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BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
600 North Robert Street
St. Paul, Minnesota 55101

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION
121 Seventh Place East, Suite 350
St. Paul, Minnesota 55101-2147

In the Matter of the Applications of Enbridge Energy, Limited Partnership for a Certificate of Need and Pipeline Routing Permit for the Line 3 Replacement Project in Minnesota from the North Dakota Border to the Wisconsin Border	MPUC Docket No. PL-9/CN-14-916 and 15-340 OAH Docket No. 65-2500-32764 MPUC Docket No. PL-9/PPL-15-137 OAH Docket No. 65-2500-3337
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**ENBRIDGE ENERGY, LIMITED PARTNERSHIP'S
PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND
RECOMMENDATIONS**

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APPEARANCES

Christina Brusven and Patrick Mahlberg, Fredrikson & Byron, P.A., and Eric Swanson, Winthrop & Weinstine, P.A., appeared on behalf of Applicant Enbridge Energy, LP (“Applicant” or “Enbridge”).

Linda Jensen, Assistant Attorney General, appeared on behalf of the Minnesota Department of Commerce (“DOC”) - Energy Environmental Review and Analysis (“DOC-EERA”).

Peter Madsen, Assistant Attorney General, appeared on behalf of the Department of Commerce - Division of Energy Resources (“DOC-DER”).

Brian Meloy, Stinson, Leonard Street, appeared on behalf of Kennecott Exploration Company (“Kennecott”).

Kevin Pranis appeared on behalf of Laborers’ District Council of Minnesota and North Dakota (“LDC”).

Ellen Boardman and Anna Friedlander, O’Donoghue & O’Donoghue, LLP, and Sam Jackson, Cummins & Cummins, appeared on behalf of the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada, AFL-CIO (“UA”).

Michael Ahern and Brian Bell, Dorsey & Whitney, LLP, appeared on behalf of Shippers for Secure, Reliable and Economical Petroleum Transportation (“Shippers”).

Leili Fatehi and Hudson Kingston, Advocate, PLLC, appeared on behalf of the Sierra Club (“Sierra Club”).

Scott Strand, Environmental Law and Policy Center, and Richard Smith appeared on behalf of Friends of the Headwaters (“FOH”).

Akilah Sanders-Reed and Brent Murcia appeared on behalf of Youth Climate Intervenors (“YCI”).

Frank Bibeau and Paul Blackburn appeared on behalf of Honor the Earth (“HTE”).

David Zoll and Rachel Kitze Collins, Lockridge, Grindal, Nauen, PLLP, appeared on behalf of the Mille Lacs Band of Ojibwe (“Mille Lacs Band”).

Sara Van Norman, Davis Law Firm, Philip Mahowald and Barbara Cole, the Jacobson Law Firm, and Seth Bichler appeared on behalf of the Fond du Lac Band of Lake Superior Chippewa (“Fond du Lac Band”).

Joseph Plumer appeared on behalf of the White Earth Band of Ojibwe (“White Earth Band”) and Red Lake Band of Chippewa Indians (“Red Lake Band”).

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Chris Allery appeared on behalf of the Leech Lake Band of Ojibwe (“Leech Lake Band”).

James Reents appeared on behalf of the Northern Water Alliance of Minnesota (“NWA”).

Stuart Alger, Malkerson, Gunn, Martin, LLP, appeared on behalf of Donovan and Anna Dyrdal (“Dyrdals”).

Bret Eknes and Scott Ek appeared as representatives of the Minnesota Public Utilities Commission (“Commission”).

STATEMENT OF ISSUES

1. Has Enbridge satisfied the requirements of Minn. Stat. § 216B.243, the criteria set forth in Minn. R. 7853.0130, and other applicable legal requirements for a Certificate of Need for the Line 3 Replacement Project (“Project”)?
2. Should Enbridge’s Route Permit Application for the Line 3 Replacement Project be granted?
 - a) If so, which of the proposed route alternatives or route segment alternatives best meet the route selection criteria set forth in Minn. R. 7852.1900?
 - b) If so, what conditions or provisions should be included in the Route Permit?

SUMMARY OF CONCLUSIONS

1. The Administrative Law Judge concludes that Enbridge has satisfied the criteria set forth under Minnesota law for a Certificate of Need for the Line 3 Replacement Project. Therefore, the Administrative Law Judge respectfully recommends the Commission grant Enbridge’s Application for a Certificate of Need.
2. The Administrative Law Judge concludes that Enbridge has satisfied the criteria set forth in Minnesota law and rule for the issuance of a Route Permit. The Administrative Law Judge further concludes that the Applicant’s Preferred Route, with the addition of RSA-05, best meets the legal criteria for a route in this proceeding. Accordingly, the Administrative Law Judge recommends that the Commission issue a Route Permit to Enbridge for a route which follows the Preferred Route with the incorporation of RSA-05.

Based on information in the Certificate of Need Application and Route Permit Application submitted by Enbridge, the Environmental Impact Statement (“EIS”) prepared by DOC-EERA, information presented during the public hearings, testimony and evidence presented at the evidentiary hearing, written comments received, exhibits received during this proceeding, and other evidence in the record, the Administrative Law Judge makes the following:

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FINDINGS OF FACT

I. PROCEDURAL HISTORY.

1. Enbridge submitted a Proposed Procedural Findings of Fact on November 20, 2017, with an updated version submitted November 27, 2017.¹ Those findings are incorporated herein. The findings below detail the subsequent procedural history of these dockets.
2. On November 30, 2017, the Dyrdals, Fond du Lac Band, DOC-DER, and DOC-EERA submitted revisions to Enbridge’s Proposed Procedural Findings of Fact.²
3. On the same day, the public comment period closed. The Commission filed the written public comments received during the comment period.³
4. On December 7, 2017, the Commission met to make a decision on the adequacy of the Final Environmental Impact Statement (“FEIS”). It issued its Notice of Final Environmental Impact Statement Adequacy Determination Line 3 Replacement Project on December 13, 2017.⁴ The Commission’s Order Finding Environmental Impact Statement Inadequate was filed on December 14, 2017.⁵

¹ Enbridge Proposed Procedural Findings (Nov. 20, 2017) (eDocket Nos. [201711-137522-03](#) (CN); [201711-137522-04](#) (R)); Enbridge Updated Proposed Procedural Findings (Nov. 27, 2017) (eDocket Nos. [201711-137688-04](#) (CN); [201711-137688-03](#) (R)).

² FDL Redline of Enbridge Proposed Procedural Findings (Nov. 30, 2017) (eDocket No. [201711-137832-01](#)); DER Redline of Enbridge Proposed Procedural Findings (Nov. 30, 2017) (eDocket No. [201711-137817-01](#)); EERA Redline of Enbridge Proposed Procedural Findings (Nov. 30, 2017) (eDocket No. [201711-137828-01](#)); Dyrdal Redline of Enbridge Proposed Procedural Findings (Nov. 30, 2017) (eDocket No. [201711-137826-01](#)).

³ See Public Comments (Dec. 1, 2017) (Batch 28) (eDocket No. [201712-137884-01](#)); Public Comments (Dec. 1, 2017) (Batch 27) (eDocket No. [201712-137880-01](#)); Public Comments (Dec. 8, 2017) (Batch 31J) (eDocket No. [201712-138040-20](#)); Public Comments (Dec. 8, 2017) (Batch 31I) (eDocket No. [201712-138040-18](#)); Public Comments (Dec. 8, 2017) (Batch 31H) (eDocket No. [201712-138040-16](#)); Public Comments (Dec. 8, 2017) (Batch 31G) (eDocket No. [201712-138040-14](#)); Public Comments (Dec. 8, 2017) (Batch 31F) (eDocket No. [201712-138040-12](#)); Public Comments (Dec. 8, 2017) (Batch 31E) (eDocket No. [201712-138040-10](#)); Public Comments (Dec. 8, 2017) (Batch 31D) (eDocket No. [201712-138040-08](#)); Public Comments (Dec. 8, 2017) (Batch 31C) (eDocket No. [201712-138040-06](#)); Public Comments (Dec. 8, 2017) (Batch 31B) (eDocket No. [201712-138040-04](#)); Public Comments (Dec. 8, 2017) (Batch 31A) (eDocket No. [201712-138040-02](#)); Public Comments (Dec. 8, 2017) (Batch 30) (eDocket No. [201712-138037-02](#)); Public Comments (Dec. 8, 2017) (Batch 29H) (eDocket No. [201712-138037-02](#)); Public Comments (Dec. 8, 2017) (Batch 29G) (eDocket No. [201712-138035-13](#)); Public Comments (Dec. 8, 2017) (Batch 29F) (eDocket No. [201712-138035-11](#)); Public Comments (Dec. 8, 2017) (Batch 29E) (eDocket No. [201712-138035-09](#)); Public Comments (Dec. 8, 2017) (Batch 29D) (eDocket No. [201712-138035-07](#)); Public Comments (Dec. 8, 2017) (Batch 29C) (eDocket No. [201712-138035-05](#)); Public Comments (Dec. 8, 2017) (Batch 29B) (eDocket No. [201712-138035-03](#)); Public Comments (Dec. 8, 2017) (Batch 29A) (eDocket No. [201712-138035-01](#)).

