information on the behaviour of diluted bitumen.

In addition to Alberta's unwavering support, I also want to take this opportunity to reiterate Canada's approval of the Canadian portion of the Line 3 Replacement Project. The approval occurred on November 29, 2016, following an extensive regulatory review process.

Carefully monitored, carefully regulated pipelines remain the safest, most efficient way to transport energy resources. Pipeline companies are subject to various regulations and are required to meet specific standards. Companies are also required to create a management system and protection programs that anticipate, prevent, manage and mitigate potentially dangerous conditions associated with their pipelines.

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Not only will the Line 3 replacement make the transportation of crude safer and more reliable, this project will create an estimated 15,952 temporary full-time equivalent jobs in Minnesota. The total economic benefit of the project for Minnesota is estimated at $2.47 billion during construction. Furthermore, the project will contribute more than $19.56 million in tax benefits to the local economy through the design and construction phase.

Beyond the benefits of Enbridge Line 3, I also want to take this opportunity to remind you of Alberta's long-standing ties with the U.S. We have a long history of trade and cooperation, and we are committed to our mutually beneficial relationship to create jobs and grow the economy on both sides of the border.

Alberta is the U.S.' largest and most trusted energy partner, and the American economy greatly benefits from the contribution of our energy exports. In 2016, Alberta supplied approximately 34 per cent of U.S. oil imports, and provided 99.6 per cent of the crude imported into PADD 2, fuelling the economy of the U.S. Midwest. Between 2010 and 2014, 37,000 Americans worked in Alberta contributing to Alberta's growth while supporting families throughout the U.S. Additionally, 28 firms from Minnesota supply equipment, parts and services to *Alberta's oil* sands.

Alberta values its role in integrated North American energy markets and is committed to its longstanding status as a reliable supplier of energy to the U.S. By importing Alberta's oil, the U.S. gets a safe and stable supply of energy produced under one of the most ambitious climate policy frameworks in the world. We are proud to be the first jurisdiction in the world to voluntarily legislate a limit on oil sands emissions growth. With Alberta's oil sands currently emitting about 70 megatonnes per year, the 100 megatonne per year emissions cap for oil sands producers allows for continued growth while at the same time ensuring future growth is responsibly managed.

Trade generates employment for millions of workers in Alberta and in the U.S. Furthermore, Alberta's bilateral trading relationship with the U.S. accounted for more than $84 billion in 2016. Bilateral trade between Alberta and the U.S. is estimated to create more than 700,000 jobs in Alberta and nearly one million (966,827) jobs in the U.S. Alberta is also an important consumer of U.S. goods, with approximately two thirds (66 per cent) of Alberta's total international imports coming from the U.S., including in the following sectors: mining and oil and gas; machinery and electrical; transportation; and agriculture and food.

Trade between Alberta and Minnesota is also considerable—it totaled more than $3.2 billion in 2016, including $164 million worth of goods exported from Minnesota to Alberta. It is estimated that approximately 23,500 jobs in Minnesota are the result of merchandise and services exports to Alberta.

It cannot be disputed that Alberta's ties with the U.S. run strong and deep. With that said, I would like to again reiterate the Government of Alberta's support for the Enbridge Line 3 pipeline.

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This pipeline is just one example of our interconnectedness, and I appreciate the opportunity to provide a submission outlining current information on Alberta's oil sands, including how they are produced in an environmentally responsible manner.

If you have any questions, please don't hesitate to contact my office.

Sincerely,

Minister McCuaig-Boyd

Enclosure

cc: Honourable Rachel Notley
Premier of Alberta

Honourable Deron Bilous
Minister of Economic Development and Trade

Honourable Margaret McCuaig-Boyd
Minister of Energy

Gitane De Silva
Alberta's Senior Representative to the United States of America

Jamie MacAlister
Environmental Review Manager
Minnesota Department of Commerce

Alberta Government

Minnesota Department of Commerce Draft Environmental Impact Statement for the Enbridge Line 3 Replacement Project

**GOVERNMENT of ALBERTA TECHNICAL SUBMISSION**

The Government of Alberta has reviewed the Draft Environmental Impact Statement (DEIS) prepared by the Minnesota Department of Commerce (Department) for Enbridge's Line 3 Replacement Project. Alberta appreciates the opportunity to provide comments on the potential impacts associated with the Minnesota Public Utilities Commission's upcoming decision on whether or not to approve the Certificate of Need and route permit application submitted by Enbridge Energy, Limited Partnership, on April 24, 2016. The submission will focus on seven areas of the DEIS: scope; abandonment; tribal monitoring program; pipeline safety; Alberta and Canada's recent climate action initiatives; Alberta's oil sands and greenhouse gas emission intensity; and the behaviour of diluted bitumen in water.

**Scope**

Although the Government of Alberta did not have the opportunity to provide comments on the scope of the DEIS during the 45-day comment period, ending on May 26, 2016, Alberta would like to note it is pleased to hear that the following will be considered to be outside of the scope of the DEIS for a single pipeline:

- larger energy policy issues; and
- comprehensive policy-level assessment of fossil fuels in our society and associated tribal rights.

It is concerning, however, that the following is stated on page four of Chapter 1 - Introduction:

> *"…the environmental review and permitting procedure for the Project presents an opportunity for a full evaluation of environmental and socioeconomic factors that did not necessarily enter into the original routing decisions for Enbridge's Mainline system."*

While the Government of Alberta does recognize that the original Mainline was not subject to state or federal environmental review or state procedures for Certificate of Need and route permitting, Alberta does not believe that this current review of the proposed Line 3 Replacement Project is the appropriate venue to have a *full evaluation of environmental and socioeconomic factors* on the Mainline that has been in service since the 1960s. The proposed Line 3 Replacement Project is an integrity program intended to ensure the safety and reliability of the Mainline system. The Government of Alberta believes it would be imprudent to delay the proposed integrity program to conduct a comprehensive retrospective review of the Mainline system. 2600-1

**Abandonment**

The Government of Alberta understands that the removal of the existing Line 3 would not be the ideal option in the case of this proposed project, mainly as a result of various other pipelines running along the same right-of-way of the existing line. Alberta is encouraged that the DEIS states on page 22 of the Executive Summary:

> *"Although removing the pipeline is potentially desirable, abandonment is easier and far less risky."*

**Tribal Monitoring Program**

Section 9.5.4 of the Line 3 DEIS states:

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*"While non-quantifiable impacts are difficult, if not impossible, to mitigate, tribes feel they should be entrusted with the inspection, monitoring, and maintenance activities in and through their lands and territories as they are most familiar with their resources. If tribes were given a more active role in the monitoring and inspection of pipelines, they would be better prepared to address leaks or spills that could occur within reservation boundaries."*

The Government of Alberta would like to note that the above noted request from tribes is not uncommon, and has been addressed in previous regulatory hearings for oil pipeline projects. During the U.S. Department of State's review of TransCanada's Keystone XL project in 2012, a Tribal Monitoring Plan was included in Appendix E of the Final Supplemental Environmental Impact Statement (https://2012-keystonepipeline-xl.state.gov/documents/organization/221220.pdf). The Keystone XL impact statement's plan would warrant tribal monitoring during clearing and trenching for potential religious and cultural effects to tribal groups.

On the Canadian side of the border, the Line 3 Replacement Project was approved by the federal government, subject to 89 conditions that were developed by the National Energy Board (NEB). The NEB regulates the construction, operation, and abandonment of pipelines that cross international borders or provincial boundaries, as well as related pipeline tolls and tariffs. Before making a public interest decision or recommendation, the NEB factors in economic, environmental, and social considerations. One of the conditions for the Line 3 Replacement Project is an Aboriginal Monitoring Plan (page 235 of the NEB Report – Enbridge Line 3 Replacement Detailed Assessment, https://apps.neb-one.gc.ca/REGDOCS/File/Download/2949687) on the Canadian side of the border, where Enbridge is required to file a plan describing participation by Aboriginal groups in monitoring during construction. Enbridge will then be required to follow through with this plan during the construction period of the project.

**Pipeline Safety**

In Chapter 10 – Accidental Crude Oil Releases, section 10.2.1.1.2, the DEIS references the Alberta Energy Regulator (AER) for Alberta pipeline data in relation to safety and spill history. The DEIS notes that AER regulated pipelines are typically smaller in diameter and do not necessarily carry the same products as the proposed Line 3 Replacement Project will. Given that pipelines regulated under the AER have different physical characteristics and are regulated under different acts and regulations than NEB regulated pipelines, such as Line 3, this could result in an overestimation of Line 3 Replacement pipeline failure probabilities. The Government of Alberta would like to direct the Department to the NEB website, where more comparable pipeline safety information can be found for Canada. As mentioned above, the NEB regulates cross-border pipelines and is responsible for regulating the Line 3 Replacement Project on the Canadian side of the border. The pipeline safety portion of the NEB website can be reached here: http://www.neb-one.gc.ca/sftnvrnmnt/sft/index-eng.html. The NEB is a life-cycle regulator, continually requiring pipeline companies to evaluate and improve the effectiveness of their management systems.

**Alberta and Canada's Recent Climate Action Initiatives**

Alberta and Canada have taken major steps to mitigate climate change. Recent Alberta legislation and Canadian federal policy initiatives aiming to limit greenhouse gas (GHG) emissions should be considered when calculating cumulative impacts on climate change in section 5.3.7 of the DEIS.

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Alberta has stringent environmental standards and environmental assessment processes for all resource development. The province's comprehensive regulatory system for environment management is guided by key pieces of legislation including the *Environmental Protection and Enhancement Act* (EPEA), *Water Act*, *Public Lands Act*, and *Oil Sands Conservation Act*. EPEA approvals set out conditions for construction, operation, and reclamation of large industrial and mining activities in Alberta. Conditions include limits on releases to the environment (air and water), monitoring and reporting requirements, and expectations for participation in multi-stakeholder initiatives. Prior to any oil sands facility being built, the operator must obtain approvals that ensure achievement of environmental standards and management objectives set out in the regulations, policies, and plans. Projects undergo a thorough environmental assessment that ensures adequate information is provided by the proponent to make a decision on an activity.

Alberta became the first jurisdiction in North America to legislate greenhouse gas emission reductions for large industrial facilities through the Specified Gas Emitters Regulation (SGER). This regulation required facilities emitting 100,000 tonnes or more of GHGs a year to reduce their emissions intensity.

In 2018, Alberta will transition from the current SGER to an output-based allocation system. Under this new system, benchmarks will be set relative to high-performing (low emitting) industry peers or competitors who produce the same or similar products. The transition will ensure that incentives exist for continuous improvement in emissions intensity.

In 2015, the Government of Alberta released its Climate Leadership Plan (CLP). The CLP has four main policy areas:

- Implementing a carbon price across all sectors, which starts at $20 per tonne in 2017 and increases to $30 in 2018;
- Ending pollution from coal-generated electricity by 2030;
- Capping oil sands emissions to 100 mega tonnes (MT) per year; and
- Reducing methane emissions by 45% by 2025.

Alberta's legislated cap of 100 MT is a major step toward reducing emissions. Alberta is proud to be the first political jurisdiction in the world to voluntarily legislate a limit on emissions growth. The implications of this cap are important. It will help bend Alberta's overall emissions trajectory downward and allow Alberta to sell its product into global markets as one of the world's most progressive and forward-looking energy producers.

**Canada**

As part of the Pan-Canadian Framework on Clean Growth and Climate Change, the Government of Canada has reaffirmed its commitment to reducing methane emissions from the oil and gas sector by 40 to 45 per cent from 2012 levels by 2025. Environment and Climate Change Canada has developed proposed regulations that would reduce cumulative GHG emissions by 282 MT of carbon dioxide equivalent over an 18-year period. [1]

[1] https://www.canada.ca/en/services/environment/weather/climatechange/climate-action/technical-backgrounder-proposed-federal-methane-regulations-oil-gas-sector.html

The Pan-Canadian Framework also includes a federal carbon pollution pricing backstop, composed of two elements[2]. The first element consists of applying a carbon levy to fossil fuels, starting at $10 per tonne in 2018 and increasing to $50 per tonne by 2022. The second element would implement an output-based pricing system for industrial facilities that emit above a 50,000 tonnes of carbon dioxide equivalent, with an opt-in capability for smaller facilities with emissions below the threshold. This output-based pricing will come into effect on January 1, 2019.

**Alberta's Oil Sands and Greenhouse Gas Emission Intensity**

Through its internal analysis, the Government of Alberta concludes that the approval of the Enbridge Line 3 Replacement Project is not expected to affect demand for Canadian crude oil in the U.S. or Canadian crude oil production in general. Market forces (e.g. price of crude) will determine Canadian crude oil demand in the U.S. and crude oil production in Canada. The decision on the Line 3 Replacement would only affect how crude oil is transported from Canada to U.S. refineries. Should the project not be built, more crude oil could travel to U.S. refineries by rail, increasing emissions, as rail is more emissions intensive compared to pipeline transport. This has also been confirmed in the U.S. Department of State's Final Supplemental Environmental Impact Statement (FSEIS) for TransCanada's Keystone XL project.[3]

**Lifecycle Emissions**

The Minnesota Department of Commerce utilized the Department of State's (DoS) 2017 Enbridge Line 67 Draft Supplemental Environmental Impact Statement (DSEIS) to develop the GHG lifecycle assessment for the Line 3 Replacement DEIS for a Certificate of Need and route permit. The Department bases the lifecycle GHG emissions for the Line 3 Replacement, and the subsequent 30-year social cost of carbon calculation, on a single point estimate, 632 kg $CO_2$-*e*/barrel of crude oil, for heavy Western Canadian Sedimentary Basin (WCSB) crude oil developed by the DoS using the Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) Model. Alberta believes that GHG estimates should consider the following three points: the continuum of GHG intensities rather than single point estimates, advances in oil sands technology and implementation of climate change policies, and the treatment of petroleum coke.

**1. Although lifecycle GHG emissions estimates are frequently reported in various studies as single point estimates, commonly traded crude oils fall on a continuum of GHG intensities, or exhibit incremental differences. Using single point GHG estimate implies categorization of crude streams, which results in "step-change" differences with no overlap, which may not be valid.**

In Table 5.2.7-10., the Department provides two values for GHG emissions intensity for heavy WCSB crude oil, both obtained from the Line 67 DSEIS. The lower value, 584 kg $CO_2$-*e*/barrel of crude oil, was developed from a weighted average of various studies (Table 6-7 of Line 67 DSEIS), and the higher value, 632 kg $CO_2$-*e*/barrel of crude oil, was developed through GREET modeling. The DoS single-point estimates for heavy WCSB crude oil do not consider the following:

- There is a wide range of different crude oils that could exist within any one pathway. For example, Suncor's synthetic crude (OSA) and Syncrude's sweet premium (SSP) crude oils have different GHG intensities, but would belong to the same pathway ("mining and upgrading" as identified in Table 6-7 of the Line 67 Expansion DSEIS).

[2] https://www.canada.ca/content/dam/eccc/documents/pdf/20170518-1-en.pdf
[3] https://2012-keystonepipeline-xl.state.gov/documents/organization/221198.pdf

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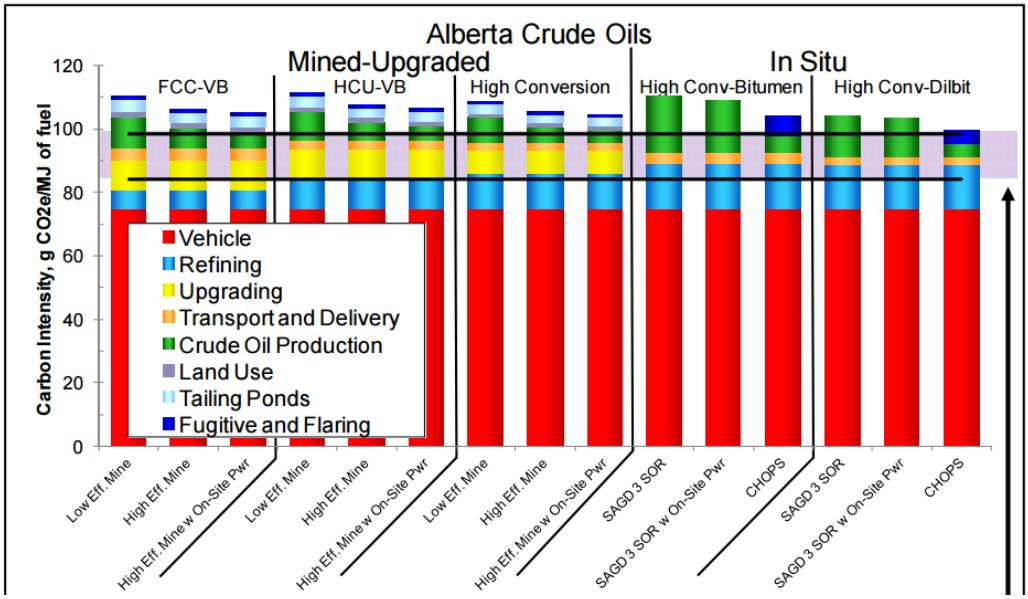
- A range of GHG intensities exists for heavy WCSB crude oil, in part due to processing technologies, as seen in Figure ES-9 below.[4]

**Figure ES-9.**
**Carbon Intensity of Producing Diesel from Heavy Alberta Crude Oils**




*(from Jacobs Consultancy, "EU Pathway Study: Life Cycle Assessment of Crude Oils in a European Context", March 2012)*

- In comparing WCSB crude oils with other crude oils, the DoS combines various studies and different assumptions in modeling well-to-wheels[5] (WTW) GHG emissions. The issue with such an approach is that it is not valid to directly compare the absolute GHG emission estimates among studies with different assumptions and methodologies. Accurate WTW GHG estimates require a consistent methodology applied to all fuel pathways and their individual WTW stages[6].
- In Table 5.2.7-10., single-point estimates for GHG intensities are provided for various crude oil types. In reality, a range of GHG intensities exists for all crudes, and these ranges may overlap such that the distinction between crude types is not statistically significant.

Data quality and availability are two of the most important factors in lifecycle emissions estimations. Presentation of single-point estimates of GHG intensity without associated errors or confidence intervals may perpetuate the impression that a single estimate adequately reflects the GHG intensity of a given crude oil.

- In particular, there is limited high-quality data available for crude oils outside of Canada and the U.S. For most other crudes, lifecycle emissions studies need to make many assumptions, leading to high uncertainty in comparing the crudes. Additionally, it should

[4] Jacobs Consultancy, "EU Pathway Study: Life Cycle Assessment of Crude Oils in a European Context", March 2012
[5] Well-to-Wheels is the assessment of the environmental impact of a given product or service throughout its entire lifespan.
[6] Jacobs Consultancy, "EU Pathway Study: Life Cycle Assessment of Crude Oils in a European Context", March 2012

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be acknowledged that Alberta crude oil production data is among the best available in the world, and third-party audited[7].