⁴ Notice of FEIS Adequacy Determination (Dec. 13, 2017) (eDocket No. [201712-138116-01](#)).

⁵ Order Finding EIS Inadequate (Dec. 14, 2017) (eDocket No. [201712-138168-02](#)).

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5. On December 14, 2017, Sierra Club, FOH, HTE, Fond du Lac Band, White Earth Band, Leech Lake Band, Mille Lacs Band, NWA, YCI, and Red Lake Band submitted a Motion for Adjustment of Briefing Schedule to the Administrative Law Judge (“ALJ”).⁶
6. On December 15, 2017, the ALJ issued the Third Post-Hearing Order, which related to the Motion for Adjustment of Briefing Schedule.⁷
7. On December 18, 2017, Enbridge, LDC, UA, and the Shippers submitted responses in opposition to the Motion for Adjustment of Briefing Schedule.⁸ Various parties submitted replies in support of the motion on December 19, 2017.⁹
8. On December 20, 2017, the Commission provided notice of its adequacy decision in the *EQB Monitor*.¹⁰
9. On December 22, 2017, the ALJ issued the Order Granting Motion to Extend Briefing Schedule.¹¹
10. On December 28, 2017, Enbridge, UA, LDC, and the Shippers submitted their Joint Motion to Certify the ALJ’s Order Granting Motion to Extend Briefing Schedule.¹²
11. On December 29, 2017, the Commission issued a Request for Immediate Certification of Motion to the ALJ, as well as a Notice of Special Commission Meeting.¹³
12. On January 2, 2018, the Fond du Lac Band and Sierra Club submitted petitions for reconsideration of the Commission’s adequacy decision. On January 3, 2018, Enbridge did the same.¹⁴

⁶ Joint Motion for Adjustment of Briefing Schedule (Dec. 14, 2017) (eDocket No. [201712-138191-02](#)).

⁷ Third Post-Hearing Order (Dec. 15, 2017) (eDocket No. [201712-138197-01](#)).

⁸ Enbridge Response in Opposition (Dec. 18, 2017) (eDocket No. [201712-138263-01](#)); LDC Response in Opposition (Dec. 18, 2017) (eDocket No. [201712-138264-01](#)); UA Response in Opposition (Dec. 18, 2017) (eDocket No. [201712-138267-01](#)); Shippers Response in Opposition (Dec. 18, 2017) (eDocket No. [201712-138266-01](#)).

⁹ YCI Reply Br. (Dec. 19, 2017) (eDocket No. [201712-138299-04](#)); FDL Reply Br. (Dec. 19, 2017) (eDocket No. [201712-138298-01](#)); HTE Reply Br. (Dec. 19, 2017) (eDocket No. [201712-138297-01](#)); FOH Reply Br. (Dec. 19, 2017) (eDocket No. [201712-138295-02](#)); Mille Lacs Reply Br. (Dec. 19, 2017) (eDocket No. [201712-138290-01](#)); Sierra Club Reply Br. (Dec. 19, 2017) (eDocket No. [201712-138294-01](#)); Dyrdal Reply (Dec. 18, 2017) (eDocket No. [201712-138262-01](#)).

¹⁰ EQB Monitor Notice of FEIS Adequacy Determination (Dec. 20, 2017) (eDocket No. [201712-138313-02](#)).

¹¹ Order Granting Motion to Extend Briefing Schedule (Dec. 22, 2017) (eDocket No. [201712-138416-01](#)).

¹² Joint Motion to Certify (Dec. 28, 2017) (eDocket No. [201712-138480-03](#)).

¹³ Request for Immediate Certification of Motion (Dec. 29, 2017) (eDocket No. [201712-138495-02](#)); Notice of Special Commission Meeting (Dec. 29, 2017) (eDocket No. [201712-138496-02](#)).

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13. On January 2, 2018, the ALJ issued the Order Granting Commission Request for Immediate Certification.¹⁵

14. On January 4, 2018, the Commission issued a Notice of Oral Argument, as well as briefing papers and revised briefing papers.¹⁶

15. On January 5, 2018, Kathy Hollander filed a Petition to Resume Consideration of a Motion to classify certain data as public.¹⁷

16. On January 8, 2018, Sierra Club, White Earth, Red Lake Band, NWA, HTE, FDL, YCI, and Mille Lacs Band filed a letter to the Commission.¹⁸

17. On January 10, 2018, the Commission issued an Order requesting that the ALJ provide her report by April 23, 2018.¹⁹

18. On January 11, 2018, the ALJ issued the Fourth Post-Hearing Order.²⁰ On the same day, Sierra Club, HTE, Fond du Lac Band, and YCI submitted a Motion to Reconsider and for Post-Hearing Conference.²¹

19. On January 12, 2018, YCI, HTE, DOC-EERA, Enbridge, Sierra Club, and Fond du Lac Band submitted responses to the requests for reconsideration submitted on January 2 and 3, 2018.²²

¹⁴ Joint Tribal Petition to Reconsider (Jan. 2, 2018) (eDocket No. [20181-138561-01](#)); Sierra Club Petition for Reconsideration and Request for Supplemental EIS (Jan. 2, 2018) (eDocket No. [20181-138549-03](#)); Enbridge Petition for Reconsideration (Jan. 3, 2018) (eDocket No. [20181-138620-03](#)).

¹⁵ Order (Jan. 2, 2018) (eDocket No. [20181-138535-01](#)).

¹⁶ Notice of Oral Argument from Parties (Jan. 4, 2018) (eDocket No. [20181-138646-01](#)); Briefing Papers – January 9, 2018 Agenda (Jan. 4, 2018) (eDocket No. [20181-138633-01](#)); Revised Briefing Papers – January 9, 2018 Agenda (Jan. 4, 2018) (eDocket No. [20181-138642-02](#)).

¹⁷ Motion (Jan. 5, 2018) (eDocket No. [20181-138680-01](#)).

¹⁸ Comment by Sierra Club, White Earth, Red Lake Band, NWA, HTE, FDL, YCI and Mille Lacs Band (Jan. 8, 2018) (eDocket No. [20181-138708-01](#)).

¹⁹ Order (Jan. 10, 2018) (eDocket No. [20181-138782-02](#)).

²⁰ Fourth Post-Hearing Order (Jan. 11, 2018) (eDocket No. [20181-138800-01](#)).

²¹ Motion to Reconsider and for Post-Hearing Conference (Jan. 11, 2018) (eDocket No. [20181-138802-01](#)).

²² YCI Reply to Tribes Joint Petition for Reconsideration (Jan. 12, 2018) ([20181-138892-02](#)); HTE Response to Joint Tribal Petition for Reconsideration (Jan. 12, 2018) (eDocket No. [20181-138891-03](#)); DOC-EERA Reply (Jan. 12, 2018) (eDocket No. [20181-138890-01](#)); Enbridge Reply to Petitions for Reconsideration of Tribes and Sierra Club (Jan. 12, 2018) (eDocket No. [20181-138884-04](#)); Fond du Lac Band Response to Sierra Club Petition for Reconsideration and Hearing and Request for Supplement to the EIS (Jan. 12, 2018) (eDocket No. [20181-138868-01](#)); Sierra Club Reply to Joint Tribal Petition (Jan. 12, 2018) (eDocket No. [20181-138859-02](#)); YCI Response to Sierra Club Petition for Reconsideration (Jan. 16, 2018) (eDocket No. [20181-138893-02](#)).

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II. SUMMARY OF PUBLIC COMMENT.

20. Thousands of members of the public provided comments on the proposed Project during the public comment period, either at the public hearings or through written submissions. General themes from these comments are summarized below.
21. Supporters' comments generally fell into the following categories:
- The benefits of replacing an aging pipeline with a modern pipeline, including enhanced environmental protection;²³
 - Economic benefits to local governments and businesses;²⁴
 - Energy security;²⁵
 - Minnesota's reliance on Canadian crude oil;²⁶
 - Negative impacts of increased crude-by-rail traffic if the Project is not approved;²⁷

²³ Comment by Thomas Prew (Nov. 27, 2017) (Batch 18) (eDocket No. [201711-137679-02](#)) (“In my work at MNOPS, we had many opportunities to meet with Enbridge while investigating Line 3 releases. You should be aware that the Director of MNOPS never missed an opportunity to ask and plead with Enbridge to replace Line 3. I know my former co-workers are excited at the prospect of removing this unsafe pipeline and having a new one built that better protects the people of Minnesota. I find it very curious that staff from the Minnesota Department of Commerce didn’t walk across the street to talk about the condition and history of Line 3 with MNOPS, and include that information in the EIS or their project review. I believe the State of Minnesota should speak with one voice when it comes to safety of its citizens and protection of the environment.”); Comment by Baker Hughes (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)) (“Enbridge is proposing a multi-billion dollar private investment to replace Line 3 with modern infrastructure built to today’s high standards, consistent with Enbridge’s commitment to the safety and integrity of its pipeline system and the environment.”); Comment by Allete and Minnesota Power (Nov. 28, 2017) (Batch 26) (eDocket No. [201711-137705-02](#)); Comment by Matt Johnson (Oct. 24, 2017) (Batch 6) (eDocket No. [201710-136771-01](#)).

²⁴ *E.g.*, Comment by Minnesota Chamber of Commerce (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)); Comment by Craig Fellman (Oct. 24, 2017) (Batch 6) (eDocket No. [201710-136771-01](#)).

²⁵ *E.g.*, Comment by Mark Zimmerman (Oct. 9, 2017) (Batch 5) (eDocket No. [201710-136290-02](#)).

²⁶ *E.g.*, Comment by Tim and Susan Anderson, Anderson’s Spirit of the North Resort (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)); Comment by Nick Compton (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)).

²⁷ *E.g.*, Comment by Minnesota Grain and Feed Association (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)) (“Our members know all too well the damage to the mainstream economy, Minnesota agriculture and our own bottom lines of oil moving dangerously down our rail lines. The glut of oil on rail can be extremely disruptive to our ability to move agricultural commodities for our customers. This is a real threat to our members and their families.”); Comment by Donald Cloose (Nov. 28, 2017) (Batch 25) (eDocket No. [201711-137704-02](#)) (“Rural Minnesota needs Enbridge to replace its Line 3 pipeline on the route it is proposed. This part of Minnesota is seeing more and more oil trains taking crude oil to market. This poses a risk to those living near these rail lines. Should an accident occur along one of these rail lines, the damage to life and property will be

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- The thousands of good jobs that will be generated by the Project;²⁸ and
- Enbridge’s strong track record of working with landowners, local governments, and other stakeholders.²⁹

22. Opposition comments generally fell into the following categories:

- Concerns about climate change and fossil fuel reliance;³⁰
- Concerns related to the risk of a release and operational impacts;³¹
- Impacts on ceded territories and other impacts to tribes;³²
- General environmental impacts.³³

III. FEDERAL, STATE, AND LOCAL GOVERNMENT PARTICIPATION.

23. Various units of federal, state, and local governments provided comments on the Project during the comment period.

24. In its November 20, 2017, comments, the Government of Canada expressed its support for the Project, stating:³⁴

Canada and Minnesota enjoy close people-to-people relations and an established economic partnership that results in \$11.5 billion in annual two-way trade. Canada is by far Minnesota's largest trading partner and a preferred destination for bilateral investment. More than 174,000 jobs in Minnesota are dependent on the Canada-U.S. economic relationship. Our companies, manufacturing supply

catastrophic. Pipelines are a much safer mode of transportation for oil. Ambulances and other emergency response teams are constantly getting stuck waiting for long oil trains to pass crossings.”).

²⁸ *E.g.*, Comment by David Chura (Oct. 24, 2017) (Batch 6) (eDocket No. [201710-136771-01](#)).

²⁹ *E.g.*, Comment by Greg Huber (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)) (“Enbridge has always been very good about working and crossing my property.”); Comment by Cheryl Peters (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)) (“We have co-existed with the pipeline for many years and find them to be good neighbors and good for our community. To me replacing an aging pipeline makes both good economical sense as well as good environmental sense.”).

³⁰ *E.g.*, Comment by Margaret Fawcett (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)); Comment by Bob Hinton (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)).

³¹ *E.g.*, Comment by Jan Best (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

³² *E.g.*, Comment by Pazong Chang (Nov. 7, 2017) (Batch 10) (eDocket No. [201711-137191-01](#)); Comment by Roberta Hudlow (Nov. 7, 2017) (Batch 10) (eDocket No. [201711-137191-01](#)).

³³ *E.g.*, Comment by Denise Perry (Nov. 7, 2017) (Batch 10) (eDocket No. [201711-137191-01](#)).

³⁴ Comment by Consulate General of Canada (Nov. 21, 2017) (Batch 17) (eDocket No. [201711-137577-01](#)).

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chains and energy infrastructure are integrated and supply vital goods and services.

Canada and the U.S. benefit from an integrated energy system that supports over \$100 billion in two-way energy trade. Our highly interconnected energy market and infrastructure increase energy security and access to energy products for businesses and consumers in both countries. . . . If approved and constructed in the U.S., the Line 3 Replacement project would continue to contribute to a well-established energy infrastructure that fuels North America. Canada currently supplies 43% of the U.S.'s daily oil imports, over three million barrels per day. Canada is also the largest export market for U.S. crude oil, meeting 30% of Canadian demand, which contributes to U.S. growth and jobs. This reciprocal energy relationship is sustained by a network of over 70 operating cross border oil, natural gas and petroleum products pipelines, and 35 electric transmission lines, built over decades by an integrated world-class manufacturing supply chain.

25. Similarly, in its November 21, 2017, comments, the Government of Alberta explained its support for the Project, focusing on five key areas:³⁵

- The Minnesota-Alberta trade relationship.
- Minnesota's energy need and supply.
- Alberta and Canada's progressive climate policy leadership.
- The behavior of diluted bitumen (heavy oil) in water.
- Infrastructure options.

26. The Government of Alberta concluded its comment letter by stating:³⁶

Alberta understands Minnesota needs to make determinations about infrastructure projects to ensure they safely serve the interests of Minnesotans and neighbouring states. The privately-financed Enbridge Line 3 Replacement Project does just that. The project offers substantial benefit to Minnesota through job creation, taxes, energy security and industry support. The Line 3 Replacement Project will also ensure the newest and most

³⁵ Comment by Minister of Government of Alberta, Canada (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

³⁶ Comment by Minister of Government of Alberta, Canada (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

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advanced technology is used to ensure this vital piece of energy infrastructure operates as safely as possible and has effective measures in place to mitigate climate change, all while ensuring Minnesota can continue to do business with Alberta - a reliable and responsible trading partner. In short, the Line 3 Replacement Project is a significant opportunity to enhance North America's infrastructure network, reduce environmental and climate risk, enhance safety, and allow for the more efficient movement of non-energy goods.

27. The Tribal Governing Board of The Lac Courte Oreilles Band of Lake Superior Chippewa Indians, a tribe with treaty rights and resources in Minnesota, submitted a letter to express its experiences with Enbridge.³⁷ The Band explained that it had recently negotiated an easement for renewal of two pipelines on its reservation. Enbridge treated the Band with respect, and the outcome of the negotiations was mutually beneficial. The Band stated:³⁸

In working with multiple employees of Enbridge, they have proven themselves knowledgeable, environmentally conscious and culturally aware. Our goal of safe, environmentally protective distribution of energy is the cornerstone of our relationship that is continuously growing. The new easement agreement for our reservation contains heightened environmental protections, which the tribe specifically negotiated for, and acknowledges the tribe's ability as a Sovereign Nation to regulate and tax corporations doing business within our boundaries. The funding generated from our agreement will help the tribe to address necessary infrastructure improvements and help to provide benefits to all tribal citizens. We have no reason to doubt that Enbridge treats other tribes with the same respect and integrity.