- It is important to recognize that the GHG intensity across a crude oil's lifecycle is typically estimated or modeled, but not measured. As a result, many assumptions in the estimation or modeling process can change the outcome of any GHG estimates significantly. Hence, measured data would exhibit less data uncertainty compared to modeled data.

In Table 5.2.7-10., the Department provides 584 and 632 kg $CO_2$-*e*/barrel of crude oil for GHG emissions intensity for heavy WCSB crude oil, both of which are higher than other commonly referenced WTW lifecycle assessment reports and studies shown in Table 6-12 of Appendix U of the DoS' FSEIS for the Keystone XL Project released in January 2014 (533-568 kg $CO_2$-*e*/barrel of crude oil as shown in the WCSB rows in table below).

**Table 6-12 WTW GHG Emissions per Barrel for Reference Crudes, by Study and Lifecycle Stage**

| | | GHG Emissions kg$CO_2$e per Barrel of Gasoline and Distillates[a] | | | | | |
|---|---|---|---|---|---|---|---|
| Study | Crude Type | Crude Oil Production | Crude Oil Transport | Refining | Finished Fuel Transport | Fuel Combustion | WTW Total |
| Jacobs | Middle Eastern Sour | 43 | 15 | 69 | 2 | 396 | 526 |
| | Mexican Maya | 68 | 6 | 74 | 2 | 398 | 549 |
| | Venezuelan | 52 | 7 | 86 | 2 | 405 | 553 |
| | WCSB | 96 | 1 | 71 | 2 | 387 | 557 |
| TIAX | Middle Eastern Sour | 1 | 5 | 59 | IE | 390 | 456 |
| | Mexican Maya | 17 | 1 | 63 | IE | 390 | 470 |
| | Venezuelan | 55 | 1 | 67 | IE | 390 | 513 |
| | WCSB | 74 | 9 | 59 | IE | 390 | 533 |
| NETL | U.S Average (2005) | 36 | 7 | 47 | 5 | 393 | 488 |
| | Middle Eastern Sour | 13 | 15 | 55 | 5 | 393 | 480 |
| | Mexican Maya | 36 | 6 | 70 | 5 | 393 | 510 |
| | Venezuelan | 23 | 6 | 58 | 5 | 393 | 485 |
| | WCSB | 105 | 5 | 61 | 5 | 393 | 568 |

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The Government of Alberta recommends the Department review and incorporate the DoS process and/or data from the Keystone XL FSEIS (2014) in the Line 3 DEIS. The FSEIS established criteria and followed an explicit process to select studies to complete further GHG lifecycle analyses. In contrast, in the Line 67 DSEIS, the DoS (2017) did not provide criteria or the analytical process to determine GHG intensities for various crude oils.

- The DoS states in the Line 67 DSEIS that all lifecycle emissions calculations are based on the average of values for pathways by selected studies. In Table 6-1 of Appendix U of the DoS' FSEIS for the Keystone XL project (see below), the DoS provided the criteria used to develop a weighted-average GHG estimate for WCSB oil sands crude (2014). Based on the criteria shown in Table 6-1, the DoS selected the Jacobs (2009), TIAX (2009), and NETL (2008, 2009) studies in developing averages for the WCSB crude mix for Keystone XL.

[7] Jacobs Consultancy, "EU Pathway Study: Life Cycle Assessment of Crude Oils in a European Context", March 2012

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**Table 6-1 Evaluation of Studies that Provided Sufficient Independent, Comprehensive Information to Develop Weighted-Average GHG Emissions Estimates for WCSB Oil Sands Crudes**

| Study | Type | Includes crudes likely transported by proposed Project | Evaluates full WTW GHG emissions | Does not average across same studies already included in review | Meets criteria |
|---|---|---|---|---|---|
| NETL 2008; 2009 | Individual LCA | Y[a] | Y | Y | Y |
| IEA 2010[b] | Meta-analysis | N[c] | Y | N | N |
| IHS CERA, 2010 | Meta-analysis | Y | Y | N | N |
| IHS CERA, 2011 | Meta-analysis | Y | Y | N | N |
| IHS CERA, 2012 | Meta-analysis | Y | Y | N | N |
| NRDC, 2010 | Meta-analysis | Y | Y | N | N |
| ICCT, 2010 | Individual LCA | N[d] | N[e] | Y | N |
| Jacobs, 2009 | Individual LCA | Y | Y | Y | Y |
| Jacobs, 2012 | Individual LCA | Y | Y | Y | Y[7] |
| TIAX, 2009 | Individual LCA | Y | Y | Y | Y |
| Charpentier et al., 2009 | Meta-analysis | N[f] | Y | N | N |
| Brandt, 2011 | Meta-analysis | Y | Y | N | N |
| RAND, 2008 | Individual LCA | N[g] | N[h] | N | N |
| Charpentier et al., 2011a | Partial LCA | Y | N[i] | Y | N |
| Bergerson et al., 2012a | Partial LCA | Y | N[i] | Y | N |
| CARB OPGEE, 2013a | Model | Y | N | Y | N |
| Pembina Institute, 2005 | Partial LCA | N[j] | N[k] | Y | N |
| Pembina Institute, 2006 | Partial LCA | N[l2] | N[k] | Y | N |
| McCann, 2001 | Individual LCA | N[m] | Y[n] | Y | N |
| GHGenius, 2010 | Model | N[o] | Y | Y | N |
| GREET, 2010 | Model | N[p] | Y | Y | N |
| Rooney et al., 2012 | Land use change journal article | N[q] | N[q] | Y | N |
| Yeh et al., 2010 | Land use change journal article | N[r] | N[r] | Y | N |

- The DoS provided a summary of key design factors used in studies reviewed for the Keystone XL FSEIS.

**Table 4-13 Summary of Key Study Design Features that Influence GHG Results**

| Estimated Relative WTW Impact:[a] | | High | | | | | Medium | | | | Low |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Source | Data Reference Year(s) | Petroleum coke combustion[b] | Cogeneration credit[c] | Upstream production of fuels included[d] | Flaring/ venting GHG emissions included | Capital equipment included[e] | Refinery emissions account for upgrading[f] | Local and indirect land use change included | Methane emissions from tailing ponds included | Fugitive leaks included | Methane emissions from mine face |
| NETL, 2008 | 2005 | No | NS | Yes | Yes | No | No | No | NS | Yes | NS |
| NETL, 2009 | 2005 | No | NS | Yes | Yes | No | No | No | NS | NS | NS |
| IEA, 2010 | 2005-2009 | NS | NS | Yes | NS | NS | NA | No | Yes | NS | NS |
| IHS CERA, 2010, 2011, 2012 | ~2005-2030 | V | V | No | NS | NS | NA | No | V | NS | V |
| NRDC, 2010 | 2006-2010 | NS[g] | NS[g] | P | NS | NS | NA | No | NS | NS | NS |
| ICCT, 2010 | 2009 | NS | No | P | Yes | No | No | No | NS | Yes | NS |
| Jacobs, 2009 | 2000s | Yes | Yes | Yes | Yes | No | Yes | No | No | Yes | No |
| Jacobs, 2012 | 2000s | Yes | No[h] | Yes | Yes | No | Yes | Local | Yes | Yes | Yes |
| TIAX, 2009 | 2007-2009 | P | P | Yes | Yes | No | Yes | No | Yes | Yes | Yes |
| Charpentier, et al., 2009 | 1999-2008 | NS[g] | NS[g] | V | NS | V | NA | No | NS | NS | NS |
| Brandt, 2011 | V | V | V | V | NS[g] | V | NS[g] | V | V | V | V | V |
| RAND, 2008 | 2000s | NS | NS | NS | Yes | No | No | No | Yes | Yes | Yes |
| Charpentier et al. 2011a | 2009 | No | Yes[i] | Yes | Yes | No | NA | No | No | Yes | NS |
| Bergerson et al. 2012a | 2009 | No | Yes[i] | Yes | Yes | No | NA | No | No | Yes | NS |
| CARB OPGEE, 2013a | 1990s, 2000s | No | NS | Yes | Yes | No | NA | Yes | | | |
| Pembina Institute, 2005 | 2000, 2004 | NS | NS | NS | P | No | No | No | NS | P | NS |
| Pembina Institute, 2006 | 2002-2005 | NS | NS | No | P | No | No | No | Yes | Yes | Yes |
| McCann, 2001 | 2007 | P | NS | Yes | NS | No | NS | No | NS | NS | NS |
| GHGenius, 2010 | Current | Yes | No | Yes | Yes | No | NS | Local | Yes | Yes | Yes |
| GREET, 2010 | Current | NS | NS | Yes | Yes | No | NS | No | NS | Yes | NS |
| Rooney, et al., 2012 | 1990s, 2000s | NA | NA | NA | NA | NA | NA | Local | No | NA | NA |
| Yeh, et al., 2010 | 2000s | NA | NA | NA | NA | NA | NA | Local | Yes | NA | NA |

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2600-2 Cont'd

- Studies completed since the DoS published the FSEIS for the Keystone XL Project were not considered by the DoS in the Line 67 DSEIS. The Government of Alberta recommends the Department review more recent studies, including IHS Energy's Special Report "Comparing GHG Intensity of the Oil Sands and the Average US Crude Oil" (2014).

2600-3

The Government of Alberta recommends the Department modifying Table 5.2.7-11 to reflect a range of possible values, recognizing that GHG intensities of heavy WCSB crude oil actually fall on a continuum. The table below provides analysis based on both 584 and 632 kg $CO_2$-*e*/barrel of crude oil, which the Department provided in Table 5.2.7-10, rather than being based on only the higher value of the range (632 kg $CO_2$-*e*/barrel of crude oil). In addition, it is recommended that a description of the input data and assumptions for the analysis completed for Table 5.2.7-11 be provided either in the table preamble text or a footnote to the table.

2600-4

The Government of Alberta also recommends the Department add another displacement scenario in Table 5.2.7-11, where 760,000 barrels per day (bpd) of WCSB heavy crude oil displaces the 390,000 bpd of WCSB light crude oil from the existing Line 3 and 370,000 bpd of Venezuelan heavy crude oil, as shown below. The 390,000 bpd of light crude oil volumes displaced on Line 3 would potentially displace heavy crude oil volumes elsewhere on the Enbridge Mainline or on the rail transport system. This displacement scenario could potentially alter the overall GHG emissions impact for the Line 3 project and can be found in the fourth row of the table below, where crude imported from Canada displaces crude imported from Venezuela[1].

**Table 5.2.7-11 Average Life-Cycle Greenhouse Gas Emissions for Various Crude Oils**
***Adapted from original with Government of Alberta calculations (Row 2, 3 and 4)***

| Scenario | Annual Life-Cycle GHG Emissions (million tons CO2-e) | Incremental Annual Life-Cycle GHG Emissions (million tons CO2-e) | 30-Year SCC for Incremental Life-Cycle GHG Emissions (2007 dollars) |
|---|---|---|---|
| Existing Line 3 (390,000 bpd WCSB Light) | 80.5 | 0 | 0 billion |
| Line 3 Replacement (760,000 bpd WCSB Heavy) - No displacement | 259 - 273.5 | 178.5 - 193 | 265 - 287 billion |
| Line 3 Replacement (760,000 bpd WCSB Heavy) - Displaces 390,000 bpd WCSB Light and 370,000 U.S. Light Tight Oil | 102 - 115.5 | 21.5 - 35 | 32 - 52 billion |
| Line 3 Replacement (760,000 bpd WCSB Heavy) - Displaces 390,000 bpd WCSB Light and 370,000 Venezuelan Heavy | 95.5 - 110.5 | 15 - 30 | 22 - 44 billion |

[1] https://www.eia.gov/dnav/pet/pet_move_impcus_a2_nus_epc0_im0_mbblpd_a.htm

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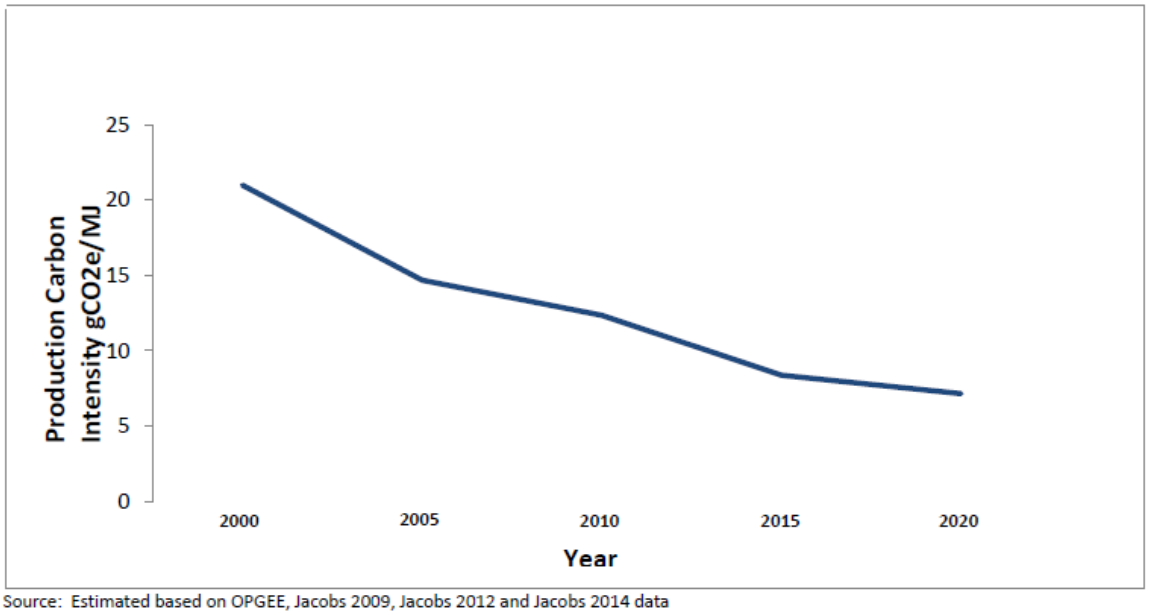
**2. Lifecycle emissions should account for future crude volume projections, anticipated industry trends with respect to advances in oil sands technology, and the implementation of various climate change policies.**

Data from Stanford University's Oil Production Greenhouse Gas Emissions Estimator (OPGEE) and Jacobs Consultancy (2009, 2012, 2014) demonstrate reduction in carbon (GHG) intensity of production/extraction of Alberta oil sands crude since 2000. Technological development has substantially reduced the energy intensity of extracting Alberta oil sands.




Source: Estimated based on OPGEE, Jacobs 2009, Jacobs 2012 and Jacobs 2014 data

The Line 67 DSEIS appears to calculate Line 67 crude mix volumes depicted in Figure 6-20 solely on volumes obtained from the 2013 AER ST-39[8]. It is recommended that crude mix volumes be calculated based on future projections (e.g. Canadian Association of Petroleum Producers (CAPP) or NEB forecasts).

Alberta oil sands production using primary oil production methods has averaged ~250,000 bpd from 2014-2016[9], however, a primary oil production pathway was not included in Figure 6-20 nor Table 6-7 in the Line 67 Draft SEIS.

- Primary oil production projects, primarily located in the Wabasca and Peace River oil sands regions may contribute to the Line 3 overall crude oil mix.
- WTW lifecycle emissions for Canadian crudes utilizing primary production methods such as CHOPS is ~513 $kgCO_2(eq)$/bbl of refined product[10].

With respect to future changes in crude oil production technology, the use of paraffinic froth treatment (PFT) technology is expected to grow (e.g. recent expansion of Imperial's Kearl Project, and future

[8] Alberta Energy Regulator, 2014
[9] Alberta Oil Sands Industry Quarterly Update, http://www.albertacanada.com/files/albertacanada/AOSID_QuarterlyUpdate_Winter2017.pdf
[10] IHS Energy, "Comparing GHG Intensity of the Oil Sands and the Average US Crude Oil", May 2014

anticipated start-ups of Suncor's Fort Hills and Teck's Frontier Projects). In Table 6-7 of the Line 67 DSEIS, the DoS estimates 2.2% (2185 bbl in Figure 6-20) of the Line 67 crude mix to be based on the "Mining and dilbit" pathway. Since the "Mining and dilbit" pathway in Table 6-7 presumably refers to the volumes of dilbit produced from PFT oil sands mining projects and the crude mix from this specific pathway is projected to grow over time, the 2.2% contribution of this pathway could be increased to reflect anticipated increases in future PFT volumes, rather than basing it on historical 2013 AER ST-39 data.

In the Line 67 DSEIS, the DoS includes a "cyclic steam stimulation and upgrading" pathway, but it is not clear what project(s) in Alberta use the combination of these two processing technologies. Hence, it is recommended that this specific pathway be omitted from the analysis. 2600-5

The lifecycle emissions of "Mining and dilbit" (e.g. PFT dilbit) and "Mining and upgrading" (naphthenic froth treatment (NFT) SCO) are 565 and 575 $kgCO_2(eq)/bbl$, respectively, in the Line 67 DSEIS. Based on IHS' study[11], PFT versus NFT mining lifecycle emissions exhibit greater variability (~506 $kgCO_2(eq)/bbl$ of refined product and 548 $kgCO_2(eq)/bbl$ of refined product, respectively). Since PFT mining processes remove the heavier fraction of the bitumen (asphaltenes) to produce a clean bitumen product of higher quality that can be processed at a refinery directly compared to bitumen produced from NFT mining processes, it is once again recommended that the IHS study results be incorporated in the Table 6-7 "Mining and dilbit" and "Mining and upgrading" lifecycle emissions results.

Various studies demonstrate that lifecycle emissions from Steam Assisted Gravity Drainage (SAGD) and Cyclic Steam Stimulation (CSS) operations are very sensitive to the steam-to-oil ratio (SOR). More specifically:

- Every 0.5 decrease in the SOR corresponds to a reduction of 10 $kgCO_2(eq)/bbl$ of bitumen produced[12].
- An SOR decrease from 4 to 2 can decrease the resulting emissions by more than 50%[13][14].

From 2004-2014, the annual average industry SOR decreased from ~4.4 to 2.5. Additionally, the projects with the lowest SORs (e.g. Cenovus Christina Lake and Cenovus Foster Creek) grow faster because they become more economic and, hence, lower SOR projects eventually dominate. In providing the lifecycle emissions for all four in-situ WCSB crude oil pathways in Table 6-7, the DoS did not:

- Provide the average SOR that was assumed for each of the selected studies.
- Account for current and future anticipated industry average SOR reductions in in-situ pathway lifecycle emissions estimates.
- Consider future impacts of solvent assisted in-situ processes that would reduce lifecycle emissions from in-situ pathways even further.