28. Matthew Peigan, Chief of Pasqua First Nation (Pasqua Indian Reserve) in Saskatchewan, Canada, spoke at the Duluth public hearing about his tribe's experiences working with Enbridge.³⁹ Pasqua Indian Reserve is located in the corridor of the construction for Line 3 in Canada.⁴⁰ Chief Peigan explained that how his tribe worked with Enbridge to develop a process for preconstruction inspection and construction that would safeguard and protect areas of significance to the tribe, including sacred sites, as well as to protect

³⁷ Comment by Lac Courte Oreilles Band of Lake Superior (Nov. 28, 2017) (Batch 26) (eDocket No. [201711-137705-02](#)).

³⁸ Comment by Lac Courte Oreilles Band of Lake Superior (Nov. 28, 2017) (Batch 26) (eDocket No. [201711-137705-02](#)).

³⁹ Duluth Pub. Hrg. Tr. Vol 7B at 77-80 (Oct. 18, 2017) (Chief Peigan).

⁴⁰ Duluth Pub. Hrg. Tr. Vol 7B at 77 (Oct. 18, 2017) (Chief Peigan).

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water crossings.⁴¹ Chief Peigan also stated that “Enbridge has now submitted to the National Energy Board that they’re prepared to work with any Indigenous group in Canada to identify their traditional sites and to help protect and monitor any water crossings and be involved in those processes.”⁴²

29. Minnesota Department of Natural Resources (“MDNR”) submitted a comment letter on the last day of the public comment period.⁴³ MDNR generally discussed natural resource considerations related to the Project, SA-04, route alternatives, and route segment alternatives (“RSAs”). MDNR also proposed various mitigation measures for the Project.⁴⁴
30. Minnesota Pollution Control Agency (“MPCA”) also submitted a comment letter on the last day of the public comment period.⁴⁵ MPCA’s comments generally related to environmental justice and water resources.
31. The following local governments and/or organizations also submitted comments or testimony in support of the Project:
 - Cohasset Fire and Rescue⁴⁶
 - Marshall County⁴⁷
 - Aitkin County⁴⁸
 - Pennington County⁴⁹
 - Red Lake County⁵⁰
 - City of Wrenshall⁵¹
 - Floodwood Business Community Partnership⁵²

⁴¹ Duluth Pub. Hrg. Tr. Vol 7B at 78-79 (Oct. 18, 2017) (Chief Peigan).

⁴² Duluth Pub. Hrg. Tr. Vol 7B at 79 (Oct. 18, 2017) (Chief Peigan).

⁴³ Comment by MDNR (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁴⁴ It is important to note that, under the terms of a Memorandum of Understanding (“MOU”) with the DOC, both MDNR and MPCA were assisting agencies in preparing the FEIS.

⁴⁵ Comment by MPCA (Nov. 28, 2017) (Batch 25) (eDocket No. [201711-137704-02](#)).

⁴⁶ Comment by Cohasset Fire and Rescue (Sept. 20, 2017) (Batch 2) (eDocket No. [20179-135778-01](#)).

⁴⁷ Comment by Marshall County Board of Commissioners (Sept. 20, 2017) (Batch 2) (eDocket No. [20179-135778-01](#)); Thief River Pub. Hrg. Tr. Vol. 1B at 93 (Sept. 26, 2017) (Peters).

⁴⁸ Comment by Aitkin County Board of Commissioners (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)); Grand Rapids Pub. Hrg. Tr. Vol. 3A at 35 (Oct. 10, 2017) (Lowney).

⁴⁹ Comment by Pennington County (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)); Thief River Pub. Hrg. Tr. Vol. 1B at 65 (Sept. 26, 2017) (Hempel).

⁵⁰ Comment by Red Lake County (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)).

⁵¹ Comment by Wrenshall City Council (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)).

⁵² Comment by Floodwood Business Community Partnership (Oct. 4, 2017) (Batch 3) (eDocket No. [201710-136134-01](#)).

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- City of Cohasset⁵³
- Kittson County Board of Commissioners⁵⁴
- St. Louis County⁵⁵
- Arbo Township⁵⁶
- City of Cromwell⁵⁷
- City of Hill City⁵⁸
- City of Palisade⁵⁹
- City of Red Lake Falls⁶⁰
- City of Thief River Falls⁶¹
- Clearwater County Land and Forestry Department⁶²
- Cloquet Economic Development Authority⁶³
- Norden Township⁶⁴
- Bemidji Regional Airport Authority⁶⁵
- Duluth Seaway Port Authority⁶⁶
- Minnesota Agrigrowth Council⁶⁷
- Minnesota Farm Bureau⁶⁸
- Reif Center⁶⁹

⁵³ Comment by City of Cohasset (Oct. 9, 2017) (Batch 5) (eDocket No. 201710-136290-02).

⁵⁴ Comment by Kittson County Board of Commissioners (Oct. 9, 2017) (Batch 5) (eDocket No. 201710-136290-02).

⁵⁵ Comment by St. Louis County (Oct. 9, 2017) (Batch 5) (eDocket No. 201710-136290-02); Grand Rapids Pub. Hrg. Tr. Vol. 3B at 66 (Oct. 10, 2017) (Solberg).

⁵⁶ Comment by Arbo Township (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

⁵⁷ Comment by City of Cromwell (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

⁵⁸ Comment by City of Hill City (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

⁵⁹ Comment by City of Palisade (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

⁶⁰ Comment by City of Red Lake Falls (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

⁶¹ Comment by City of Thief River Falls (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

⁶² Comment by Clearwater County Land and Forestry Development (Nov. 7, 2017) (Batch 10) (eDocket No. 201711-137191-01).

⁶³ Comment by Cloquet Economic Development Authority (Nov. 7, 2017) (Batch 10) (eDocket No. 201711-137191-01).

⁶⁴ Comment by Norden Township (Nov. 13, 2017) (Batch 12) (eDocket No. 201711-137314-01).

⁶⁵ Comment by Bemidji Regional Airport Authority (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

⁶⁶ Comment by Duluth Seaway Port Authority (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

⁶⁷ Comment by Minnesota Agrigrowth Council (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

⁶⁸ Comment by Minnesota Farm Bureau (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

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- Gully Township⁷⁰
- City of Hallock⁷¹
- Helga Township⁷²
- Kittson County⁷³
- Lambert Township⁷⁴
- Numedal Township⁷⁵
- River Falls Township⁷⁶
- Sanders Township⁷⁷
- Skelton Township⁷⁸
- Twin Lakes Township⁷⁹
- East Polk County Farm Bureau⁸⁰
- Minnesota Grain and Feed Association⁸¹
- Bear Creek Township⁸²
- Carlton County⁸³
- City of St. Hilaire⁸⁴
- Moose Creek Township⁸⁵
- Polk County⁸⁶

⁶⁹ Comment by Reif Center (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷⁰ Comment by Gully Township (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷¹ Comment by Hallock City Council (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷² Comment by Helga Township (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷³ Comment by Kittson County (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷⁴ Comment by Lambert Township Board (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷⁵ Comment by Numedal Township (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷⁶ Comment by River Falls Township Board (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷⁷ Comment by Sanders Town Board (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷⁸ Comment by Skelton Township (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁷⁹ Comment by Twin Lakes Township (Nov. 17, 2017) (Batch 14) (eDocket No. [201711-137475-01](#)).

⁸⁰ Comment by East Polk County Farm Bureau (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁸¹ Comment by Minnesota Grain and Feed Association (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁸² Comment by Bear Creek Township (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁸³ Comment by Carlton County Board of Commissioners (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁸⁴ Comment by City of St. Hilaire (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁸⁵ Comment by Moose Creek Township (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁸⁶ Comment by Polk County Board of Commissioners (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

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- Silver Brook Township⁸⁷
- Buzzle Township⁸⁸
- Eckles Township⁸⁹
- East Polk Soil and Water Conservation District⁹⁰
- Middle River Fire Department⁹¹
- Grand Rapids Area Chamber of Commerce⁹²
- Itasca Economic Development Corporation⁹³
- Bagley Fire Department⁹⁴
- Clearwater County⁹⁵

IV. ENBRIDGE & THE ENBRIDGE MAINLINE SYSTEM.

32. Enbridge Energy, Limited Partnership, is the Applicant in these proceedings.⁹⁶ Enbridge and its predecessors and affiliates have been in operation in Minnesota since 1949.⁹⁷ Enbridge owns and operates the Lakehead System, which is the U.S. portion of the Enbridge Mainline System, the longest liquid petroleum pipeline system in the world.⁹⁸
33. In the U.S., the Enbridge Mainline System consists of pipelines in North Dakota, Minnesota, Wisconsin, Illinois, Indiana, Michigan, and New York.⁹⁹ In Minnesota, the Enbridge Mainline System includes existing Line 3 along with a number of other pipelines, including Line 1, Line 2B, Line 4, Line 67, and Line 65.¹⁰⁰
34. The Enbridge Mainline System has been operating in northern Minnesota for approximately 65 years.¹⁰¹

⁸⁷ Comment by Silver Brook Township (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁸⁸ Comment by Buzzle Township (Nov. 28, 2017) (Batch 25) (eDocket No. [201711-137704-02](#)).