[11] IHS Energy, "Comparing GHG Intensity of the Oil Sands and the Average US Crude Oil", May 2014
[12] Charpentier et al. 2009, http://iopscience.iop.org/article/10.1088/1748-9326/4/1/014005/pdf
[13] Jacobs Consultancy, "EU Pathway Study: Life Cycle Assessment of Crude Oils in a European Context", March 2012
[14] Alberta Energy – Oil Sands Production Profile

Alberta Government

Alberta's climate change policies were not accounted for by either the Department or DoS in assessing the GHG intensities of heavy WCSB crude oil, such as the projected future impacts of the following Alberta Climate Leadership Plan objectives:

- Alberta's commitment to reduce methane emissions from oil and gas operations by 45% by 2025[15].
- Alberta's legislated emissions limit on the oil sands of a maximum of 100MT in any year with provisions for cogeneration and new upgrading capacity[16].
- Alberta's transition to an output-based allocation system in 2018 will drive best-in-class performance and work to ensure that top performing facilities (in terms of emissions intensity) are rewarded.[17]

As an example, the Alberta Climate Change Office proposed reducing the appropriate emission factors to account for anticipated mandatory and voluntary methane reduction efforts in 2025[18].

**3. Lifecycle emissions estimates should be based on appropriate petroleum coke treatment that reflects actual industry practices.**

In Chapter 5 – Existing Conditions, Impacts, and Mitigation – Certificate of Need, page 441, the Department references petroleum coke used as a fuel for offsite use, resulting in GHG emissions from combustion. No further details of petroleum coke treatment are provided. In the Line 67 DSEIS, the DoS states that the industry stockpiles approximately 60% of all upgrader coke, and burns the remaining 40% as fuel. Based on our analysis of the same AER data[19], Alberta's oil sands industry burns only ~14% of all upgrader coke for fuel. The remaining upgrader coke is stockpiled (~65%), exported (~9%), and used on site (such as in tailings dykes; ~12%).

In many GHG lifecycle studies, the assumptions on petroleum coke use are not clear and thus, may not reflect actual oil sands industry practices for handling petroleum coke.

Further to the Department referring to petroleum coke used as a fuel for offsite use, resulting in GHG emissions from combustion, in the Line 67 DSEIS, the DoS did not account for petroleum coke displacing coal as a fuel. Jacobs Consultancy[20] assumes that:

- Upgrader coke is stored.
- Refinery coke is used as a substitute for coal in electricity generation. Differences in GHG emissions for using coke instead of coal were accounted for accordingly.

When conducting GHG lifecycle analyses, it is recommended that co-products like petroleum coke be accounted for in a manner that reflects actual industry practices (e.g.14% of upgrader coke is burned for fuel, and all refinery coke is substituted for coal). Finally, in considering global $CO_2$ emissions associated

[15] Alberta Climate Leadership Plan, https://www.alberta.ca/climate-methane-emissions.aspx
[16] Alberta Climate Leadership Plan, https://www.alberta.ca/climate-methane-emissions.aspx
[17] Output-based allocation discussion document, https://www.alberta.ca/documents/climate/Ouput-Based-Allocation-System-Discussion-Document.pdf
[18] http://www.ceaa-acee.gc.ca/050/documents-eng.cfm?evaluation=80091&type=3
[19] 2010-2014 ST-39 data, Alberta Energy Regulator
[20] Jacobs Consultancy, "Life Cycle Assessment Comparison of North American and Imported Crudes", July 2009

with burning exported upgrader and refinery coke, coke almost always replaces coal. Hence, the net contribution of coke to total GHG emissions is extremely small[21].

**The Behavior of Diluted Bitumen in Water**

In section 10.3.1.1.2, the Line 67 DSEIS references a 2016 National Academies of Sciences (NAS) study which concluded the following:

- Once the lighter components of diluted bitumen volatize, the remaining heavy fraction may sink, making cleanup difficult.
- Sinking of diluted bitumen in water-based environments depends less on the density of the oil in question than on its interaction with particles in the water.

To better understand this claim, the Government of Alberta and industry have studied this extensively. Based on scientific research, Alberta wishes to make several points that support an updated view of the behaviour of diluted bitumen:

- Crude oils, including diluted bitumen, float on the surface of the water-based environment when released (marine and freshwater) for a period of several days, during which time they are exposed to environmental elements such as wind and wave action, light, and temperature changes; this is called the weathering process.
- Recent research by Natural Resources Canada (NRCan) further suggests that the finding that diluted bitumen will float is accurate[22].
    - The NRCan study showed that diluted bitumen does not sink as readily as conventional oil when spilled in fresh water. Instead, it floats, unless exposed to high temperatures and weathering. NRCan's findings contradict the 2016 NAS study.
    - NRCan's findings have been presented to, and accepted by, the NAS. The scientific publication will be forthcoming.

[21] American Fuel and Petrochemical Manufacturers, http://education.afpm.org/refining/petroleum-coke/
[22] http://www.macleans.ca/society/does-spilled-pipeline-bitumen-sink-or-float/

## Levi, Andrew (COMM)

**From:** Jamie Becker-Finn <Rep.Jamie.Becker-Finn@house.mn>
**Sent:** Monday, July 10, 2017 4:17 PM
**To:** MN_COMM_Pipeline Comments
**Subject:** Comments re Proposed Line 3 Pipeline Project

To Whom It May Concern:

I have numerous concerns about this proposed pipeline and the draft EIS. However, I will limit my comments and questions to long-term protection of wild rice in northern Minnesota.

Wild rice is not just a crop that can be re-planted. Wild rice is not just a grain to eat. **The importance of wild rice to Ojibwe culture, health, spirituality and history cannot be overstated.** There is no indication that these truths have been fully taken in to account by Enbridge or the authors of the DEIS.

When the Ojibwe in Minnesota signed treaties with the federal government, they explicitly retained the ability to harvest wild rice, hunt and fish on the waters and lands of the ceded territory. The DEIS, and public comments by Enbridge staff, highlight a misunderstanding regarding the difference between reservation land and ceded treaty land. While skirting reservation boundaries is a nod to the affected tribal communities, the route does not avoid the plants and wildlife Ojibwe people have a legal right to access. 2367-1

Ojibwe people's very existence in northern Minnesota is based on the existence of wild rice beds. Our spiritual teachings tell us that our ancestors traveled until they reached the place "where the food grows on the water." That food is wild rice, a unique grain that only grows wild in a few places. To thrive, wild rice requires very specific water and soil conditions. There are very few places worldwide where native wild rice can grow.

In the event of an oil leak or spill, there is no way to be certain that the affected waters and soils could be properly rehabilitated to allow wild rice to thrive again. Because of the extremely high cultural and spiritual importance of wild rice to Ojibwe people, it would be impossible for Ojibwe people to be made whole again if wild rice beds were destroyed. In addition, the spill or leak would then potentially violate federal treaties. 2367-2

The wild rice that grows in northern Minnesota differs greatly from the cultivated "wild rice" typically sold in grocery stores. Even if one chooses to ignore the consequences to Ojibwe people, there would also be economic consequences for the entire state should native wild rice beds be damaged. According to the Minnesota Department of Natural Resources, over 50% of the hand harvested rice in the entire world comes from northern Minnesota. 2367-3

Finally, Enbridge has stated that this is a "replacement" project. This is not true. The majority of the current line affecting wild rice waters would remain in the ground. To truly weigh the actual need for this pipeline, this should be considered as a new project. As such, there is no reason to route through wild rice waters. There are alternatives that would not risk the vital, unique existence of wild rice in northern Minnesota, and would not place the preferences of an international oil company above the Ojibwe people and their legal rights. 2367-4

Questions:

Were federal treaty experts consulted regarding the proposed route? 2367-5

If so, what were their recommendations on the legal consequences when a leak or spill occurs?

Do the DEIS drafters understand the treaty implications and Ojibwe cultural implications if this new pipeline was built?

What would the costs be to Ojibwe people and affected wild rice lakes?

What would the costs be to local economies?

Thank you for your time and attention to this important matter,

Jamie Becker-Finn

Rep. Jamie Becker-Finn
District 42B
307 State Office Building
St. Paul, MN 55155
651-296-7153

Sign up for Legislative Updates here: http://www.house.leg.state.mn.us/members/join.asp?id=15457

## Levi, Andrew (COMM)

**From:** Nancy Tyra-Lukens <NTyra-Lukens@edenprairie.org>
**Sent:** Monday, July 10, 2017 11:25 AM
**To:** MN_COMM_Pipeline Comments
**Subject:** CN-14-016 and PPL-15-137

I have several comments about the proposed Enbridge pipeline which are not properly/thoroughly addressed in the DEIS.

Why is there no discussion of corrosion from co-location of the pipeline with high voltage transmission lines? Keystone 1, only 4 years old, suffered leaks from accelerated corrosion due to stray voltage from powerlines. 2278-1

Pipelines have a history of frequent, even daily leaks. This proposed line passes within close proximity to the watershed of major recreational lakes. What reassurance does the public have that spills/leaks will be detected quickly and mitigated promptly? Does Enbridge put aside money into a clean up fund so that if they go out of business, leaks can still be cleaned up? Or do they dump responsibility on the public, similar to the current Brownfields Clean Up programs? 2278-2

Will baseline data be collected from our many lovely lakes so that damage due to inevitable leaks is the responsibility of this company? 2278-3

Why are we continuing to risk the danger and pollution from fossil fuels rather than insisting that these companies develop renewable energy sources?

Nancy Tyra-Lukens
Mayor, City of Eden Prairie

CITY OF
GRAND RAPIDS
IT'S IN MINNESOTA'S NATURE

ADMINISTRATION DEPARTMENT

420 NORTH POKEGAMA AVENUE. GRAND RAPIDS. MINNESOTA 55744-2662

June 26th, 2017

Jamie Macalister
Environmental Review Manager
MN Department of Commerce
85 7th Place East, Suite 280
Saint Paul, MN 55101-2198

Re: Line 3 Project Draft EIS Comment, specifically regarding Chapter 8 "Existing Line 3 Abandonment and Removal"

Dear Ms. Macalister,

We understand that Enbridge has filed a proposed abandonment plan per PHMSA regulations. We also understand, per the D-EIS, that Enbridge has filed with the Minnesota PUC a draft of the required plan that specifically show how the PHMSA abandonment regulations will be achieved. According to Enbridge, abandonment will include: removing the oil, cleaning the pipeline, disconnecting the pipeline, segmenting the pipeline, and monitoring and maintaining the pipeline, indefinitely. As Grand Rapids City Council Members, we would like you to consider how the proposed existing Line 3 abandonment will affect our City based on information provided in the Line 3 Project D-EIS. From 8.3.1 of the D-EIS, ***Potential Impacts and Mitigation Measures***: *Leaving Existing Line 3 in Place Could Have Potentially Significant Effects*:

> There are, however, some potentially significant impacts associated with abandoning the existing Line 3. These longer term impacts are caused by the continued presence of undiscovered legacy contamination that may exist surrounding the existing pipeline, as well as the potential hazards associated with the aging of the abandoned pipe. These impacts include soil and water contamination, the ability of the pipeline to serve as a water conduit, subsidence due to the failure over time of the pipeline, and loss of buoyancy control for the pipeline. (8.4)

The existing Line 3 runs through the NW part of Grand Rapids' Wellhead Protection Area (WHPA). A Wellhead Protection Area (WHPA) is the Minnesota Department of Health (MDH) approved surface and subsurface area that surrounds a public water supply well (or well field) that supplies a public water system, through which contaminants are likely to move toward and reach the well or well field. According to the D-EIS, "Soils and waters near the abandoned Line 3 could also be adversely affected where undiscovered contamination along the existing pipeline (from lubricants, process chemicals, and oil spills) are left behind.

Potential impacts on soil and water resources are highly uncertain; however, as they depend on the extent of the existing undiscovered contamination." (8.6)

We understand from the D-EIS that the current Line 3 is in grave condition and the concerns of accidental release having "the most exposure" is in keeping the existing Line 3 in place. It remains unclear as to how a deteriorated Line 3 would handle the removal of the oil, cleaning, disconnecting, and segmenting of the pipeline, as proposed. There is no specific plan within the D-EIS that states how Enbridge will manage a contaminated site other than "Enbridge has indicated that it would...." (8.12). 1235-1

The City of Grand Rapids has 11,000+ residents who rely on the WHPA to provide them with a safe public water source to supply our public water system. Our community brand is: Grand Rapids, It's in Minnesota's Nature. We pride ourselves on the precious resource that is our water. From 8.3.1 of the D-EIS, ***Potential Impacts and Mitigation Measures****: Long-Term Effects Could Be Significant and Would Require Site-Specific Mitigation Measures:*

> In sum, impacts on human and natural resources due to potential subsidence of the ground above the abandoned Line 3 are anticipated to be minimal in the near term but could be significant in the longer term, absent effective monitoring, adaptive management, and the timely introduction of mitigation measures. Because of the length of Line 3 and the variety of resources crossed, mitigation measures would be site specific and would need to be designed in collaboration with those agencies and authorities responsible for the resources in question. (8.4)

The resource in question for our community is our public water supply and we cannot support the abandonment of Line 3 knowing that the impact "could be significant in the long-term." According to the D-EIS, "The Longer the Pipe Is in the Ground, the More Likely It Is to Fail" (8-8). If Line 3 is not removed, and when it fails and/or buoyancy is lost; it is generally expected that Cities and its residents are responsible for the clean-up. Since Line 3 runs directly through our Well Head Protection Area (WHPA), which is the sole source of municipal water for two cities (Grand Rapids and LaPrairie), the City is requesting that you require the total removal of Line 3 within the WHPA. In addition, the City requests that any contaminated soils within the WHPA be removed. Lastly, we request that Line 3 be removed in any urban developed areas. Please find attached the Line 3 replacement project detailed map set (23A and 23B), aerial and topographic. 1235-2