⁸⁹ Comment by Eckles Township (Nov. 28, 2017) (Batch 26) (eDocket No. [201711-137705-02](#)).

⁹⁰ Thief River Pub. Hrg. Tr. Vol. 1A at 128-29 (Sept. 26, 2017) (Pederson).

⁹¹ Thief River Pub. Hrg. Tr. Vol. 1B at 52 (Sept. 26, 2017) (Litzinger).

⁹² Grant Rapids Pub. Hrg. Tr. Vol. 3A at 52-53 (Oct. 10, 2017) (Stone).

⁹³ Grand Rapids Pub. Hrg. Tr. Vol. 3A at 135 (Oct. 10, 2017) (Zimmerman).

⁹⁴ Bemidji Pub. Hrg. Tr. Vol. 6A at 112-114 (Oct. 17, 2017) (Jordan).

⁹⁵ Bemidji Pub. Hrg. Tr. Vol. 6B at 71-73 (Oct. 17, 2017) (Illies).

⁹⁶ Ex. EN-1 at 2-1 (CN Application); Ex. EN-4 at 1-1 (R Application).

⁹⁷ Ex. EN-42 at 2 (Johnston Rebuttal).

⁹⁸ Ex. EN-42 at 3 (Johnston Rebuttal).

⁹⁹ Ex. EN-24 at 14 (Eberth Direct).

¹⁰⁰ Ex. EN-42 at 2-3 (Johnston Rebuttal).

¹⁰¹ Ex. EN-24 at 15 (Eberth Direct).

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35. As the owner of the Lakehead System, the Applicant’s assets, revenues, and cash flows are significant. The Lakehead System includes thousands of miles of liquid petroleum pipelines. These pipelines operate on a cost of service basis, meaning that the Applicant is allowed to recover its costs of service of those assets, insulating it from volume changes and creating a stable earnings platform.¹⁰² From these assets, Enbridge Energy, Limited Partnership generates approximately US \$600 million in free cash flow, after expenses, annually.¹⁰³
36. The Enbridge Mainline System transports crude oil from the U.S. Bakken and Western Canada to markets in the U.S. and Eastern Canada.¹⁰⁴ Five North American regional submarkets are accessible to Canadian crude oil transported via the Enbridge Mainline System: Upper Midwest; Lower Midwest; Ontario/Quebec; Midcontinent; and the Gulf Coast.¹⁰⁵
37. The pipelines composing the Enbridge Mainline System operate as an integrated system and transport multiple grades of light and heavy crude oil.¹⁰⁶ Together, the Enbridge Mainline System and Enbridge’s market extension pipelines comprise approximately 15,795 miles of liquid petroleum pipelines.¹⁰⁷ Enbridge’s pipelines can move – directly or via interconnections – approximately 2.4 million barrels of crude oil every day to North American markets.¹⁰⁸
38. Enbridge’s Mainline System serves refineries in Minnesota, Wisconsin, Illinois, Indiana, Ohio, and many other states.¹⁰⁹ All of the refineries in Petroleum Administration for Defense District (“PADD”) II (the Midwest region) can be served directly or indirectly by the Enbridge Mainline System.¹¹⁰ The crude oil pipeline system, refineries, and refined products distribution systems are all highly interconnected and interdependent. The Enbridge Mainline System is a critical part of that system, and the Project has been designed to operate as part of the existing system.¹¹¹

¹⁰² Evid. Hrg. Tr. Vol. 6A (Nov. 9, 2018) at 52 (Johnston).

¹⁰³ Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 59 (Johnston); Evid. Hrg. Tr. Vol. 6A (Nov. 9, 2017) at 54 (Johnston) (“Enbridge Energy Partners generates free cash flow of \$700 million a year”); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 15 (Johnston) (“The assets generate cash flows of 700 million per year”); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 37 (Johnston) (“85 percent of [Enbridge Energy Partners’] business, cash flows, operating activities, are generated from the assets owned by the Applicant”).

¹⁰⁴ Ex. EN-19 at 4 (Glanzer Direct).

¹⁰⁵ Ex. EN-15, Sched. 2 at 48 (Earnest Direct).

¹⁰⁶ Ex. EN-15 at 20 (Earnest Direct).

¹⁰⁷ Ex. EN-24 at 15 (Eberth Direct).

¹⁰⁸ Ex. EN-24 at 15 (Eberth Direct).

¹⁰⁹ Ex. EN-1 at 8-14 (CN Application).

¹¹⁰ Ex. EN-15 at 13 (Earnest Direct).

¹¹¹ Ex. EN-19 at 6 (Glanzer Direct).

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39. The Enbridge Mainline System is the exclusive pipeline source of crude supply for the Minnesota refineries.¹¹² Minnesota has two refineries: the Flint Hills Pine Bend and the Andeavor (formerly Northern Tier Energy) St. Paul Park facilities.¹¹³ The Minnesota refineries obtain all of their pipeline crude oil supplies at Clearbrook, either from the Enbridge Mainline System or the Enbridge North Dakota pipeline.¹¹⁴ Over 80 percent of the crude oil supply for the Minnesota refineries comes from Clearbrook.¹¹⁵
40. The Enbridge Mainline System operates as a collective system, not as isolated individual pipelines. Line 3 is an integral part of this system and currently connects at Clearbrook.¹¹⁶ The connection of Line 3 and other Enbridge pipelines at Clearbrook allows Enbridge to operate the Mainline System as an integrated network in which Enbridge works to optimize throughput for customers, maximize asset integrity, reduce per-barrel energy consumption, and reduce system integrity threats.¹¹⁷ Since the Project is designed to replace the existing Line 3, the Project was also designed to connect at Clearbrook.¹¹⁸
41. The existing Line 3, along with other pipelines in the Enbridge Mainline System, also connects to Superior, Wisconsin.¹¹⁹ Superior is the Enbridge hub, with 45 tanks, connection to the Calumet Refinery, and four outgoing pipelines that provide access to the Midwest refineries, Eastern Canada refineries, and U.S. Gulf Coast refineries.¹²⁰ Since the Project is designed to replace the existing Line 3, the Project also connects at Superior.¹²¹
42. Enbridge operates the Enbridge Mainline as a common-carrier system, an obligation it has under the Interstate Commerce Act. Consequently, Enbridge is required to provide service to shippers without undue discrimination or preference.¹²² To begin the shipping process, shippers make requests (or “nominations”) for transportation of specific crude(s) from receipt point(s) in Western Canada and North Dakota to downstream delivery point(s).¹²³ These nominations are allocated by Enbridge between the crude oil type and the line’s designated use (i.e., light, heavy or mixed service).¹²⁴ Apportionment occurs

¹¹² Ex. EN-30 at 4 (Eberth Rebuttal).

¹¹³ Ex. EN-15, Sched. 2 at 17 (Earnest Direct).

¹¹⁴ Ex. EN-15, Sched. 2 at 9 (Earnest Direct).

¹¹⁵ Evid. Hrg. Tr. Vol. 7B (Nov. 13, 2017) at 95 (Eberth).

¹¹⁶ Ex. EN-19 at 6 (Glanzer Direct).

¹¹⁷ Ex. EN-19 at 6 (Glanzer Direct).

¹¹⁸ Ex. EN-19 at 6 (Glanzer Direct).

¹¹⁹ Ex. EN-19 at 5 (Glanzer Direct).

¹²⁰ Ex. EN-19 at 6 (Glanzer Direct).

¹²¹ Ex. EN-19 at 6 (Glanzer Direct).

¹²² Ex. EN-19 at 11 (Glanzer Direct).

¹²³ Ex. SH-1 at 4 (Shippers Direct).