Sincerely,

Dale Adams, Mayor

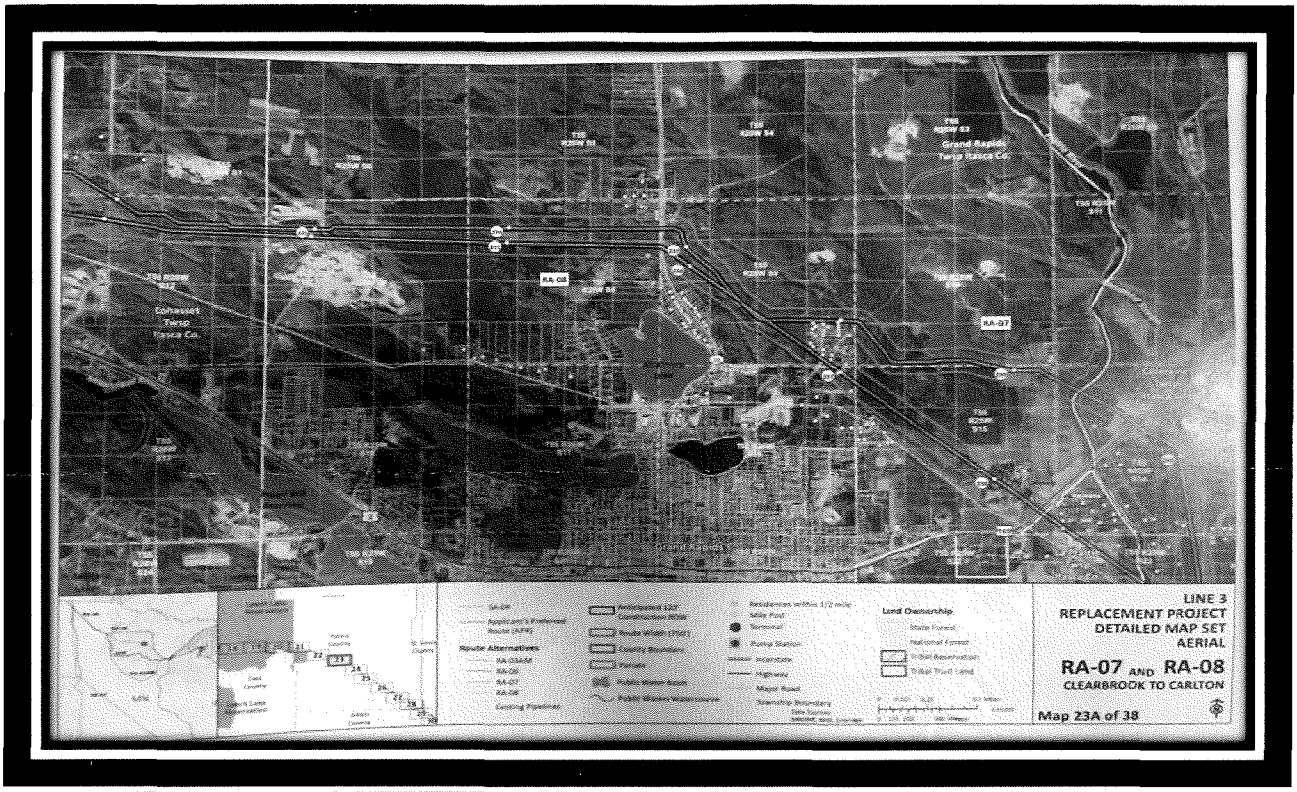
Tasha Connelly, Council Member

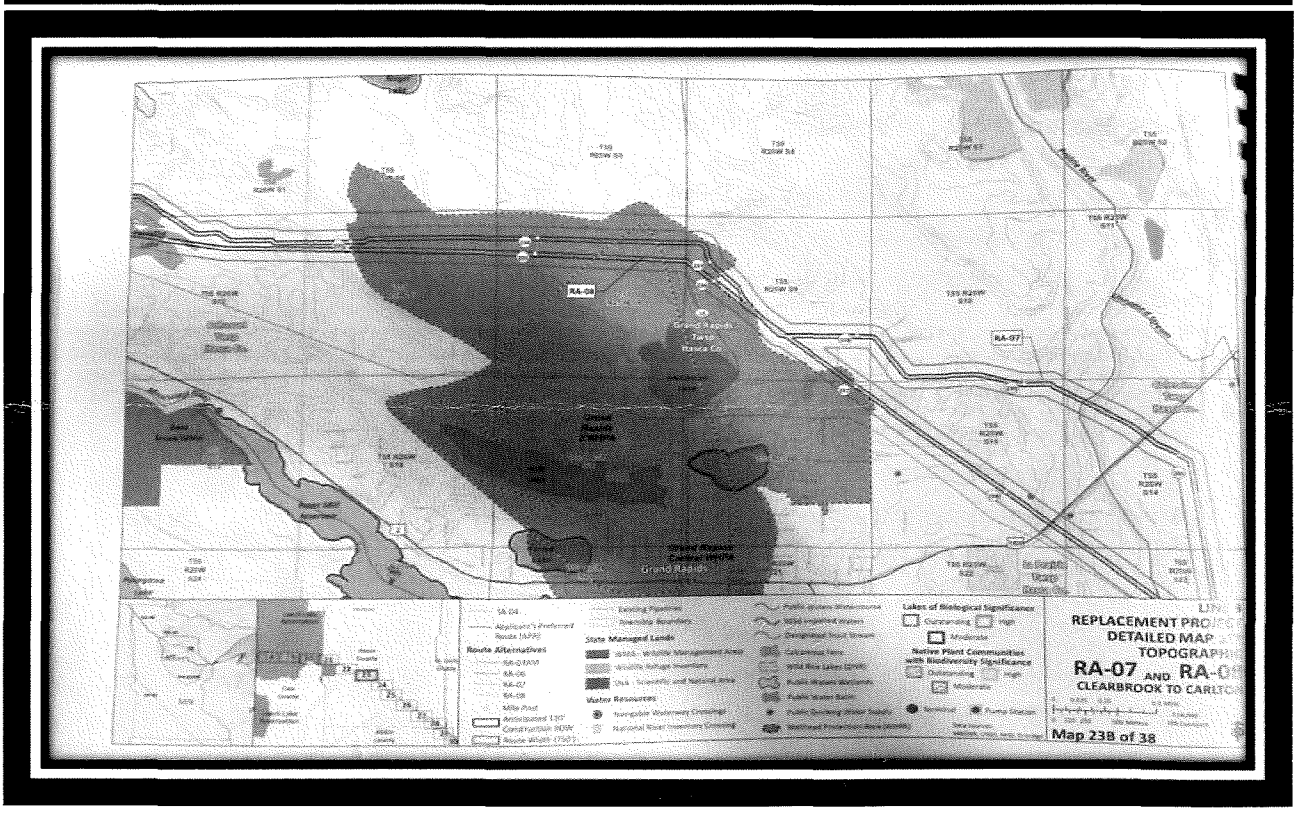
Dale Christy, Council Member

Rick Blake, Council Member

Bill Zeige, Council Member

CC: Tom Pagel, City Administrator, Denny Doyle, Grand Rapids Public Utilities


LINE 3
REPLACEMENT PROJECT
DETAILED MAP SET
AERIAL
RA-07 AND RA-08
CLEARBROOK TO CARLTON
Map 23A of 38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RA-07 AND RA-0
CLEARBROOK TO CARLT
Map 23B of 38

## Levi, Andrew (COMM)

**From:** Rick Hansen <rep.rick.hansen@house.mn>
**Sent:** Monday, July 10, 2017 12:07 PM
**To:** MN_COMM_Pipeline Comments
**Subject:** Enbridge Line 3 DEIS Comments - PUC Docket Numbers CN-14-916 and PPL-15-137
**Attachments:** HANSEN LINE 3 COMMENTS FINAL 2017.07.10.pdf

Attached please find comments on the Draft Environmental Impact Statement for Enbridge's proposed Line 3 replacement project.

Thank you.

Rick Hansen
State Representative

247 State Office Building
(651) 296-6828

Feel free to sign up for my weekly updates: http://www.house.leg.state.mn.us/members/join.asp?id=12282

**Rick Hansen**
**State Representative**

District 52A
Dakota County

# Minnesota House of Representatives

July 10, 2017

To: Minnesota Department of Commerce

Re: PUC Docket Numbers CN-14-916 and PPL-15-137

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These comments are focused on a single issue: While chapter 8 of the Draft Environmental Impact Statement (DEIS) attempts to compare the environmental risks and benefits of removing the existing Line 3 pipeline with abandoning it in place, it does not contain enough information to enable decision makers to make a fully informed decision between those options. The absence of such information results in the failure of the DEIS to achieve one of the objectives of the environmental review process: to "provide usable information to . . . governmental decision makers and the public concerning the primary environmental effects of a proposed project."[1]

This is particularly important since, while there are environmental risks attendant to the process of removal itself – chiefly, given the location of Line 3, the risks of an accident from conducting the work adjacent to operating high-pressure pipelines – the post-removal risks appear to be minimal. In contrast, as the DEIS makes clear, the risks associated with abandonment in place, while methods exist to reduce them, remain and will have to be addressed as long as the pipe stays in the ground.

Some elements of Enbridge's proposed abandonment plan to mitigate environmental risks of abandonment in place are to be undertaken proactively; others would be implemented only when monitoring indicated that a problem needed to be addressed.

One of the proactive elements is the removal of oil and other substances from the pipe. The DEIS states: "Enbridge has developed and tested a cleaning protocol using a 12-mile abandoned section of Line 3 in Manitoba . . . [which] removes over 99.99 percent of the remaining oil and hydrocarbons from a pipeline."[2] However, the DEIS goes on to say that "It is currently unknown whether Enbridge's protocol works on a longer length of pipeline" such as the 282-mile long Line 3 pipeline within Minnesota. Although"[p]otential future impacts . . . could be minimized by ensuring that Enbridge's protocol works on the longer length of pipeline in Minnesota as well as it did in testing of the protocol,"[3] there is

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1 Minnesota Rules, chapter 4410.0300, subpart 4(A).

2 Minnesota Department of Commerce, Energy Environmental Review and Analysis, *Draft Environmental Impact Statement, Line 3 Project*, Docket Nos. PPL-15-137/CN-14-916, May 15, 2017, p. 8-6. (Hereafter, "*DEIS*.")

3 *Ibid*.

no mention of what, if any, actions Enbridge commits itself to make in order to provide that assurance and minimize those impacts, or what actions it might take if the test results on a longer line are negative. As a result, there is little guidance for decision makers weighing the risk posed to soils and groundwater by leaving an abandoned Line 3 in place that still contains some level of oil and hydrocarbons.[4] 2372-1

The DEIS discusses other potential problems with abandonment in place. "[A]s the abandoned Line 3 corrodes and loses its structural integrity, soil could enter the pipeline, causing a subsidence of the ground. This would likely occur over time. . . Subsidence could affect public safety, particularly if it occurred at highways, railroads or other utility crossings. It could also affect agricultural production and could lead to water channeling and erosion . . . ."[5]

With respect to subsidence, the DEIS tells us that "the primary mitigation strategy would be effective monitoring and adaptive management," which presumably means dealing with problems once they manifest themselves. Impacts are "anticipated to be minimal in the near term (i.e., the next 40 years) but could be significant longer term. . . [S]ubsidence can be corrected, to some extent, by fill with soil in some areas," although not where the pipeline passes beneath a waterbody.[6]

"Anticipated . . . could. . . to some extent . . . in some areas. . . ." These imprecise qualifiers do not help decision-makers trying to assess the level of risk posed by abandonment in place. In what kinds of areas does fill material **not** correct subsidence? How prevalent are these areas along the abandoned Line 3 route? Precisely to **what** extent can subsidence be corrected, and what problems remain? The DEIS is silent on these matters, leaving decision makers without the information they need to make a careful well-supported decision between abandonment in place and removal. 2372-2

The public safety risks of subsidence with respect to roads, railways and utilities would have to be evaluated on an individual basis, according to the DEIS, but one important factor it fails to address is the extent to which monitoring can accurately identify locations where risks are significant, allowing preventive action to be taken. This is both a technical issue and a question of resources as well. With Line 3 crossing over 297 roads and 17 railways, Enbridge's projected monitoring budget of $100,000 per year[7] amounts to $318 per crossing, or, alternatively, $355 for each of the 282 miles of the pipeline located in the state. The DEIS contains no discussion of the adequacy of this monitoring budget to reduce the risks of environmental harm to an acceptable level that could be compared to the risks posed by pipeline removal. 2372-3

The same objections apply to the loss of buoyancy control at watercourse crossings, as a result of which the pipeline, freed from the weight of transported oil, may become exposed at the land surface and "could adversely affect natural resources, including soil erosion and impacts on streambeds."[8] Once again, the DEIS points to monitoring and adaptive management as the primary mitigation measures, but Enbridge makes no commitment to taking proactive measures to prevent the problem. Interestingly, the document states that, in a report to the Canadian National Energy Board, "Enbridge indicated that it would conduct 2372-4

4 The heading of one section of this discussion in the DEIS reads: "**If** Effective on Long Pipelines, Enbridge's Protocol **Could** Minimize Effects on Soils and Waters." [Emphasis added] *Ibid*.

5 DEIS, p. 8-8.

6 *Ibid*.

7 Ibid., pp. 8-9 and 8-10.

8 Ibid., p. 8-9.

a preliminary buoyancy analysis of Line 3 in Canada to determine areas where there might be pipeline buoyancy issues." No such commitment is made to Minnesota, although the document says that such an analysis "may" be required by the federal Pipeline and Hazardous Materials Safety Administration. Again, without information on the likelihood that these problems will occur if the pipeline is left in place in Minnesota, it is hard to compare abandonment in place with the removal option. 2372-4 Cont'd

Appendix B of the DEIS, *Line 3: Permanent Deactivation Plan*, concludes: "Enbridge assessed the relative risks of removing the pipeline and Permanently Deactivating it in place."[9] This statement is belied by the fact that this 86 page document devotes less than two pages to the impacts of removal. The only impact mentioned in addition to those of working adjacent to existing pipelines and the disruption to landowners and the public due to removal activities, is that "soil stability issues caused by pipe removal could damage the roads, bridges, and crossings."[10] There is no discussion of the extent to which such impacts have actually occurred as a result of previous pipeline removal projects. 2372-5

The statement that something "could" happen does not provide any guidance to help decision makers choose between options. Yet that is largely all that the DEIS offers to those seeking to compare the potential impacts of removing the pipeline with leaving it in place. This vagueness does not meet the statutory requirements of Minnesota's environmental review process. 2372-6

One thing is abundantly clear from the DEIS. The cost of pipeline removal is estimated by Enbridge to be approximately $1.28 billion, compared with $85 million for abandonment in place, with annual monitoring costs of $100,000.[11] From Enbridge's point of view, the vast difference between those amounts – even anticipating the sizeable costs of mitigation activities the company is likely to incur to respond to problems that arise from leaving the pipeline in place – makes abandonment the most cost-effective option.

Yet the Minnesota Environmental Policy Act, under which this DEIS was written, specifically prohibits Minnesota public officials from adopting such a viewpoint. It states:

> No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct.[12]

What is missing from the DEIS is an accurate estimate of the environmental risks posed by leaving the pipeline in place. To better understand the scope of these risks, Minnesota officials need to know the level and kinds of monitoring that can and cannot be done under the proposed $100,000 annual budget, and what commitments Enbridge is willing to make to take proactive measures to prevent problems 2372-7

9 *DEIS, Appendix B, Line 3: Permanent Deactivation Plan*, p. 59.

10 *Ibid*., p. 7.

11 *DEIS*, pp. 8-13, 8-10.

12 Minnesota Statutes 2017, section 116D.04, subdivision 6

occurring where monitoring indicates the highest risks exist. There is a crucial difference between mitigating risk and mitigating damage. The DEIS often conflates the two. 2372-7 Cont'd

With the DEIS in its present form, Minnesota officials cannot make the informed decisions required of them under the Minnesota Environmental Policy Act. The omissions discussed in these comments need to be addressed in the final EIS if the state's "paramount concern" with environmental protection is to be maintained and reflected in the decisions made regarding Line 3.

State Representative Rick Hansen (District 52A)

## Levi, Andrew (COMM)

**From:** Frank Hornstein <rep.frank.hornstein@house.mn>
**Sent:** Monday, July 10, 2017 5:42 PM
**To:** MN_COMM_Pipeline Comments
**Subject:** Enbridge Line 3 DEIS Comments - PUC Docket Numbers CN-14-916 and PPL-15-137
**Attachments:** LINE 3 COMMENTS - FINAL.pdf

Attached please find comments on the Draft Environmental Impact Statement for Enbridge's proposed Line 3 replacement project.

Thank you.

Frank Hornstein
*State Representative* (61A)
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100 Rev Dr Martin Luther King Jr Blvd
St. Paul, MN 55155
Phone: 651.296.9281
www.house.mn/61a

*Lilly Melander, Legislative Assistant*
*651.296.5408*
*elizabeth.melander@house.mn*

# Minnesota House of Representatives

# Minnesota State Senate

July 10, 2017

To: Minnesota Department of Commerce

Re: PUC Docket Numbers CN-14-916 and PPL-15-137

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The following comments are submitted jointly by undersigned members of the Minnesota House of Representatives and Minnesota State Senate.

We respectfully request that the Department of Commerce make significant revisions to the Line 3 Draft Environmental Impact Statement (DEIS). We find the DEIS to be flawed in several areas.

The following deficiencies in the DEIS should be addressed prior to issuance of the final document. These include:

- Failure to appropriately quantify oil spill exposure to drinking water sources
- Tribal considerations and Line 3 abandonment
- Stronger emphasis on climate considerations and impacts
- A more comprehensive analysis of a no-build alternative

**I: Failure to appropriately quantify oil spill exposure**

The DEIS does not analyze the potential harm of a spill to the million plus Minnesotans who drink Mississippi River water.

2867-1

Be assured that the public interest of Minnesotans who live in St. Cloud, Minneapolis, St. Paul and the many metro communities that drink Mississippi River water is immense.

The existing corridor crosses the Mississippi River near Bemidji, again near Ball Club west of Deer River, then crosses the Prairie River just upstream of its confluence with the Mississippi east of Grand Rapids. The new proposed corridor has a crossing just north of Itasca State Park

2867-1 Cont'd

(flowing north) at the very beginning of the river and a new crossing further downstream just south of Palisade, MN. Palisade is just NW of McGregor, near the intersection of 169 and 210.

John Stansbury of the University of Nebraska conducted a study of spill scenarios for the Keystone XL pipeline.[1] In public comments (Attachment A) submitted for Enbridge's Line 67 (Alberta Clipper) pipeline expansion project's certificate of need process, engineer Stan Sattinger adapted Stansbury's study to describe a scenario involving a tar sands pipeline spill in the Upper Mississippi River and concluded that there would be elevated levels of benzene (above the Safe Drinking Water Act Max Contaminant Level (MCL)) some 280 miles downstream.[2] Because the Mississippi has many bends and loops, the 280 miles from Grand Rapids reached the St. Cloud water intake but not the intakes for Minneapolis and St. Paul. Since the new corridor at Palisade is south of the old one, the EIS must analyze the potential for benzene to reach Minneapolis and St. Paul intakes.

2867-2

However, a spill into the Mississippi creates additional problems for those who use the Mississippi as a drinking water source. Since petroleum spill data is outdated and new technology is available, the Minnesota legislature funded and the Governor signed into law an investigation that will reassess the toxicity of petroleum spills.[3] Specifically the investigation will look into "the chemical identity, quantity and toxicity of many chemicals present in petroleum-impacted groundwater and surface water, particularly the chemicals that result as the petroleum degrades over time…(because)…past toxicity assessments of petroleum-impacted surface and groundwater are: 1. Incomplete—because only a small subset of known chemicals have been assessed for toxicity, and 2. Inadequate for identification of many sublethal effects (including those on endocrine, immune and nervous systems)—which are important determinants of organism's survival and population health."[4]

The investigation is being conducted by faculty at the University of St. Thomas with the assistance of the United States Geological Survey "for use by regulatory agencies, such as the MPCA and MDH."[5]

The EIS must either incorporate the data from this investigation or complete its own investigation using the new technology that is available.

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[1] Stansbury, John. *Analysis of Frequency, Magnitude and Consequence of Worst-Case Spills From the Proposed Keystone XL Pipeline*. 2011. http://engineering.unl.edu/downloads/civil/Worst-case-Keystone-spills-report-dis.pdf.

[2] Sattinger, Stan. *Information on the risk to drinking water posed by the proposed Phase 2 of Enbridge Energy's Line 67 crude-oil pipeline*. Public Comment. Minnesota Department of Commerce. PUC Docket Pl-9/CN-13-153/OAH Docket 8-2500-30952. 2014.

[3] SF 550, 90th Legislature, 8 (2017) (enacted).

[4] Martinovic-Weigelt, Dalma. *Reassessing Toxicity of Petroleum Spills with New Technologies.* University of St. Thomas. Legislative-Citizen Commission on Minnesota Resources. May 7, 2016: 2. http://www.lccmr.leg.mn/proposals/2017/original/048-b.pdf.

[5] Ibid., 3.

The DEIS addresses the risk to Tulibee Lakes, Lakes of High and Outstanding Biological Significance, Wild Rice Lakes, and Trout Streams.[6] However, the Summary does not address risk to warmwater streams in the state across alternatives. Warmwater streams are also not addressed in the analysis of exposure to High Consequence Areas (HCAs) in Chapter 10 of the DEIS. Many of these stream systems are in very good biological condition, and are of high quality. Furthermore, the MPCA is in the process of implementing a strategy to prioritize high quality and 'exceptional' streams and rivers for preservation in their current form, as part of its Tiered Aquatic Life Use Strategy. 2867-3

The Minnesota Pollution Control Agency has collected abundant datasets documenting the biological quality of warmwater streams and rivers (i.e., not just trout streams) in the region of interest. Warmwater streams and rivers constitute the vast majority of total running waters in the northern part of the state that are crossed by the proposed project alternatives. Thus, the impact of the proposed Line 3 project to these warmwater systems, including to streams and rivers of exceptional quality, must be included in the EIS for Line 3 and all alternatives.

The threat to drinking water and the urgent need to address surface water protection is particularly important given the DEIS's contention that pipeline spill quantity is greater than with rail and truck alternatives. The DEIS states, "the average release of crude oil from a truck incident is 16 barrels (687 gallons) from a train incident, 40 barrels (1688 gallons) and from a pipeline incident, 462 barrels (19,412 gallons)."[7]

The significantly higher risk of a major spill from a pipeline compared to other alternatives is compounded by the proposer's poor response to a tar sands pipeline spill in Kalamazoo, Michigan in 2010, and the pipeline industry's strong position in opposition to 2014 Minnesota state legislation mandating faster spill response.[8] As a result of heavy pipeline industry lobbying, pipeline companies are exempted from requirements that apply to the railroad industry mandating that company officials advise first responders on clean-up protocols within an hour of first responders' confirmation major spill and to provide on-site expertise within three hours of a spill.