¹²⁴ Ex. SH-1 at 4 (Shippers Direct).

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when shippers request the transportation of more crude oil than the pipeline system can accommodate. When barrels nominated for a specific type of crude oil exceed available capacity for that type of crude, the capacity is “apportioned” on a pro rata basis among all shippers of that type of crude oil.¹²⁵ The apportionment procedure occurs in accordance with Enbridge’s Rules and Regulations Tariff and is regulated by the Federal Energy Regulatory Commission (“FERC”).¹²⁶

43. Shippers request transportation capacity on the Enbridge Mainline System by submitting a nomination to ship in the coming month to Enbridge. A shipper is defined as any producer, marketer, refiner, or an integrated company, who owns the commodity while it is being transported on the Enbridge Mainline System.¹²⁷ Nominations are submitted to Enbridge on a prescribed date each month, generally the 20th of the preceding month.¹²⁸ Upon receipt of all nominations, Enbridge verifies the nominations with upstream suppliers and downstream delivery points designated by the shipper. Once verified and accepted, the nominations are allocated between the various pipelines in a manner that optimizes the entire system.¹²⁹
44. Enbridge’s process of verifying nominations is designed to prevent shippers from over-nominating volumes and thus inflating the apparent demand for crude oil transportation.¹³⁰ Enbridge witness Mr. Glanzer explained at the evidentiary hearing that this process limits the nomination of “air barrels.”¹³¹
45. Due to its extensive footprint, access to multiple supply sources and refinery markets, its competitive rates, and its willingness to address shipper concerns regarding capacity, the Enbridge Mainline System continues to be fully utilized without contracts.¹³²
46. In recent years, Enbridge has implemented various projects to provide customers with additional transportation capacity. The Mainline Enhancement Projects, including expansion of Line 61 in Wisconsin and Illinois, and the expansion of Line 67 in Minnesota, were designed to allow increased Western Canadian heavy production to access new markets (mainly the U.S. Gulf Coast) by expanding sections of the Lakehead System and associated tankage and terminal upgrades.¹³³ The Light Oil Market access program, which includes expanding Line 61, construction of Line 78 in Illinois and Indiana, and the Line 6B Expansion, were designed to allow light production growth

¹²⁵ Ex. SH-1 at 4-5 (Shippers Direct).

¹²⁶ Ex. SH-1 at 5 (Shippers Direct).

¹²⁷ Ex. EN-19 at 4 (Glanzer Direct).

¹²⁸ Ex. EN-19 at 4 (Glanzer Direct).

¹²⁹ Ex. EN-19 at 4 (Glanzer Direct).

¹³⁰ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 79-80 (Glanzer).

¹³¹ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 79 (Glanzer).

¹³² Ex. EN-14 at 6 (Fleeton Direct).

¹³³ Ex. EN-19 at 8 (Glanzer Direct).

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from Western Canada and Bakken regions to access new and existing markets in PADD II and Eastern Canada through expansions on the Lakehead System and associated tankage and terminal upgrades.¹³⁴ The Eastern Access Projects, which include the Line 62 Expansion, the Line 5 Expansion, and the Line 6B Replacement, were designed to allow heavy and light production growth from Western Canada to new and existing markets in PADD II and Eastern Canada through expansions on the Lakehead System and associated tankage and terminal upgrades.¹³⁵

47. After these recent expansions, the Enbridge Mainline System is still under apportionment, with recent apportionment levels for heavy crude reaching to 40 percent.¹³⁶

V. THE LINE 3 REPLACEMENT PROJECT.

A. Project Overview.

48. The Line 3 Replacement Program (“L3R Program”) is a \$7.5 billion replacement of an existing 1,097 mile pipeline that has been in service since the 1960s across Canada, North Dakota, Minnesota, and Wisconsin. Enbridge proposed the L3R Program as a pipeline integrity and maintenance-driven program designed to address identified mechanical integrity deficiencies on the existing Line 3 pipeline and return the pipeline to the operating capabilities for which it was designed.¹³⁷ The replacement pipeline will serve the same markets and transport the same products as the existing Line 3 has done throughout its operating history.¹³⁸ All necessary regulatory approvals have been received in Wisconsin, North Dakota, and Canada, and construction has begun in Canada and Wisconsin.¹³⁹
49. In Canada, the Federal Government announced that it was approving the project in November 2016, and the National Energy Board (“NEB”) issued a Certificate approving the construction and operation of the L3R Program on December 1, 2016.¹⁴⁰ A permit is not required from the North Dakota Public Service Commission. A notice of the replacement will be submitted to the North Dakota Public Service Commission prior to the start of construction.¹⁴¹ In Wisconsin, no permit is required from the Public Service

¹³⁴ Ex. EN-19 at 8 (Glanzer Direct).

¹³⁵ Ex. EN-19 at 8-9 (Glanzer Direct).

¹³⁶ Ex. EN-19 at 9, 12 (Glanzer Direct).

¹³⁷ Ex. EN-24 at 5 (Eberth Direct).

¹³⁸ Ex. EN-24 at 6 (Eberth Direct).

¹³⁹ Thief River Pub. Hrg. Tr. Vol. 1B at 75-76 (Sept. 26, 2017) (Eberth); Hinckley Pub. Hrg. Tr. Vol. 5B at 124 (Oct. 12, 2017) (Eberth).

¹⁴⁰ Ex. EN-24 at 8 (Eberth Direct).

¹⁴¹ Ex. EN-24 at 9 (Eberth Direct).

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Commission because Enbridge is not seeking the right of eminent domain.¹⁴² An EIS and the wetland/waterbody permit for the Wisconsin portion of the Project were issued by the Wisconsin Department of Natural Resources on August 30, 2016. There was no appeal of the issued permit.¹⁴³

50. In concluding that construction of the Canadian portion of the Project was in the public interest, the NEB stated:¹⁴⁴

This Project is an important step in the continuing lifecycle of the Line 3 pipeline. Pipeline replacement is one way that a pipeline can be maintained to ensure its continued safe operation. In this case, if the Existing Line 3 Pipeline were not removed from service, it would require ongoing pressure restrictions and repairs, including extensive multi-year integrity digs. In contrast, the new Line 3 Replacement Pipeline will be built to modern standards and will operate with improved safety and reliability. This is a significant benefit of the Project.

51. The Project is the Minnesota portion of the L3R Program and includes the replacement of approximately 282 miles of the existing 34-inch diameter Line 3 pipeline with approximately 340 miles of 36-inch diameter pipeline and associated facilities between the North Dakota/Minnesota border and the Minnesota/Wisconsin border.¹⁴⁵ The Project will cross Kittson, Marshall, Pennington, Polk, Red Lake, Clearwater, Hubbard, Wadena, Cass, Crow Wing, Aitkin, and Carlton counties.¹⁴⁶ The Project is a major component of the L3R Program.¹⁴⁷

B. History of Existing Line 3 and its Integrity Risks.

52. Existing Line 3 was constructed in the 1960s and has been operating in Minnesota since that time.¹⁴⁸ Existing Line 3 is not subject to the Commission's jurisdiction, as it was installed before certificates of need were offered in Minnesota.¹⁴⁹ The existing Line 3 is a critical component of the Enbridge Mainline System and was designed to transport in excess of 760 thousand barrels per day ("kbpd").¹⁵⁰ However, as a result of Enbridge's

¹⁴² Ex. EN-24 at 9 (Eberth Direct).

¹⁴³ Ex. EN-24 at 9 (Eberth Direct).

¹⁴⁴ Ex. SH-2 at 13-14 (Shippers Rebuttal).

¹⁴⁵ Ex. EN-24 at 5 (Eberth Direct).

¹⁴⁶ Ex. EN-24 at 5 (Eberth Direct).

¹⁴⁷ Ex. EN-24 at 5 (Eberth Direct).

¹⁴⁸ Ex. EN-12 at 11 (Kennett Direct).

¹⁴⁹ Evid. Hrg. Tr. Vol. 7B (Nov. 13, 2017) at 65 (Eberth); Ex. DER-6 at 4 (O'Connell Surrebuttal).

¹⁵⁰ Ex. EN-24 at 6 (Eberth Direct); Ex. EN-19 at 4 (Glanzer Direct); Ex. EN-1 at 3-18 – 3-19 (CN Application); Ex. EN-15, Sched. 2 at 8-9 (Earnest Direct).