## II: Tribal considerations and Line 3 abandonment

The DEIS states, "American Indian communities and individuals have unique health issues associated with historical trauma and structural racism. Data from the Minnesota Department of Health indicates that American Indians in Minnesota have greater health disparities and poorer health outcomes compared to other racial or ethnic groups in Minnesota. Tribal impacts are magnified because (1) impacts would be associated with abandonment or removal of the existing 2867-4

[6] Minnesota Department of Commerce. Energy Environmental Review and Analysis. *Line 3 Replacement Project Draft Environmental Impact Statement.* Executive Summary. May 15, 2017: ES-14. https://mn.gov/commerce/energyfacilities/documents/34079/1.DEIS_Line_3_Executive%20Summary.pdf. (Hereafter, "*Line 3 Replacement Project Draft Environmental Impact Statement.*")

[7] Ibid., ES-12.

[8] HF 3134/SF 2796, 88th Legislature (2014).

2867-4 Cont'd

Line 3; and (2) additional impacts would be associated with replacement of Line 3 in a new location."[9]

The concerns regarding abandonment of the existing Line 3 are particularly important to Indigenous Communities. There are no state rules addressing abandonment, and the absence of such regulations demands a very comprehensive accounting of the clean-up costs for the cumulative environmental hazards resulting from the pipeline.

Given the number of spills associated with Line 3, particularly the quantity of oil spilled and leaked since the Line started operation, the EIS must address issues of abandonment and site clean-up. The EIS must also quantify the costs and environmental liability for damages caused by the line, and identify the source of funds for hazardous materials clean-up.

In addition to abandonment, Indigenous communities have identified impacts to wild rice, waterways, and cultural sites. The proposer's preferred route also raises issues related to treaty rights and tribal sovereignty. While the DEIS correctly refers to disparities and historical trauma suffered by indigenous communities, **the document fails to adequately address these issues**. Ignoring or avoiding the key concerns of Indigenous communities will serve to exacerbate the disparities and environmental justice issues that are raised, but not addressed in the DEIS.

2867-5

**III: Stronger consideration of climate impacts**

In denying the permit for the Keystone XL pipeline in 2015, President Barack Obama stated, "America is now a global leader when it comes to taking serious action to fight climate change. And frankly approving this project would have undercut that global leadership. And that is the biggest risk we face—not acting."

2867-6

Similarly, among states, Minnesota has developed strong protocols in state law to address climate change. Transportation fuels account for nearly 30% of total greenhouse gas emissions,[10] and tar sands oil that is proposed for transfer in Line 3 emits 17% more greenhouse gas emissions that other forms of crude.[11] The EIS makes important points regarding tar sands oil and climate change, stating, "the project creates 760,000 barrels per day of new production and consumption of Western Canadian Sedimentary Basin heavy crude, causing GHG emissions from extraction, upgrading, transporting, refining, and consuming 760,000 barrels of WCSB crude oil each day."[12]

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[9] *Line 3 Replacement Project Draft Environmental Impact Statement,* ES-24.

[10] United States Environmental Protection Agency. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2015.* Executive Summary. April 13, 2017: ES-24. https://www.epa.gov/sites/production/files/2017-02/documents/2017_executive_summary.pdf.

[11] United States Department of State. Bureau of Oceans and International Environmental and Scientific Affairs. *Final Supplemental Environmental Impact Statement for the Keystone XL Project.* Executive Summary. January 2014: ES-15. https://2012-keystonepipeline-xl.state.gov/documents/organization/221135.pdf.

[12] *Line 3 Replacement Project Draft Environmental Impact Statement,* ES-18.

2867-6
Cont'd

President Obama's actions on Keystone set an important precedent that links denial of a pipeline permit to action curbing climate change. The rationale for such a policy was laid out in the December 2015 Minnesota Environmental Quality Board (EQB) Interagency Report on Pipelines.

As a member agency of the EQB, the Department of Commerce was involved in producing the report and accepting the report's content. With regard to the relationship between climate change and development of new pipelines, the EQB concluded, "Development of infrastructure to support extraction, transportation, refinement, and combustion of oil has the potential to release additional carbon into the atmosphere and may perpetuate a carbon based economic structure that contributes to climate change. Minnesota has a state goal to reduce greenhouse gas emissions 80% below 2005 levels by 2050, building infrastructure for fossil fuels and making capital investments in this infrastructure should take this goal into account."[13]

The writing and production of the DEIS took place prior to President Trump's announcement that the United States will be pulling out of the Paris climate accords, and Governor Dayton's subsequent statement announcing Minnesota's participation in the United States Climate Alliance, a new effort by state and local governments to uphold the Paris agreement and the carbon emission reductions contained in the accord. Governor Dayton stated, "We will show the world what we can achieve by working together to conserve energy, use cleaner and renewable energy, and to leave a livable planet to our children and grandchildren."

The significant increase in global carbon emissions that accrue from the extraction, refining and combustion of tar sands oil transported via Line 3 runs counter to the U.S. Climate Alliance's intention to adhere to the Paris climate accord's greenhouse gas emissions goals.

Minnesota's record of legislation and policy directives on climate and energy are consistent with the Minnesota Environmental Policy Act which states: "In order to carry out the policy set forth in Laws 1973, chapter 412, it is the continuing responsibility of the state government to use all practicable means, consistent with other essential considerations of state policy, to improve and coordinate state plans, functions, programs and resources to the end that the state may: … (9) practice thrift in the use of energy and maximize the use of energy efficient systems for the utilization of energy, and minimize the environmental impact from energy production and use; …(12) minimize wasteful and unnecessary depletion of nonrenewable resources."[14]

A revised Line 3 EIS must directly address and refer to state goals and policies regarding climate change and mitigation.

[13] Minnesota Environmental Quality Board. Interagency Pipeline Coordination Team. *Interagency Report on Oil Pipelines*. December 15, 2015: 49. https://www.eqb.state.mn.us/sites/default/files/documents/Interagency%20Report%20on%20Oil%20Pipelines4_0.pdf.

[14] Minnesota Statutes 2016, section 116D.02, subdivision 2.

## IV: A more comprehensive analysis of a no-build alternative

2867-7

The DEIS spends considerable time discussing oil transportation alternatives to pipelines—primarily truck and rail transportation. The DEIS affirms there are considerable risks associated with all forms of tar sands oil transportation. Pipelines can leak larger amounts of oil than rail or truck options and as the Enbridge tar sands spill of 2010 and other tar sands incidents depict, clean-up of tar sands oil, particularly when spilled into surface waters, is highly problematic.

A no-build alternative section should be far more expansive than simply comparing transportation modes. There are significant socio-economic changes taking place in the oil and tar sands oil industry that must be taken into account in the DEIS. The document pays scant attention to emerging trends that indicate that there is a glut in world oil supplies and additional oil production and distribution may not be needed. CNN Money reported as recently as June 17, 2017, that "the big fear gripping the energy markets is that the world continues to have too much oil, despite the deal between OPEC and Russia to pump less."[15]

The DEIS assumes that if a new Line 3 is not built, oil by rail facilities would be constructed at the Canadian-US border, or the oil would be transported by truck across Minnesota. There is no evidence to suggest that pipeline capacity along the Line 3 route will be replaced with rail or trucking options.

This scenario is not realistic, as no such facilities appeared when Keystone XL was denied, for example. Instead, many oil sands projects were cancelled due to the plunging price of oil worldwide, and the high cost of extraction and transportation of the Canadian tar sands fields. The DEIS does not address or enumerate the cancelled projects, the bankruptcies, the sell-off of assets by foreign nationals, or potentially stranded assets if the price of oil does not increase.

The DEIS does not compare the historical movement of oil-by-rail from the Bakken fields versus the Canadian fields to verify the hypothesis that vast quantities of crude oil by rail would be shipped from Canada, nor does it discuss the relative flammability of the oils.

There is also growing evidence of a long-term slowdown in tar sands oil production. Data related to that trend should be part of the final EIS.

## V: Conclusion

The DEIS as it now stands is deficient and needs considerable revision. We have outlined our serious concerns regarding the document's treatment of spill prevention and mitigation, particularly in surface and drinking water sources, concerns related to Indigenous communities, climate change, and the overall need for additional tar sands oil infrastructure. We believe all of the issues we raised can be appropriately incorporated in a vastly revised EIS consistent with state law and policy.

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[15] Egan, Matt. "Oil prices enter bear market as supply glut fears return." CNN Money. June 17, 2017. http://money.cnn.com/2017/06/20/investing/oil-prices-bear-market/index.html.

Thank you for your consideration,

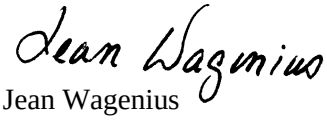
Frank Hornstein
State Representative

Mary Kunesh-Podein
State Representative

Jamie Becker-Finn
State Representative

Susan Allen
State Representative

Peggy Flanagan
State Representative



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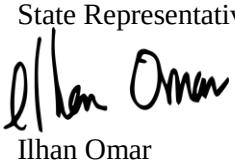

Ilhan Omar
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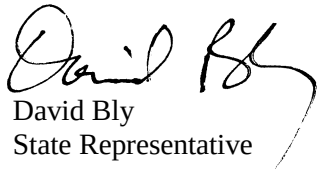

David Bly
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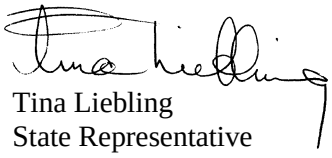

Tina Liebling
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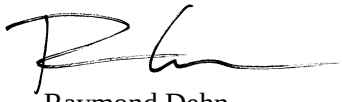

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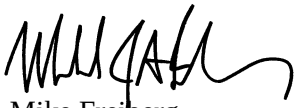

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Connie Bernardy
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Fue Lee
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Andrew Carlson
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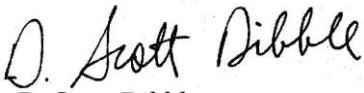

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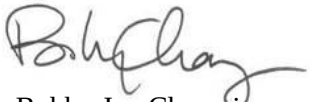


Bobby Joe Champion
State Senator

Kari Dziedzic
State Senator

The Honorable Eric L. Lipman
Office of Administrative Hearings
P.O. Box 64620
600 North Robert Street
Saint Paul, M 55164-0620

PUC Docket Pl-9/CN-13-153
OAH Docket Number (8-2500-30952)

Dear Judge Lipman,

I'm a registered mechanical engineer and resident of Minneapolis who wishes to provide information on the risk to drinking water posed by the proposed Phase 2 upgrade of Enbridge Energy's Line 67 crude-oil pipeline.

**SUMMARY**

- The discharge pressures for the pumping stations under Phase 2 operation with dilbit would be up to 48% larger than those under present-day operation, and the summertime pipeline temperature is likely to rise to 120°F or higher.

- The increases in pressure and temperature that would be brought on by the Phase 2 upgrade would significantly increase the risk of pipeline ruptures.

- Ruptures releasing dilbit into surface water would present risks to the safety of drinking water supplies, because one of the typical diluent ingredients is benzene, a toxic and carcinogenic, water-soluble compound.

- The benzene concentrations for a worst-case spill from the upgraded Line 67 at its crossing of the Mississippi River near Grand Rapids, MN have been calculated using methods developed by Prof. John Stansbury of the Department of Civil Engineering of the University of Nebraska.

- At the spill location the concentration would reach 32 times the Safe Drinking Water Act Maximum Contaminant Level (MCL) for benzene, and it would remain above the MCL over a distance of 280 miles as the plume travelled downstream.

- This kind of analysis is not mandated by any section of Minnesota Rules, but I believe that it should be. This increased risk to Minnesota's drinking water supplies is a risk that should not be taken. In my opinion, based on the above findings alone, the consequences to society of granting the certificate of need for Phase 2 are <u>not</u> more favorable than the consequences of denying the certificate.

**DISCUSSION AND RECOMMENDATIONS**

Below is outlined a calculation of the pumping station discharge pressures for dilbit transport. At the Phase 2 design-capacity flow rate of 880,000 barrels per day, the discharge pressure would be

approximately 48% higher than at the present annual-capacity flow of 450,000 barrels per day. Also, results shown in the Final Supplemental Environmental Impact Statement for the similar Keystone XL pipeline [2] indicate that we could expect a rise in pipeline temperature under the higher flow conditions to 120°F or higher in summertime. The increases in both pressure and temperature levels that would be brought on by the upgrade would increase the risk of pipeline ruptures due to corrosion or manufacturing flaws, major earth movement in landslides or floods, improper pipeline operation, or mechanical damage from excavation work.

A rupture releasing dilbit into the surface water at or near many of the 19 major rivers or tributaries crossed by Line 67 (see Table 1) would present a risk to the safety of drinking water supplies, because one of the typical diluent ingredients is benzene, a toxic and carcinogenic compound [3]. The benzene is water-soluble and would be swept downstream in a plume. The important questions are: what benzene concentrations would be reached, and how far downstream would the plume extend, in a worst-case spill?

| Alberta Clipper & Waterways |
|---|
| Rivers , Steams, Brooks & Creeks Crossed |
| Mississippi |
| Red River of the North |
| Red Lake River |
| Tamarac River |
| Middle River |
| Snake River |
| Branch Swale River |
| Clearwater River |
| Lost River |
| Swan River |
| Kelley Brook |
| Mirbat Creek |
| East Savana River |
| Stoney Brook |
| Cear Creek |
| Moose Horne River |
| Otter Creek |
| West Branch Floodwood River |
| Prairie River |

Table 1
Rivers and tributaries crossed by Line 67

No answers to either question are included in either the Application for Certificate of Need [4] or the Final Environmental Impact Statement [5] for the initial construction of Line 67, nor are such estimates given in the application for the Phase 2 upgrade [6]. A study by Professor John Stansbury of the Department of Civil Engineering of the University of Nebraska [7] addressed worst-case spills from the proposed Keystone XL pipeline's crossings of the Missouri and Yellowstone Rivers. He predicted that benzene concentrations at either event would rise to 19 times the Safe Drinking Water Act Maximum Contaminant Level (MCL) for benzene at the spill location, and that concentrations in the plume would remain above the MCL for a distance of 450 miles downstream.

The benzene concentrations for a worst-case spill from the upgraded Line 67 at the town of Ball Club, Minnesota, crossing of the Mississippi River have been calculated using Prof. Stansbury's methods. At the spill location, the concentration would reach 32 times the MCL, and it would remain above the MCL over a distance of 280 miles as the plume travelled downstream. The drinking water intakes for the communities of Grand Rapids, Libby, Aitkin, Brainerd, Royalton, and St. Cloud would be affected. Serious health risks would be created for tens of thousands of Minnesota residents, and aquatic habitats and recreational activities would be compromised. Other constituents from the spill would pose additional risks to humans and to aquatic species in the river.

This kind of analysis is not mandated by Section 7853.0620 Subpart 1, Point discharges to water, or any other section of Minnesota Rules, but I believe that it should be. This increased risk to drinking water supplies in Minnesota is a risk that should not be taken. In my opinion, based on the above findings alone, the consequences to society of granting the certificate of need are not more favorable than the consequences of denying the certificate. The additional bitumen should remain in the ground and be supplanted by renewable energy sources.

## DETAILS OF THE MISSISSIPPI RIVER CALCULATION

### Worst-Case Spill:

Prof. Stansbury's report describes a calculation of spill magnitude comprised of two parts: the pumping rate volume and the drain-down volume. Because I had no access to the topographic data needed to estimate the drain-down volume, I generated only a pumping rate volume. I applied a combined detection time and shut-down time of 1.5 hours to a leak of 100 percent of the 800,000 barrel-per-day annual average flow rate, giving a spill volume of 50,000 barrels. In view of the 12-hour pump-shutoff time for the Line 6B Kalamazoo River tributary spill [8], this is a reasonable time value.

As to why the 50,000-barrel spill volume is so much larger than the estimated 20,000-barrel volume in the Kalamazoo event, I note that Line 6B was designed for the much smaller maximum flow rate of 240,000 barrels per day [9]. For the Keystone XL pipeline analysis, Prof. Stansbury had used a shut-down time of 2 hours as a reasonable time for the worst-case analysis. I assumed that there would be no cleanup of the spill during the time of peak concentration of benzene in the water.

### Impacts to Surface Water:

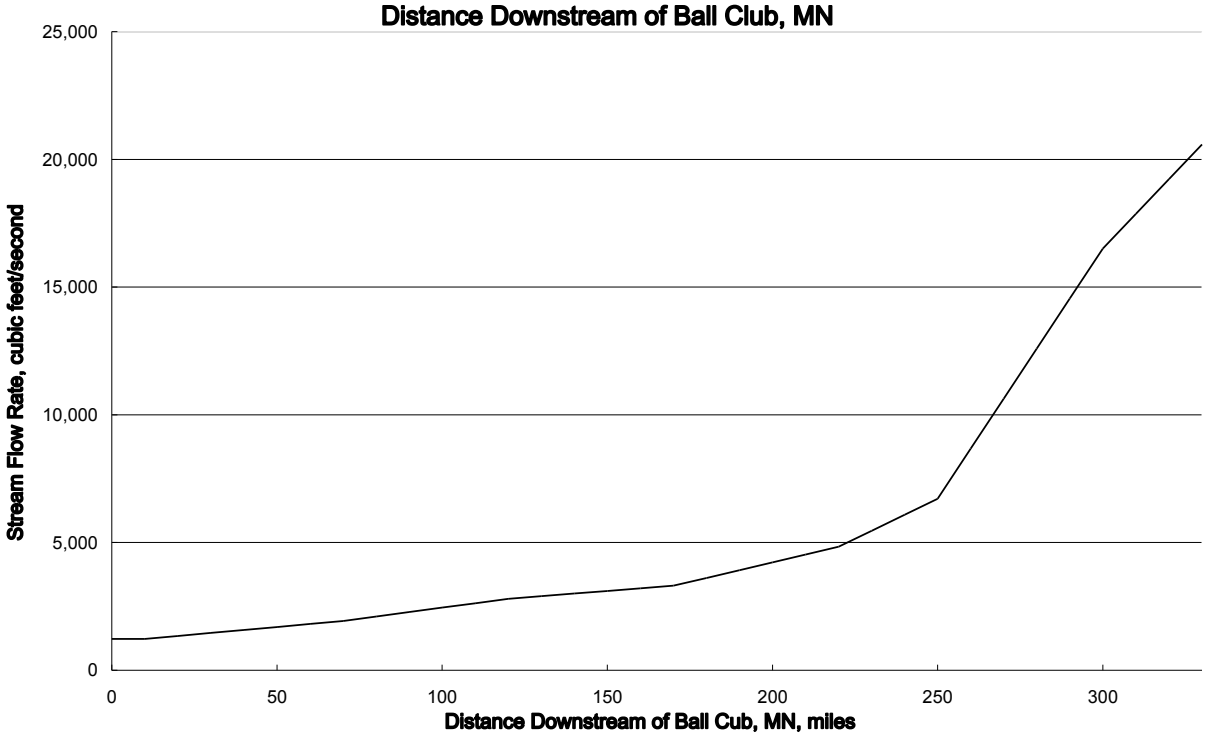
Benzene makes up 0.1 to 1.0 percent of dilbit crude oil and is relatively soluble in water [10]. Prof. Stansbury estimates for the 1 percent case that the benzene/water concentration immediately at the oil/water interface is 75 milligram/liter, with the concentration decreasing with distance from the interface. He considers it reasonable that 5 percent of the benzene in the spill volume would reach the oil/water interface per day. Dividing this release rate by the stream flow rate produces an estimate for the benzene/water concentration after the benzene plume completely mixes across the width of the stream.

For the 50,000-barrel spill into the Mississippi River, which has a mean flow rate of 1,226 cubic feet/second at the Ball Club crossing, the peak, fully mixed concentration was calculated to be 0.16 milligram/liter, which is a factor of 32 larger than the Safe Drinking Water Act Maximum Contaminant Level (MCL) [11].

**Migration of the Benzene Plume:**

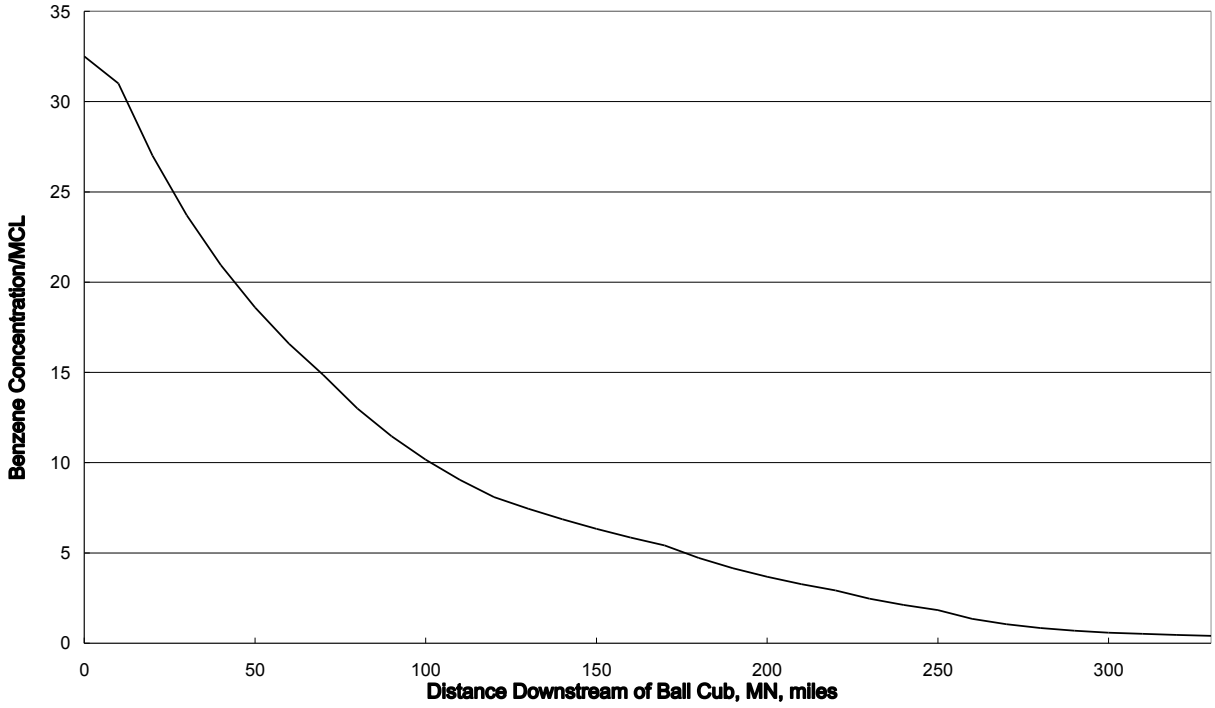
As the benzene plume migrates downstream, the concentration decreases due to volatilization and dilution by the increasing stream flow. A half-life of 3 days for benzene in surface water and a stream velocity of 2 feet/second are assumed. Data on the variation in Mississippi River stream flow rate with distance downstream, shown in Fig. 1, was provided by the USGS and was used in the calculations to predict concentration decrease with distance downstream of the spill. The plume length was modeled using a series of 10-mile long river reaches with first-order decay of concentration in each.

**Fig. 1**
**Mississippi River Mean Flow Rate vs**
**Distance Downstream of Ball Club, MN**




As seen in the Fig. 2 plot of concentration results, normalized to the benzene MCL, the plume would reach over 280 miles before its concentration would drop to the MCL and be safe for public water intakes.

**Fig. 2**
**Benzene Concentration in Plume vs Distance Downstream of Spill**

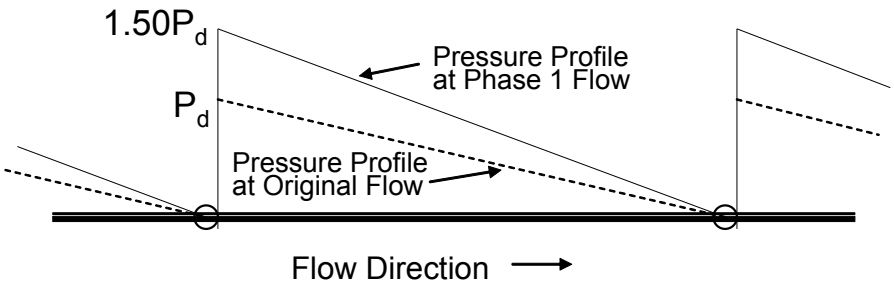



Other sets of assumptions (e.g., shorter half-life) would give somewhat different results. For example, assuming that benzene makes up only 0.3 percent of the dilbit and that 10 percent of the benzene is released per day, the calculated plume length would be reduced by about one-half. While the impacts thus cannot be calculated with precision, these results demonstrate that if a worst-case spill occurs in a major stream, the impacts would be both far-reaching and long-lasting.

## DETAILS OF PUMPING STATION DISCHARGE PRESSURE INCREASES DUE TO LINE 67 UPGRADES

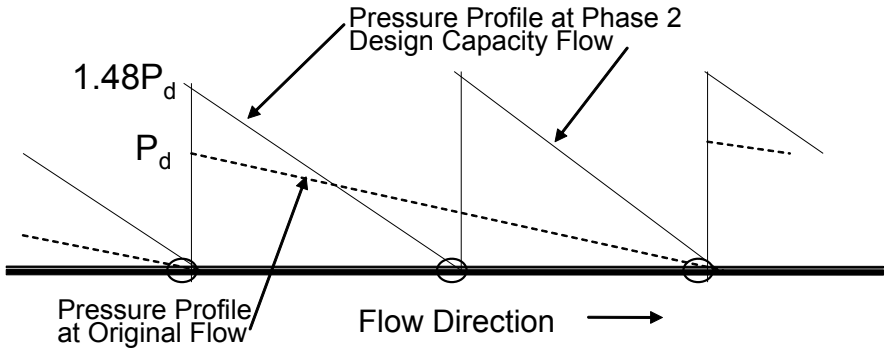
Crude oil flows in a pipeline segment because the upstream pumping station produces a lengthwise gradient of pressure (psi per foot of length) that overcomes flow resistance. That gradient can be calculated for a given flow rate (barrels per day), and, when multiplied by the segment length, it can give an estimate of the required discharge pressure at the upstream pumping station. This idealized estimate represents pumping-induced pressure without account of components of pressure due to variations in elevation (grade).

For the Phase 1 upgrade, instead of the gradient itself, I calculated the ratio of the gradients at the upgraded (570 kbpd) and the original (450 kbpd) annual capacities, which turned out to be 1.50. Based on that result, the peak pressure load in a given pipeline segment, which occurs at the discharge of the upstream pumping station, would have to increase by 50% to produce the higher annual-capacity flow rate of Phase 1.




For the Phase 2 upgrade I again calculated the ratio of the pressure gradients at the upgraded and the original flow rates. But now the pipeline segment length would be half of the original length, because a new pumping station is to be inserted between each pair of the original stations. So the ratio of pumping-station discharge pressures would now be one-half the ratio of the gradients. The results are tabulated below. All calculations were performed using the well-established plot of friction factor versus Reynolds number, often identified as the Moody Diagram [1].

| Case | Flow, kbpd | Ratio of Gradients, Upgrade/Original | Ratio of Pumping Station Discharge Pressures, Upgrade/Original | Increase in Discharge Pressure |
|---|---|---|---|---|
| Original Line 67 at Annual Capacity | 450 | -- | -- | -- |
| Phase 1 Upgrade at Annual Capacity | 570 | 1.50 | 1.50 | 50% |
| Phase 2 Upgrade at Annual Capacity | 800 | 2.59 | 1.30 | 30% |
| Phase 2 Upgrade at Design Capacity | 880 | 2.95 | 1.48 | 48% |




Respectfully submitted,
Stan Sattinger
Minneapolis, MN 55407
sattinss@aol.com

**REFERENCES**

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[2] Final Supplemental Environmental Impact Statement for the Keystone XL Pipeline, Appendix S, Pipeline Temperature Effects Study, Figure 1, http://keystonepipeline-xl.state.gov/documents/organization/221245.pdf

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[11] "Drinking Water Contaminants," U.S. Environmental Protection Agency, http://water.epa.gov/drink/contaminants/index.cfm

## Levi, Andrew (COMM)

**From:** Dale Lueck <dklueck@embarqmail.com>
**Sent:** Sunday, July 09, 2017 11:58 PM
**To:** MN_COMM_Pipeline Comments
**Subject:** Enbridge Line #3 Project DIES -- Docket# CN-14-916/PPL-15-137 Comments on DEIS
**Attachments:** Ltr 170709 Line 3 DEIS Comments.pdf

Please find the attached comments on the draft EIS for Enbridge Line #3.

Sincerely Yours,
Dale K Lueck, State Representative
Minnesota House of Representatives (District 10B)

Office Phone: (651) 296-2365 or (218) 927-2495
rep.dale.lueck@house.mn or dklueck@embarqmail.com

State Office Building (Room 423)
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155-1298

**Dale Lueck**
**State Representative**
**District 10B**
**Aitkin and Crow Wing Counties**

**Minnesota House of Representatives**

Jamie MacAlister, Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East Suite 280
St. Paul, MN 55101-2198

July 9, 2017

Re: Enbridge Line #3 Project DIES -- Docket# CN-14-916/PPL-15-137

Dear Minnesota Department of Commerce,

The comments and recommendations contained herein are submitted with respect to the Draft Environmental Impact Statement (DEIS) for the Enbridge Line #3 Project (Docket# CN-13-473-PPL-13-474).

Existing Line 3 pipeline is approximately 50 years old, is operating at a restricted capacity of 390,000 barrels of crude oil per day and requires extensive maintenance. Failure to replace Line #3 in a timely manner unnecessarily increases the risk that a failure in this aging pipeline will result in environment damage. The scope of the DEIS is unnecessarily broad resulting in significant unnecessary state agency expenditures of both time and resources.

**Recommendation:** Reduce the scope of the DEIS to examining the actual pipeline route proposed by the applicant for replacing Line #3 and the other transport alternatives, i.e. truck, rail should there be a decision to not allow replacement of Line #3. Examination of pipeline route alternatives should be limited to minor variations along the applicant's requested preferred route. Those adjustments to the preferred route should be related directly to environmental and/or human safety features along the proposed route.

The alternatives to transporting crude oil by Line #3 which include transport by rail car or truck are orders of magnitude less safe than transporting crude oil by a new modern pipeline. Unwarranted delay on the part of the Public Utilities Commission or the Minnesota Department of Commerce in authorizing the replacement of Line #3 that would result in increased transport of crude oil by rail or truck places the general public at greater risk of an accident that could injure or kill members of the general public.

As the elected Representative of House District 10B which includes all of Aitkin County and a major portion of Crow Wing County, I am especially concerned with one of the alternatives to not replacing line #3 which would transport the oil by crude oil unit trains via the

Superior Southern Rail Route. Certificate of Need Alternative Routes, Executive Summary Figure ES-2 in the DEIS refers. This alternative would result in as many as 10 crude oil unit trains per day moving oil on the Burlington Northern rail line the routes directly through the cities of Baxter, Brainerd, Deerwood, Aitkin, McGregor and Tamarack MN. Forcing additional crude oil on the rails for long distance transport is unacceptable and should not be done. The northern and southern suggested rail routes puts members of the general public at increased safety risk including serious injury and even death.

The DEIS contains endless pages on the threat to animals, plants, fish and wetlands with respect to a pipeline. The DEIS fails to address the threat to public safety in particular the potential of severe injury or death to members of the general public along the potential rail and truck routes that would be added if Line #3 is not replaced. Humans and especially small towns are a part of the environment and should get at least as much consideration as the animals, fish, plants and wetlands currently contained in the DEIS.

**Recommendation:** Include analysis of potential general public injury and fatality data for crude oil rail transport accidents with a crude oil unit train passing through or near small and large cities. The DEIS does not provide a sufficient amount of information on the horrendous potential danger of forcing more crude oil on the rails or highways to our cities. 1405-1

It is beyond the predictive capability of the Public Utilities Commission (PUC) or the Department of Commerce (DOC) to determine the future energy needs of the United States relative to our nation's economy. Accordingly, the DEIS and follow-on EIS should focus on the environmental impact of the project application. By virtue of the application and clear evidence that the applicant has the capacity to complete the project and operate the pipeline, the need is defined.

It is beyond the predictive capability of the PUC or DOC to determine the future energy needs of the United States relative to our national security. By virtue of the application and in the absence of formal notification from the federal government that the project would damage national security, the need is defined.

**Recommendation:** With respect to a PUC/DOC determination for granting a "Certificate of need" the scope of the DEIS and follow-on EIS should be narrowed to comment on whether the applicant (1) has the capacity to complete the project and operate the pipeline and (2) based on relevant federal agency input that the national security will not be harmed by the project.

District Office: (218) 927-2495 Email: rep.dale.lueck@house.mn Mailing Address: 37489 295th Street, Aitkin, MN 56431 (June- Dec.)
St. Paul Office: (651) 296-5378 Mailing Address: State Office Building, 100 Rev. Dr. Martin Luther King Jr. Blvd, St. Paul MN 55155-1298 (Jan.-May)

Re: Enbridge Line #3 Project DIES -- Docket# CN-14-916/PPL-15-137 (page 3 of 5)

The suggested system alternative SA-04 which would require a completely new pipeline that would not deliver crude oil via Clearbrook to the Superior terminal, but rather would take a completely new much longer route to Joliet, Illinois imposes a huge new unwarranted cost and delay in replacing Line #3. The applicant did not request or propose that they build a new pipeline to Joliet Illinois.

Neither the PUC nor the DOC have the authority to issue a certificate of need or a route permit that encroaches upon another state's sovereign territory. Should the PUC prescribe the SA-04 alternative as a condition for replacing Line #3, this would result in a serious and unwarranted delay in replacing aging Line 3. The fact that this alternative was included with respect to the certificate of need and route permit process highlights a need to more clearly define the bounds of authority for both the PUC and DOC with respect to Minnesota's pipeline certificate of need and route permit process.

**Recommendation:** Consideration of route SA-04 should be dropped from the DIES, as the applicant did not request to build a pipeline to Joliet Illinois. The inclusion of alternative SA-04 in the DIES strongly suggests that current Minnesota Statutes outlining the scope of authority for the PUC and DOC when considering a certificate of need and route permits for pipelines is woefully inadequate and in need of significant legislative clarification. 1405-2

The DEIS does not clearly outline the specific impact that the completed project will have long term on local property taxes for residents along the pipeline. Significant pages of the DEIS are dedicated to assessing the tax revenue impact of constructing the project. These are one time revenues and once completed will not be repeated. It appears as if this element was intentionally hidden from the view of the local property taxpayers that would be impacted by either replacement or closing down Line #3.

The long term impact on local property tax revenues will be profound for the residents along the Line #3 route. The DEIS should clearly project the impact on the property tax payers that are subject to annual county, township and school district property tax levies. 1405-3

**Recommendation:** The DEIS provide the following data in at least table format for all local units of governments that will accrue property tax revenue from the completed project.

Columns: (1) County, townships, school districts (2) Current Line #3 annual property tax revenue; (3) Current annual property tax levy; (4) Line #3 % of total property tax levy; (5) Preferred Route Property annual projected tax revenue; (6) % change from existing Line #3 revenue; (detailed information in a table format as follows)

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St. Paul Office: (651) 296-5378 Mailing Address: State Office Building, 100 Rev. Dr. Martin Luther King Jr. Blvd, St. Paul MN 55155-1298 (Jan.-May)

Re: Enbridge Line #3 Project DIES -- Docket# CN-14-916/PPL-15-137 (page 4 of 5)

1405-3 Cont'd

| (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|
| Crow Wing County | $000 | $000 | 00% | $000 | 00% |
| Gail Lake Township | $000 | $000 | 00% | $000 | 00% |
| Timothy Township | $000 | $000 | 00% | $000 | 00% |
| ISD-2174 (Pine River-Backus) | $000 | $000 | 00% | $000 | 00% |
| Aitkin County | $000 | $000 | 00% | $000 | 00% |
| Waukenabo Township | $000 | $000 | 00% | $000 | 00% |
| Logan Township | $000 | $000 | 00% | $000 | 00% |
| Workman Township | $000 | $000 | 00% | $000 | 00% |
| ISD-1 (Aitkin) | $000 | $000 | 00% | $000 | 00% |
| ISD-4 (McGregor) | $000 | $000 | 00% | $000 | 00% |
| ISD-2 (Hill City) | $000 | $000 | 00% | $000 | 00% |

1405-4

The DEIS does not adequately address the increased risk of attempting to remove a decommissioned Line #3 from amongst a tightly configured group of other operating pipelines. The increased risk of damage to and a potential spill from nearby existing pipelines should be better quantified in the DEIS. That would provide a more accurate assessment of cleaning and decommissioning versus removal of some segments of existing line #3.