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integrity management program, Enbridge voluntarily reduced the operating pressure of existing Line 3, thereby reducing its capacity, because of the pipeline’s condition.¹⁵¹

53. Enbridge continuously monitors and evaluates its pipelines.¹⁵² Through these ongoing evaluations, Enbridge identified a combination of integrity conditions on Line 3 that, absent replacement, will make safely maintaining the existing Line 3 challenging in the coming years.¹⁵³ Specifically, the pipe materials, coating, installation method, operating history, and surrounding environment – together – resulted in Line 3 having the largest external corrosion anomaly density on the Enbridge Mainline System.¹⁵⁴
54. On Line 3 in Minnesota, 84 percent of the coating is polyethylene tape, which has been found to dis-bond from the pipe, making the pipeline more susceptible to both external corrosion and stress corrosion cracking (“SCC”).¹⁵⁵ This is a type of coating that was wrapped onto the pipe similarly to how tape is wrapped onto a hockey stick. It was wrapped onto the pipe in the field during construction, where environmental conditions, such as the presence of dust, were uncontrolled factors.¹⁵⁶ There are areas where this coating has dis-bonded, or detached, from the surface of the steel pipe, which has allowed water and oxygen to reach the surface of the steel. This has made Line 3 susceptible to corrosion on the outside of the steel and SCC, which can form under a combination of corrosion and stretching of the steel from internal pipeline pressure.¹⁵⁷ As a result, Line 3 in the U.S. has: (i) external corrosion on over 50 percent of its pipe sections between welds (referred to as “pipe joints”); (ii) ten times as many corrosion anomalies per mile (with a depth of more than 20 percent of the pipe wall thickness) than any other Enbridge pipeline in the same corridor; and (iii) SCC affecting over 15 percent of the pipe joints, and five times as many SCC anomalies per mile (with a depth of more than 10 percent of the pipe wall thickness) than any other Enbridge pipeline in the same corridor.¹⁵⁸
55. The majority of the welds on the seam along the length of each joint of pipe on Line 3 in the U.S. were flash-welded.¹⁵⁹ In the flash weld process, flat plates of steel were curved into tube-shapes and then the edges were heated until they were molten and then pressed together to form a seam. Impurities in the steel at these seams created places where

¹⁵¹ Ex. EN-13 at 18 (Gerard Direct).

¹⁵² Ex. EN-12 at 6-7 (Kennett Direct).

¹⁵³ Ex. EN-12 at 20-21 (Kennett Direct).

¹⁵⁴ Ex. EN-12 at 29 (Kennett Direct).

¹⁵⁵ Ex. EN-12 at 12 (Kennett Direct).

¹⁵⁶ Ex. EN-12 at 13 (Kennett Direct).

¹⁵⁷ Ex. EN-12 at 12, 18 (Kennett Direct).

¹⁵⁸ Ex. EN-12 at 12 (Kennett Direct); Ex. EN-68 at 2 (Kennett Summary).

¹⁵⁹ Ex. EN-12 at 12 (Kennett Direct).

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cracks could initiate.¹⁶⁰ This manufacturing process, which is no longer used, has left Line 3 inherently more susceptible to cracking along the long seam of the pipe.¹⁶¹

56. At various times in the past, Line 3 has transported an annual average volume of crude oil in the range of 760 kbpd up to and exceeding an annual average volume of 800 kbpd.¹⁶² As a result of ongoing integrity management analysis, in 2008, Enbridge voluntarily reduced Line 3's capacity to 503 kbpd of mixed service, and by 2010, Enbridge again voluntarily lowered Line 3 to a capacity of 390 kbpd of light crude oil.¹⁶³ This lowered pressure has maintained a safety factor on the line, deferred some of the maintenance work on the anomalies, and still allowed the pipeline to function, albeit at a much reduced rate.¹⁶⁴
57. Prior to self-imposed pressure restrictions, pressure-cycle-induced fatigue, coupled with defects in the seam welds on Line 3, caused four major releases in Line 3's operating history.¹⁶⁵ The last large failure from long-seam cracking occurred in 2002 near Cohasset, Minnesota. Enbridge has since permanently lowered the operating pressure on Line 3 and increased the number of monitoring activities to reduce the threat of long-seam cracking and has not had any subsequent failures on Line 3 from long-seam cracking.¹⁶⁶ The susceptibility of the pipeline to this threat would return if Line 3's operating pressure were increased (*i.e.*, if its capacity were increased).¹⁶⁷
58. The pressure restrictions have prevented further releases but mean that Enbridge cannot allow Line 3 to return to the capacity for which it was originally designed.¹⁶⁸ Further, the external corrosion cannot be stopped without an extensive dig and repair program that will increase in an exponential fashion over the coming years.¹⁶⁹ To put this into perspective, Enbridge stated that it performed over 950 excavations in the last 16 years on Line 3 in the U.S. and forecasts approximately 7,000 excavations in the U.S. in the next 15 years if it keeps Line 3 operating at a reduced capacity.¹⁷⁰ The resources required for such a program, and the disruption to the environment and landowners along the

¹⁶⁰ Ex. EN-68 at 2 (Kennett Summary).

¹⁶¹ Ex. EN-68 at 2 (Kennett Summary); Ex. EN-12 at 12-13 (Kennett Direct).

¹⁶² Ex. EN-19 at 7 (Glanzer Direct).

¹⁶³ Ex. EN-12 at 21 (Kennett Direct).

¹⁶⁴ Ex. EN-12 at 21 (Kennett Direct).

¹⁶⁵ Ex. EN-12 at 19 (Kennett Direct).

¹⁶⁶ Ex. EN-12 at 19 (Kennett Direct).

¹⁶⁷ Ex. EN-12 at 19 (Kennett Direct).

¹⁶⁸ Ex. EN-12 at 20 (Kennett Direct).

¹⁶⁹ Ex. EN-12 at 20 (Kennett Direct).

¹⁷⁰ Ex. EN-68 at 2 (Kennett Summary).

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pipeline, would be substantial.¹⁷¹ Additionally, the cost of such an extensive dig and repair program is nearly equal to that of replacement.¹⁷²

59. The types of crude oil that have been transported on Line 3 have varied significantly over its years of operation based on type of crude produced, shipper demand, and system operations. Currently, it is shipping light and select heavy volumes.¹⁷³ Since 2009, Line 3 has operated at 390 kbpd in light crude service.¹⁷⁴ More recently, Enbridge has moved select heavy batches when operating in mixed service, which has reduced the capacity of Line 3 below 390 kbpd.¹⁷⁵ The reduction in capacity is dependent on the amount of heavy batches allocated to the line. These select heavy batches are allocated on Line 3 to utilize available light capacity to ship more heavies on the system and reduce heavy apportionment.¹⁷⁶
60. Enbridge proposes to construct the Project using modern pipeline design, manufacturing, coating, and installation techniques, and the knowledge of the human, environmental, and routing facts that Enbridge has acquired over its more than 65 years of operating history in this area.¹⁷⁷ As proposed, the Project will use thicker-walled pipe with yield strength 35% greater than existing Line 3 and will employ upgraded instrumentation to feed additional information into Enbridge's leak detection system.¹⁷⁸ The Project is also designed to reduce per barrel energy usage across the Enbridge Mainline System, and to restore capacity and flexibility to that system.¹⁷⁹
61. Line 3 has been completely re-inspected since the original analysis and justification to replace Line 3 was completed in 2012.¹⁸⁰ The additional inspections include three corrosion detection technologies (magnetic flux leakage, axial magnetic flux leakage, and ultrasonic metal loss detection), a high resolution caliper (detecting geometric anomalies such as dents), and an ultrasonic crack detection tool.¹⁸¹ The inspections for the portion of Line 3 in the U.S. from Gretna to Clearbrook were completed in 2014, and inspections for the portion from Clearbrook to Superior were completed in 2015. Results from these

¹⁷¹ Ex. EN-68 at 2-3 (Kennett Summary).

¹⁷² Ex. EN-12 at 24 (Kennett Direct).

¹⁷³ Ex. EN-19 at 4 (Glanzer Direct).

¹⁷⁴ Ex. EN-19 at 4 (Glanzer Direct).

¹⁷⁵ Ex. EN-19 at 4 (Glanzer Direct).

¹⁷⁶ Ex. EN-19 at 4-5 (Glanzer Direct).

¹⁷⁷ Ex. EN-24 at 6-7 (Eberth Direct).