1405-5

**Recommendation:** Present the data available on how many pipeline accidents that resulted in spills that where caused by construction activities in the vicinity of pipelines, versus the accidents involving spills that were caused by non-construction related incidents.

The preferred route from the Clearbrook Terminal to the Superior Terminal is a new route and appears to be superior to following the old existing Line #3 corridor. That portion of the existing Line #3 route is already overcrowded with pipelines, includes severe choke points that present unwarranted environmental challenges and in general continues exposure of an unnecessarily long segment of the oil pipeline in parallel and in close proximity to many miles of the main channel of the Mississippi River and its headwater's reservoirs.

The new preferred route from Clearbrook to the Superior Terminal reduces the amount of pipeline running parallel and close to the main Mississippi River channel and reservoirs. When possible it makes river crossings perpendicular to major channels, thus minimizing the overall proximity of the pipeline to major water volume channels. Fewer miles with exposure that could result in a spill quickly reaching far downriver and into existing major river reservoirs makes sense. That appears to make the preferred route from Clearbrook to the Superior Terminal superior to the current Line #3 route from an environmental protection perspective.

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Re: Enbridge Line #3 Project DIES -- Docket# CN-14-916/PPL-15-137 (page 5 of 5)

**Recommendation:** The DEIS include a risk analysis of the scope of anticipated damage caused by a leak near the main channel of the Mississippi River versus a similar incident near a small stream significant miles upstream from the Mississippi River's main channel.

Some of the other alternative pipeline and rail routes in the DEIS which deviate from the applicants preferred route appear to impose potential conflicts with Native American sovereignty. Those routes would require crossing Native American reservation lands which is under their sovereign control.

**General Comment:** The applicant does not propose to enter tribal community lands, that approach should be respected by the PUC and DOC.

The assumption that the portion of the applicant's preferred route that is located outside the existing Line 3 corridor would cause serious habitat fragmentation is not well founded. It is common knowledge that forest edges are extremely valuable and heavily used by wildlife of all types. A simple open clearing within north central Minnesota forest lands does not present any more of a disruption to the habitat than mother-nature periodically does on her own through fire, flooding and wind storms, or the disruption caused by logging operations including construction and maintaining of permanent forest roads. 1405-6

**Recommendation:** DEIS should address the habitat fragmentation within the context of other commonly accepted practices such as forestry roads, multiuse and single purpose recreational trails that are a normal part of northeastern Minnesota's rural landscape.

In closing the scope of the DEIS should be narrowed to address the applicant's request to replace Line #3. That would include the project's potential impact on the environment along the preferred route and include the human safety aspects of transporting the same amount of oil proposed by the Line #3 project via the alternative truck or rail routes discussed in the DEIS. Additionally, the economic impact analysis relative to the long term local property tax revenues on all local units of government along the proposed project should be provided in a concise and easily understood format. Thank you for considering this submission.

Sincerely Yours,

Dale K Lueck

Dale K. Lueck
Representative District 10B

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## Levi, Andrew (COMM)

**From:** Sen. John Marty <jmarty@senate.mn>
**Sent:** Saturday, July 08, 2017 11:56 PM
**To:** MN_COMM_Pipeline Comments
**Subject:** Public Comment on Line 3 Project (CN-14-916 & PPL-15-137)
**Attachments:** Sen John Marty comments on Draft EIS for Line 3 Replacement - July 2017.pdf

Jamie,

Please confirm that you received the attached letter containing my comments on the Draft EIS of the Line 3 Replacement project.

Thank you.

John Marty

Senator John Marty
2401 Minnesota Senate Bldg.
St Paul, MN 55155
651/296-5645

**Senator**
**John Marty**

**Senate**
**State of Minnesota**

VIA EMAIL: Pipeline.Comments@state.mn.us
Public Comment on Line 3 Project (CN-14-916 and PPL-15-137)

July 8, 2017

Jamie MacAlister, Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 280
St. Paul, MN 55101-2198

Dear Jamie,

I am writing to comment on the Line 3 "Replacement" Project Draft Environmental Impact Statement.

Rigorous and legally sufficient environmental reviews of pipeline projects are long overdue, and it is important to acknowledge that this process would never have occurred but for the persistence of affected communities. While I am glad that such a review is being conducted, I have concerns about major flaws in the Draft EIS. This is not a comprehensive list of concerns, but given the tight timeline for comment, I want to raise some points that need to be addressed in the EIS. In no particular order, here are some key flaws:

- If the "replacement" Line 3 Pipeline is built, **the Public Utilities Commission must give landowners the right to require that the existing pipeline be removed**, not simply abandoned. The landowners have hosted the Line 3 Pipeline for approximately 50 years, and have earned our appreciation and respect. Now, it would be unconscionable to grant Enbridge the sole power to decide how the land is reclaimed. Landowners should have the primary power to decide whether the pipeline will be removed or left in place with appropriate mitigation measures. These mitigation measure could include, but would not be limited to: segmentation of the pipeline to prevent water movements; filling the pipeline with grout to limit the chance that it will emerge from the ground; and a survey for contamination, which if found would be fully removed and otherwise mitigated. Leaving an aging pipeline in place is like buying a new car and leaving the old, rusting car in the backyard, slowly dripping remnants of toxic fluids into the ground. Fluids *do* continue to leak out, even if the tanks have been drained. 1404-1

  However in this case, the analogy would be even worse. It would be like leaving your rusting car in *somebody else's* backyard, without their consent, to pollute their soil and water. Providing landowners with the option of requiring removal of the existing pipeline and cleaning up contaminated soils near the pipeline must be an integral part of its replacement and needs to be addressed in the EIS.

2401 Minnesota Senate Bldg, St. Paul, MN 55155 651/296-5645 jmarty@senate.mn

1404-2

- This points to another flaw in the draft: regardless of the number of years that the Line 3 replacement pipeline is used, there will be a time when it is no longer used. The draft contains no calculation of the cost and challenges of removing *this new pipeline* at that time, just as the current pipeline removal is not addressed. If the removal of the existing pipeline is so difficult, it is essential that **the removal of this new pipeline when it is no longer in use needs to be addressed in the EIS.** It is not acceptable to simply abandon it knowing that it will cause environmental harm and risks to public health and safety just because the worst of those impacts will occur many years down the road.

1404-3

- Many of the people most affected by the Line 3 replacement project are native people, whose families have lived here for hundreds of years or longer. The Draft EIS states that *"disproportionate and adverse impacts would occur to American Indian populations."* It continues, *"Any of the routes selected would negatively affect tribal resources and tribal members."* (pg 11-13) **The EIS cannot simply acknowledge this environmental injustice; it must offer a means to prevent it.**

- As unacceptable as that harm to native Minnesotans is, the acknowledged harm is based on the assumption that the pipeline construction and operation will be done according to plan. It *further* assumes a 30 or perhaps 50-year use of the pipeline and then an end to those impacts. Enbridge's failure to plan for removal of either the current line 3, or this proposed replacement shows that the extent of these negative effects on native Minnesotans is inadequately understood.

  For native people who have lived here for hundreds of years or more, the impact of the pipeline matters not only while it is under construction and while it is transporting tar sands, but also 100 years from now, decades after it is no longer in use.

  Enbridge's irresponsible plan to abandon the existing Line 3 Pipeline after it is shut down and its failure to take responsibility for fully cleaning up their mess, is sufficient in itself to show that Enbridge is not an acceptable party for building and operating this project.

- Existing Enbridge pipelines in Minnesota are well over 50 years old and the draft EIS recognizes that the proposed Line 3 replacement will last far longer than 30 years, yet the estimates of the pipeline's impact on greenhouse gases assume a 30-year operational lifespan. **The estimates of the pipeline's greenhouse gas emissions must be measured for the entire expected life of the pipeline,** not the 30 years used in the draft. The draft EIS estimates of climate-altering greenhouse gas emissions are grossly understated for this reason alone.

1404-4

- Since 2007, Minnesota has had greenhouse gas emissions reduction goals in state law. Yet, other than one brief mention of that law, there is no reference to how this project fits in with the statutory goals. The Line 3 replacement project moves Minnesota farther from those goals, yet the draft EIS never directly addresses that conflict. **The EIS must explicitly show how the project fits in with the greenhouse gas reduction goals in Minnesota law.**

- In the executive summary on the draft EIS, there is a section titled: "The Effects of Climate Change on the Project." This is obviously important because climate change *will*

intensify the environmental damage caused by the project. However, *the bigger issue is the inverse of that, namely "the effects of the project on climate change."* Minnesota and the people of Minnesota will face significant, permanent harm from climate change. This letter is not the place to spell out the devastating impacts that will occur, but the draft makes clear that a "no build" option is the only option that will not make climate change even *worse*. **The EIS needs to fully address the *profound* environmental and health impacts that would result from the project's contribution to greenhouse gas emissions.** 1404-5

- The discussion of alternatives for consideration in the Certificate of Need hearing assumes the need to transport the 760,000 barrels/day desired by Enbridge. The draft simply says: *"Enbridge states* that demand for Canadian crude oil exceeds current capacity," (pg 2-4, emphasis added) as if that is sufficient justification for putting Minnesotans at risk of significant harm. There is no independent analysis of whether that level is necessary or whether the tar sands industry needs such capacity given questions about its financial viability, let alone an analysis of whether it is in the public interest.

  Last week, the Wall Street Journal (June 29, 2017) ran a story, *"A New Problem for Keystone XL: Oil Companies Don't Want It"* that begins, "After weathering years of protests, pipeline operator TransCanada is struggling to attract customers amid low crude prices and competing oil-transportation options."

  Transporting massive amounts of tar sands through Minnesota puts our lands and waters at risk as well as worsens our climate crisis simply to address Enbridge's "need," which is far from obvious. With the climate crisis in mind and an uncertain supply of demand for the dirtiest form of oil, **the EIS must fully analyze the need for the pipeline and it must truly consider a "no build" option.** 1404-6

- As is pointed out in the draft, the EIS is required to consider the environmental consequences of "no action" alternative. In the draft, the "no action" scenarios suggest that Enbridge would continue to operate the existing line 3. However, the U.S. Department of Justice Consent Decree makes it clear that the existing pipeline cannot continue to operate in its current form absent substantial improvements in maintenance and monitoring. The draft EIS improperly and inappropriately considers continued indefinite operation of the existing Line 3 as an alternative. **The EIS must be corrected to make it clear that "no action" does not mean that the existing Line 3 can continue to operate in its current unsafe, unreliable condition.** 1404-7

- The Draft EIS creates the clear impression that the corroded, unsound existing Line 3 pipeline will continue to transport tar sands crude oil across Minnesota putting our environment at risk, *unless* Enbridge is given authority to move ahead with their proposed project. There is understandable fear that Enbridge will continue to operate with reckless disregard for the water and land in the pipeline corridor. **The EIS must go back and analyze each aspect of the proposal in a manner that recognizes that lack of trust that Enbridge will comply with requirements.**

- *Enbridge is responsible for the costliest oil pipeline spill ever recorded* (Kalamazoo River, MI, 2010, $1.21 Billion, according to Enbridge 2014 SEC filing). Enbridge told its shareholders that *the Line 3 replacement is "the largest project in our history."*

  Yet the Draft EIS of the largest project from the biggest pipeline polluter, takes much of its information directly from Enbridge's permit application, not from any independent analysis, and the methods for eliminating or mitigating the problems are all simply relying on Enbridge to responsibly handle. The Draft EIS frequently refers to the idea that "Enbridge would" take care of it, using statements such as: "Enbridge would not install equipment bridges across waterbodies..." often followed by hedge words: "unless an efficient and economical method... is not available." (pg 2-33) In literally thousands of instances, the draft EIS describes what "would" happen, i.e., what Enbridge would do, without any acknowledgement of the fact that Enbridge has often been out of compliance, and without any reason for believing that Enbridge will comply in the future.

  Furthermore, it is not sufficient or realistic to pretend that state and federal agencies have the resources to properly inspect and enforce compliance. **The EIS needs to conduct its own independent analysis to gather information, and it must be explicit that it offers no reliable means of ensuring that the proposed procedures and plans will be carried out in the manner proposed.**

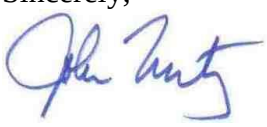
- The Certificate of Need process is supposed to determine whether denial would adversely affect future adequacy, reliability, or efficiency of the energy supply. Yet each of the alternatives mentioned, from the existing Line 3 to the proposed replacement, and all the other options, are not needed for Minnesota or U.S. consumption. The U.S. already exports over 2 million barrels/day *more* than our total petroleum imports from Canada. The increased crude from the Line 3 Replacement would be used to displace more U.S. oil, which would then be exported.

  The EIS fails to adequately address the purpose of transporting this dirty oil through Minnesota's sensitive ecosystem—none of these alternatives are needed to meet the energy needs of Minnesota or our neighboring states. Instead, rapid advancements in electric vehicle and battery technology will continue to reduce our tragic dependence on crude oil-based fuels – and turn infrastructure such as Line 3 into stranded assets.

Enbridge and its shareholders would profit handsomely from the Line 3 replacement but their profits will be at the expense of the people of Minnesota and our treasured natural resources. The EIS is not acceptable unless it fully addresses each of the above concerns.

Thank you in advance for correcting these flaws in the draft.

Sincerely,



John Marty
Former chair, Senate Environment & Energy Committee

## Levi, Andrew (COMM)

**From:** Bell, David (MDH)
**Sent:** Thursday, June 29, 2017 11:20 AM
**To:** MN_COMM_Pipeline Comments
**Cc:** Lundy, James (MDH); Lund, Tracy (MDH); Farnum, Trent (MDH); Kelly, James (MDH)
**Subject:** MDH Comment Letter - Line 3 Pipeline DEIS
**Attachments:** Line 3 DEIS_MDH Comment Letter_20170629.pdf

Thank you for providing the Minnesota Department of Health (MDH) the opportunity to comment on the Draft EIS for the Line 3 Pipeline Project. Attached is MDH's comment letter for the project. If you have any questions regarding the content of MDH's comments please feel free to contact myself or Jim Lundy (651-201-4649 or James.Lundy@state.mn.us).

Sincerely,

**David Bell**
Research Scientist - EQB Coordinator | Environmental Impact Analysis

**Minnesota Department of Health**
Office: 651-201-4907


DEPARTMENT OF HEALTH

*Protecting, Maintaining and Improving the Health of All Minnesotans*

June 29th, 2017

Jamie MacAlister
Environmental Review Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

Dear Ms. MacAlister,

Thank you for providing the Minnesota Department of Health (MDH) with the opportunity to comment on Draft Environmental Impact Statement (DEIS) for the Line 3 Pipeline project. The mission of MDH is to protect, maintain, and improve the health of all Minnesotans. The careful planning and development of projects such as this one supports this mission and is an important step in ensuring health in all policies.

MDH comments to the Enbridge Line 3 DEIS represent the concerns of the Drinking Water Protection Section (MDH/DWP). MDH/DWP assists, advises, and regulates public water suppliers (PWS) in accordance with the federal Safe Drinking Water Act to achieve and maintain high quality drinking water. Our concerns focus on the protection of drinking water quality for public and private supplies during construction and operation of the line.

Beginning in November 2016, MDH/DWP provided source water protection data to this project, including:

- A shapefile existing of Drinking Water Supply Management Areas (DWSMAs) and Wellhead Protection Areas (WHPAs) along proposed route options;
- A shapefile of locations for known existing private/domestic wells along the proposed route options;
- A shapefile of estimated hydrogeologic sensitivity for the vadose zone along the proposed route options; and
- Several memoranda explaining our concerns in detail.

Our strategy in doing so was to provide the route selection process with critical information and understanding necessary to avoid unnecessary risk to drinking water quality. We understand that route selection is a complicated process that depends upon many factors, some unrelated to drinking water quality. MDH comments and the DEIS sections they pertain to are as follows:

## GENERAL COMMENTS

- ***Distinction between Wellhead Protection Area (WHPA) and Drinking Water Supply Management Area (DWSMA).*** A WHPA and a DWSMA are two distinct areas in the vicinity of public drinking water supply wells. A WHPA designates a drinking water supply well's scientifically determined capture zone, and where necessary includes an area of surface water drainage to the capture zone. A DWSMA completely encloses the associated WHPA, following easily recovered landmarks and property lines. Therefore, a DWSMA is conservatively large compared to its associated WHPA, making the DWSMA most useful to water supply protection activities. Considering only DWSMAs (not WHPAs) in the assessment of potential public water supply impacts would be adequately conservative and would make the DEIS more easily understood. 1055-1
- ***Evolving information in support of wellhead protection.*** The expected lifetime of the Line 3 pipeline is many decades and, as is stated in Chapter 10 page 10-1 of the DEIS, "…the probability of a release of some type along the entire pipeline during its lifetime is not low". Following a ten-year cycle of wellhead protection plan amendment, DWSMA boundaries constantly evolve, and information we provided earlier may soon be out of date. Several cities (e.g., Cass Lake, Clearbrook) are establishing new DWSMAs or amending existing DWSMAs in the next year. Therefore, to support effective contingency planning, we recommend that Enbridge maintain a continuously updated inventory of PWS wells, DWSMAs, and domestic wells within appropriate buffered distances around the selected route (within 2500 feet of the pipeline for DWSMAs; within 500 feet of the pipeline for domestic wells). Many of the necessary data sets are served out on the MDH web site, located here: http://www.health.state.mn.us/divs/eh/water/swp/maps/index.htm 1055-2
- ***Active role in source water protection.*** We recommend that Enbridge play an active long-term role in assisting wellhead protection efforts by maintaining proactive and routine communications with public water suppliers and private well owners within the buffered zones. 1055-3

## EXECUTIVE SUMMARY

- ***Distorted map scales (page ES-2, Figure ES-1; page ES-9, Figure ES-3).*** Maps are skewed in the horizontal (E-W) direction, therefore the scale bar is inaccurate in the vertical (N-S) direction. Recreate these figures accounting for the final paper space in mind to maintain map scale accuracy. 1055-4

## CHAPTER 2—PROJECT DESCRIPTION

- ***Illegible text (page 2-11, Figure 2.3-1).*** Make text larger so that it is readable, then re-export as a TIFF or PNG (not JPG) file for proper insertion into a word document. 1055-5

- ***Material storage (page 2-12, section 2.3.4) and additional temporary workspaces (page 2-13, section 2.3.5).*** Select these areas to avoid DWSMAs, and to maximize distance from public and private (domestic) drinking water wells. 1055-6
- ***Figure format (pages 2-15, 2-16, 2-17; Figures 2.4-1 through 2.4-6).*** *For improved readability, r*esize figures on pages 2-16 and 2-17 (Figure 2.4-3, Figure 2.4-4, Figure 2.4-5, and Figure 2.4-6) to be consistent with the larger and more easily read figures on page 2-15 (Figure 2.4-1 and Figure 2.4-2). A neat line is missing from Figure 2.4-1. 1055-7
- ***Conventional pipeline construction procedures (page 2-19, section 2.7.1).*** Coordinate this step with the PWS or private well owners who may be affected. 1055-8
- ***Water conservation during testing (page 2-28).*** From where is the water for pipeline testing to be obtained? To conserve water, transfer and recycle test water between segments during hydrostatic testing.

## CHAPTER 3—REGULATORY FRAMEWORK

- ***Word choice (page 3-14).*** "The MDH assists local water suppliers in preparing wellhead protection plans ~~for~~ within their drinking water supply management areas." 1055-9

## CHAPTER 5—EXISTING CONDITIONS, IMPACTS AND MITIGATION-CERTIFICATE OF NEED

- ***General comment to Chapter 5***. The route comparisons were confusing. The differences between System Alternatives and Route Alternatives were not clear. It was also not clear why only the preferred route was compared to the other system alternatives. 1055-10
- ***Occurrence of karst (page 5-15).*** No karst aquifers are present along the preferred route. The paragraph about karst would be more appropriate in the discussion section about route SA-04, which does cross karst. 1055-11
- ***Verified and unverified well locations (page 5-17, page 5-18).*** The information source for well locations (verified and unverified) is County Well Index (CWI). However, universal transverse mercator (UTM) coordinates are missing or unverified for a substantial proportion of the roughly 500,000 wells that CWI contains. In addition, CWI is known to contain only a fraction of wells that exist. Therefore, within the ROI there are likely to be more than four public or domestic drinking water supply wells for which locations are missing or unverified. 1055-12
- ***Reference to sole source aquifers (page 5-26).*** There is no need to list 'Sole Source Aquifers' in the title because none are crossed by the routes described in this section. 1055-13
- ***Setback distance (page 5-26).*** A minimum setback distance of 100 feet between hazardous waste storage and drinking water wells is required (if adequate 1055-14

1055-14 Cont'd

safeguards exist). Consider siting tanks as far as possible from drinking water supply wells.

- ***Clearbrook DWSMA (page 5-26).*** The city of Clearbrook now has a preliminary DWSMA, and this DWSMA should therefore be added to the assessment. 1055-15
- ***Sensitive surface waters (page 5-43, Section 5.2.1.2.1).*** This section should mention that surface waters used as a drinking water source are regulated by MDH. 1055-16
- ***Possible incorrect city listed (Table 5.3.3-2).*** Existing line 3 does not run through Big Lake, as the table indicates. Bagley may be the PWS that was meant to be in the table. 1055-17

## CHAPTER 6—EXISTING CONDITIONS, IMPACTS AND MITIGATION-ROUTE PERMIT

- ***General comment about domestic well accounting in the DEIS.*** Due to under-reporting, estimates of the number of domestic wells are very likely to be low. The database upon which estimates are based (County Well Index, CWI), primarily contains information about wells drilled after the Minnesota Water Well Construction Code went into effect. It also under-represents drive-point domestic wells, which may be very common to the areas crossed by the route alternatives. 1055-18
- ***General comment about Route alternative RA-06.*** Route Alternative RA-06 crosses the Iron Range along the edge of an active mine (U.S. Steel—Keetac) between the cities of Nashwauk and Keewatin. The DEIS as written does not discuss mineral rights or what would happen if the pipeline prevented access to minerals beneath. Enbridge may need to come up with a plan for moving the pipeline after its construction in a (someday) active mining area. This is important to drinking water because both Nashwauk and Keewatin use the iron formation as their source aquifer. 1055-19
- ***Glacial aquifers (page 6-161).*** Move the second paragraph to the "Bedrock Aquifers" section (same page). 1055-20
- ***Operations impacts (page 6-171; same comment in other sections for each route alternative).*** If French drain effects occur in "areas of groundwater upwelling", will Enbridge replace/re-engineer the "trench breakers" discussed in the text? Which regulatory agency will respond to this? 1055-21
- ***Degradation of shallow groundwater quality (page 6-172; same comment in other sections for each route alternative).*** Blasting agents may alter ground water chemistry. Take care when blasting near domestic or public water supply wells. Non-toxic food-grade blasting chemicals may be necessary. 1055-22
- ***Status of required permits and approvals commentary on DWSMA consultation (Table 6.8-1).*** This table indicates the pipeline proposal potentially affects only two DWSMAs (Wrenshall and Sundsrud Court). However, depending on the final approved route, several other DWSMAs (e.g., Plummer, Clearbrook) are likely to be affected. 1055-23

## CHAPTER 7—ROUTE SEGMENT ALTERNATIVES

1055-24

- ***General comment, public water supply wells.*** The assessment of route segment alternatives (RSA) does not appear to consider route proximity to drinking water supply wells. For instance, RSA 23 approaches within 600 feet of public water supply wells for the cities of McGregor (DWSMA currently delineated) and Palisade (DWSMA to be delineated in the near future). The RSAs also closely approach numerous non-community public water supply wells and private (domestic) drinking water wells. These should all be assessed in this section of the DEIS.

## CHAPTER 8—EXISTING LINE 3 ABANDONMENT AND REMOVAL

1055-25

- ***General comment about waste solvent storage.*** If waste solvents from pipeline cleanout are to be stored at Enbridge facilities at Clearbrook, it should be pointed out that a portion of the Clearbrook terminal is within the Clearbrook DWSMA (the DWSMA is still preliminary as of the date of commentary).

1055-26

- ***Location of abandoned pipeline segmentation.*** Prevent long-distance movement of water through the abandoned pipeline into DWSMAs by carefully choosing segmentation locations far from DWSMAs.

## CHAPTER 10—ACCIDENTAL CRUDE OIL RELEASES

1055-27

- ***System alternative SA-04 (page 10-18, section 10.2.4.1.3).*** This is an apples to oranges comparison. All other routes have the same starting point (Neche, ND) and ending point (Superior, WI); however route SA-04 starts in Neche, ND and ends in Joliet, IL. The SA-04 risk of failure is higher because its length is so much greater than other routes.

1055-28

- ***High consequence area drinking water sources (Figure 10.4-3).*** This figure needs to be updated to ensure it presents the most up to date list of DWSMAs (Clearbrook, Cass Lake, and Warba are new additions that appear to be missing).

1055-29

- ***Number of wells.*** The number of all wells along the route options is likely higher than reported here. See earlier comment that County Well Index does not contain most wells drilled before adoption of the Minnesota Water Well Construction Code.

1055-30

- ***Correct source of DWSMA definition (page 10-71, section 10.4.3.1.2).*** The term "DWSMA" was first defined in the MDH wellhead protection rule.

## APPENDIX A—DETAILED ROUTE MAPS

1055-31

- ***Do not reveal locations of public drinking water supply wells.*** Although the maps show locations of PWS wells, the scale is such that exact locations are obscured. However MDH standard practice is to prevent circulation of exact well locations (e.g., UTM coordinates) on publicly disseminated information. A copy of the MDH policy "Sensitive Geospatial Data Access, Distribution, and Use Policy" can be provided if necessary.

- ***Possible map correction.*** RA-06 on Map 26A highlights residences in the town of Keewatin that are far from the proposed ROW. 1055-32
- ***Use DWSMAs, not WHPAs.*** DWSMAs are the main polygons within which public water supplies plan activities to protect their drinking water. Therefore place DWSMAs on the maps and remove the WHPAs. See general comment at the beginning of this document. 1055-33

Health starts where we live, learn, work, and play. To create and maintain healthy Minnesota communities, we have to think in terms of health in all policies. Thank you again for the opportunity to provide comments on this DEIS for the Line 3 Pipeline project. If you have any questions regarding this letter feel free to contact Jim Lundy, Supervisor from the Source Water Protection Unit, at (651) 201-4649 or James.Lundy@state.mn.us.

Sincerely,

David Bell
Environmental Review Coordinator
Environmental Health Division
Minnesota Department of Health
PO Box 64975
Saint Paul, MN 55164-0975

CC: Jim Lundy, Hydrologist Supervisor, Source Water Protection Unit, MDH
James Kelly, Manager, Environmental Surveillance & Assessment Section, MDH
Tracy Lund, Hydrologist, Source Water Protection Unit, MDH
Trent Farnum, Hydrologist, Source Water Protection Unit, MDH

## Levi, Andrew (COMM)

**From:** Sarah Beimers <sarah.beimers@mnhs.org>
**Sent:** Monday, July 10, 2017 10:09 PM
**To:** MN_COMM_Pipeline Comments
**Subject:** SHPO Comment Letter Line 3 DEIS
**Attachments:** 2015-0684e (1).pdf

RE: CN-14-916 and PPL-15-137

Attached is the 7/10/2017 State Historic Preservation Office (SHPO) comment letter regarding the DEIS for Line 3.

Sarah Beimers
Manager of Government Programs & Compliance | Minnesota Historic Preservation Office
Heritage Preservation Department | Minnesota Historical Society | 345 Kellogg Boulevard West | St. Paul MN 55102
tel: 651-259-3456 | e: sarah.beimers@mnhs.org

MINNESOTA HISTORICAL SOCIETY

HERITAGE PRESERVATION

**July 10, 2017**

**Jamie MacAlister**
**Minnesota Department of Commerce**
**85 7th Place East, Suite 280**
**St. Paul MN 55101-2198**

**RE: Line 3 Replacement Project: CN-14-916, PPL-15-137**
**Multiple Counties**
**SHPO Number: 2015-0684**

**Dear Ms. MacAlister,**

**Thank you for the opportunity to comment on the *Draft Environmental Impact Statement* (DEIS) for the proposed Line 3 Project (Project). The DEIS has been reviewed pursuant to the responsibilities given to the Minnesota Historical Society by the Minnesota Historic Sites Act (M.S. 138.665-666) and the Minnesota Field Archaeology Act (M.S. 138.40). The State Historic Preservation Office (SHPO) is the department within the Minnesota Historical Society which is delegated to consult with state departments and agencies and respond to requests for review pursuant to the requirements of these state laws.**

**It is our understanding that the DEIS has been prepared by the Minnesota Department of Commerce's Energy Environmental Review and Analysis (DOC-EERA) for the use by the Minnesota Public Utilities Commission (PUC) as it considers issuance of a Certificate of Need (CN) and a Route Permit (RP) for the Project. The DEIS has evaluated, along with a "No Action" alternative which would result in other transportation outcomes, a System Alternative (SA-04) as well as Route Alternatives identified as RA-03AM, RA-06, RA-07, and RA-08.**

**Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, and 36 CFR Part 800, the procedures of the Advisory Council on Historic Preservation for the protection of historic properties, as it is the lead federal agency's responsibility to initiate and complete any required Section 106 review for a federally assisted Project.**

**In August 2016, the U.S. Army Corps of Engineers (USACE) initiated Section 106 consultation with our office regarding the agency's undertaking, which is the proposed issuance of a federal permit to 1) discharge fill into waters of the U.S. (WOUS) in connection with pipeline construction, and 2) provide authorization of pipeline construction under or through navigable WOUS. Following additional information submitted to our office by the USACE in April 2017, on 2 May 2017 our office provided written comments and recommendations to the USACE regarding the agency's definition of the area of potential effect for above-ground visual effects based upon the USACE's permit areas, or areas of federal agency jurisdiction.**

**Our office is at a very early stage in Section 106 consultation with the USACE for the proposed**

**federal undertaking, and it is important to clarify that the undertaking subject to Section 106 review is not construction of a replacement pipeline, but is a permit to discharge fill or construct segments of the pipeline through WOUS for the applicant's selected route only. In summary, the Section 106 review does not at this point include the entire pipeline route or any alternative routes.**

**Therefore, the review and consideration of potential impacts to significant historic, architectural, and archaeological resources as part of the DEIS is more comprehensive than any concurrent federal review by the USACE under Section 106 in that it takes into account the entire preferred pipeline route, a system alternative, and route alternatives, as well as consideration of potential impacts caused by the abandonment of the existing Line 3.**

**As mentioned in the DEIS, our office has had the benefit of consulting with Enbridge Energy (Applicant) since July 2015 as they have completed and submitted to our office for review the archaeological field surveys for areas of potential ground disturbance within their preferred pipeline route.**

**Comments and recommendations on the DEIS are, as follows:**

**Chapter 3 Regulatory Framework** 2368-1

- **On Table 3.6-1 the Minnesota State Historic Preservation Office is listed as consulting (with federal agencies) under (Section 106 of) the National Historic Preservation Act which is correct. Our office does not provide "Section 106 clearance" per se. We do, however, review and provide concurrence with a federal agency's findings and determinations pursuant to 36 CFR Part 800. Also, there is no mention on this table of our role in reviewing and consulting with State agencies and departments pursuant to M.S. 138.665-666 and M.S. 138.40, which is what the SHPO does on behalf of the Minnesota Historical Society. Therefore, we recommend that this information also be included on this table.**
- **Under Section 3.6.3.4, while our office certainly consults with applicants regarding identification, evaluation, and assessment of effects to cultural resources, there is also a requirement pursuant to state law that agencies and departments should consult with our office prior to state approval of state sponsored projects or those projects undertaken on non-federal public lands for which a state agency or department has jurisdiction.** 2368-2

**Chapter 5 Existing Conditions, Impacts, and Mitigation – Certificate of Need**
**Chapter 6 Existing Conditions, Impacts, and Mitigation - Route Permit**
**Section 5.4 Cultural Resources**
**Section 6.4 Cultural Resources** 2368-3

- **For clarification, "cultural resources", as defined in this section, also include historic districts which may be archaeological or historic/architectural, or both. Historic resources also include objects and landscapes.** 2368-4
- **Regulatory Context (Minnesota) – The summaries provided in this section provides a good overview of applicable state laws. Regarding the Field Archaeology Act, it is**

**important to clarify that when significant archaeological sites exist, or are predicted to exist "on public lands or waters" the "agency controlling said lands or waters" are required to submit construction or development plans to the Minnesota Historical Society (SHPO) and the Office of the State Archaeologist (OSA) for review and comment. Therefore, review and consultation with our office and the OSA is dependent upon the project's location and impacts to non-federal public lands, regardless of whether it is a publicly or privately sponsored project. Also, the statement at the end of the** *Minnesota Private Cemeteries Act* **incorrectly states that the SHPO reviews projects that may impact known or suspected human burials. The SHPO has no role in reviewing these projects and do not have a role in forwarding the OSA this information. The OSA is to be contacted directly pursuant to Subdivision 10 of M.S. 307.08.** 2368-4 Cont'd

- **Methodology – The Region of Interest (ROI) provided in the DEIS appears to be appropriate to take into account potential direct and indirect effects to cultural resources, if any, that may be caused by the Project. While it is accurate to state in the DEIS that our office has reviewed and commented on the Applicant's completed archaeological surveys for the preferred route, including two (2) additional surveys which our office reviewed in April 2017 which are not listed in the DEIS, it is critical to note that only data included in the SHPO's current inventory of recorded historic/architectural and archaeological sites was utilized for the ROIs of the other alternative routes. To further clarify and correct what is stated in the DEIS, the cultural resources identified for these ROIs included properties which fall into one of of three (3) different categories: 1) those which are listed in the National Register of Historic Places (NRHP) or State Register of Historic Places (SRHP), 2) those which have been determined eligible for listing in the NRHP through previous federal or state review (our office does not review and evaluate per the SRHP which are listings only the Minnesota Legislature has authority to pass), or 3) those which have been identified through reconnaissance survey but which have not been evaluated for NRHP eligibility. While the SHPO inventory data is considered current, it is by no means considered a comprehensive inventory of all potential archaeological and historic/architectural resources which may be present in the ROIs for alternative routes.** 2368-5
- **Impact Assessment - Further clarification needs to be made to this section which calls out the SRHP and State Historic Site Network, but makes no mention of cultural resource significance under the NRHP, which is the basis for evaluation for both federal and state reviews. Also, while we typically do recommend preparation and implementation of an Unanticipated Discoveries Plan, the intent of consultation and project review by our office pursuant to state law is that all cultural resources can be identified through field survey, evaluated for significance, all project effects to significant cultural resources assessed, and adverse effects avoided, minimized, or mitigated, prior to construction. In general, we agree with the statement made in the DEIS that only the Applicant's preferred route has been surveyed for archaeological resources. The analysis in the DEIS for alternative routes only included consideration of known cultural resources, which is a very limited data set and an incomplete representation of all significant cultural resources, and that there is a likelihood of additional cultural resources to be present within the ROI for any of the alternative** 2368-6

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routes.

- **Summary and Mitigation - For reasons outlined above, the summary provided in this section is considered incomplete as it only assesses potential impacts to known cultural resources and the majority of these known cultural resources within alternative routes, those other than the Applicant's preferred alternative, have not been evaluated for significance. As stated in this section, we look forward to ongoing consultation with the DOC-EERA and PUC regarding identification of cultural resources as well as "determinations of eligibility, Project effects, and any necessary treatment for impacts." Regarding mitigation, we agree with suggested measures to resolve - avoid, minimize or mitigate - any potential adverse effects to cultural resources. It is important to note that, if adverse effects ultimately cannot be avoided, consideration should be given to mitigation measures that have a public education benefit. We look forward to consultation with participating state agencies and departments, as well as the Applicant, to resolve any adverse effects, if any, which may be caused by the Project.**

2368-6
Cont'd
2368-7

**In summary, while the Cultural Resources sections for both the Certificate of Need and Route Permit actions provide a general overview of applicable laws and an initial assessment of the Project's potential impacts for the Applicant's preferred route as well as alternative routes, our office considers information and documentation presented in the DEIS as incomplete in terms of what state law requires for consultation with our office in an effort to identify and protect the state's significant historic and archaeological resources.**

**Therefore, we look forward to continuing consultation with the DOC-EERA, and any other state agencies which may have responsibilities for consulting with our office pursuant to state law, in an effort to comprehensively identify and evaluate all archaeological and historic/architectural resources which may be affected by the eventual state permitted Project as whole - above and beyond the scope of the federal Section 106 review - as well as assess potential effects caused by the Project and resolve adverse effects, if any.**

**Please contact me at 651-259-3456 or sarah.beimers@mnhs.org if you have any questions regarding this comment letter or would like to discuss next steps in the consultation process.**

**Sincerely,**

Sarah J. Beimers

**Sarah J. Beimers**
**Manager of Government Programs and Compliance**
**State Historic Preservation Office**