¹⁷⁸ Ex. EN-22 at 5 (Simonson Direct); Ex. EN-35 at 5 (Philipenko Rebuttal); Ex. EN-16 at 13 (Baumgartner Direct).

¹⁷⁹ Ex. EN-19 at 5 (Glanzer Direct).

¹⁸⁰ Ex. EN-12 at 23 (Kennett Direct).

¹⁸¹ Ex. EN-12 at 23 (Kennett Direct).

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inspections continue to support the replacement decision made in 2012/13.¹⁸² Specifically, the 2014/15 inline inspection (“ILI”) data reaffirmed the updated 15 year dig forecasts follow an exponential trend across all of Line 3, and: (i) over 70 percent of the 140,000 pipe joints are experiencing external corrosion; (ii) corrosion deeper than 50 percent of the pipe wall thickness would increase to affect over 3,000 of the pipe joints in 2016 – an increase from approximately 900 pipe joints in 2012; and (iii) over 25,500 pipe joints will have a corrosion depth of 50 percent or greater by 2030 – an increase from approximately 18,000 pipe joints forecast for 2027.¹⁸³

62. Based on the most recent ILI data, the number of digs related to long-seam cracking will remain stable as a result of Enbridge permanently reducing the operating pressure in 2012.¹⁸⁴ The combined required long-seam cracking and SCC digs are forecast at over 750 digs in the next 15 years in the U.S. The forecasted number of corrosion digs, will continue to increase in an exponential fashion because of the dis-bonded coating. Based on the 2016 assessment, over 6,200 corrosion digs are required over the next 15 years in the U.S.¹⁸⁵
63. Combined, the total digs required to maintain Line 3 at its current operating condition over the next 15 years is approximately 7,000 digs in the U.S., with approximately 6,250 of these digs in Minnesota.¹⁸⁶
64. No feasible technology or operational changes that can arrest or reverse the external corrosion on Line 3 and/or remove the defects that were inherent in the way the pipe was originally manufactured.¹⁸⁷ As a result, maintenance and repair activities will continue to increase over time on the existing Line 3. The recommended solution is to replace Line 3 with a pipeline that utilizes modern external coating systems and modern pipe quality.¹⁸⁸
65. The U.S Department of Transportation (“USDOT”) and Pipeline Hazardous Materials Safety Administration (“PHMSA”) have encouraged operators to consider replacement as a means to ensure continued pipeline integrity, and there are many integrity benefits of a new pipeline.¹⁸⁹
66. The federal government commissioned a report (the Kiefner Report), which was aimed to develop a guideline to help operators of pipelines constructed prior to the 1970s decide

¹⁸² Ex. EN-12 at 23 (Kennett Direct).

¹⁸³ Ex. EN-12 at 23 (Kennett Direct).

¹⁸⁴ Ex. EN-12 at 23 (Kennett Direct).

¹⁸⁵ Ex. EN-12 at 23 (Kennett Direct).

¹⁸⁶ Ex. EN-12 at 24 (Kennett Direct).

¹⁸⁷ Ex. EN-12 at 20 (Kennett Direct).

¹⁸⁸ Ex. EN-12 at 20 (Kennett Direct).

¹⁸⁹ Ex. EN-13 at 26 (Gerard Direct).

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when pipe replacement makes more sense than continuing to do the necessary repairs to maintain the serviceability of the pipeline.¹⁹⁰

67. The Kiefner Report discusses the importance of considering replacement when a pipeline, such as Line 3, has flash-welded pipe, which is classified as “legacy pipe,” and has time-dependent threats created by the failing coating system.¹⁹¹ The Kiefner Report states, “In terms of guidelines for repair/replace decisions, any systematic threat that affects an entire segment such as bare pipe could make the segment a candidate for replacement.”¹⁹² The Line 3 legacy pipe and coating issues fall in line with this statement.¹⁹³
68. The benefits of new pipeline include: (i) increased reliability and significant reduction in the number of integrity digs required as part of ongoing maintenance; (ii) baseline ILI of new pipe can be conducted to allow a direct assessment across the entire length of the new pipe at the start of its life, providing a baseline inspection that allows for better detection of changing anomalies; and (iii) pipe replacement allows Enbridge to leverage up-to-date pipeline design, manufacturing and coating processes, and knowledge of environmental and social factors that has been acquired over the 60+ years of operating history in this area.¹⁹⁴

C. The Consent Decree.

69. As the result of a settlement of litigation that followed the unintentional releases of crude oil from Enbridge’s Line 6B near Marshall, Michigan, in July 2010 and from Enbridge’s Line 6A near Romeoville, Illinois, in September 2010, Enbridge agreed to a proposed Consent Decree with the U.S. Department of Justice (“DOJ”), on behalf of the U.S. Environmental Protection Agency and U.S. Coast Guard, that requires Enbridge to replace and then take existing Line 3 out of service as expeditiously as practicable after receipt of approvals for the Project.¹⁹⁵ The Consent Decree has been in effect since it was signed by U.S. District Judge Gordon Quist of the Western District of Michigan on May 23, 2017.¹⁹⁶
70. The Consent Decree contains injunctive provisions stating that Enbridge is to replace existing Line 3 as expeditiously as possible once all regulatory approvals are received, and then to take existing Line 3 out of service. Further, after existing Line 3 is taken out of service, the Consent Decree states that “Enbridge shall be permanently enjoined from

¹⁹⁰ Ex. EN-12 at 25 (Kennett Direct).

¹⁹¹ Ex. EN-12 at 25 (Kennett Direct).

¹⁹² Ex. EN-12 at 25 (Kennett Direct).

¹⁹³ Ex. EN-12 at 25 (Kennett Direct).

¹⁹⁴ Ex. EN-12 at 27 (Kennett Direct).

¹⁹⁵ Ex. EN-24 at 8 (Eberth Direct); Ex. EN-30, Sched. 1 (Eberth Rebuttal).

¹⁹⁶ Ex. EN-30 at 15 (Eberth Rebuttal).

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ever operating, or allowing anyone else to operate, any portion of the pipeline for the purpose of transporting oil, gas, diluent or any hazardous substance.”¹⁹⁷

71. The Consent Decree imposes a deadline for Line 3 to be taken out of service by December 31, 2017, or additional requirements will be imposed on its continued operation.¹⁹⁸ These additional requirements include the completion and validation of in-line inspections annually for crack, corrosion and geometry threats (Enbridge currently inspects every 12 to 18 months) and completion of identified repairs.¹⁹⁹
72. “[T]he injunctive provisions in the proposed Consent Decree are all designed to prevent future discharges from Enbridge’s Lakehead System pipelines....”²⁰⁰ The DOJ does not have the permitting authority to grant approvals for the replacement of Line 3. Because Enbridge is required to obtain other federal, state, and local approvals to replace Line 3, the DOJ imposed conditions under the Consent Decree that govern the continued safe operation of the original Line 3 until such time as the necessary approvals have been obtained to replace the existing line. Therefore, in accordance with the Consent Decree, Enbridge is diligently seeking the approvals necessary to replace the line and has already obtained the required approvals in North Dakota and Wisconsin, where portions of the original Line 3 have been and/or are in the process of being replaced.²⁰¹
73. While regulatory approvals for its replacement are pending, the Consent Decree contains a number of conditions that will apply to the continued operation of original Line 3.²⁰² The conditions placed on original Line 3 by the Consent Decree, paras. 22(c) and (d), will remain in effect until the sooner of either: (i) the Project becomes operational, at which time the original Line 3 must be permanently decommissioned per the Decree, paras. 22(b) and 22(e); or (ii) if no replacement line is approved for construction, until the Consent Decree is terminated. The Consent Decree may terminate no sooner than four years from May 23, 2017, as stated in Section XX, para. 203 of the Decree, which specifies the process for Decree termination following Enbridge’s satisfaction of certain conditions, the concurrence of the U.S., and Court approval.²⁰³

D. Project Design.

74. Enbridge designed the Project to address the integrity risks of existing Line 3 and restore its previous annual average capacity of 760 kpbpd.²⁰⁴

¹⁹⁷ Ex. EN-30, Sched. 1 at para. 22(e) (Eberth Rebuttal).

¹⁹⁸ Ex. EN-30, Sched. 1 at 26-27 (Eberth Rebuttal).

¹⁹⁹ Ex. EN-12 at 24 (Kennett Direct); Ex. EN-30, Sched. 1 at 26-27 (Eberth Rebuttal).

²⁰⁰ Ex. EN-30 at 16 (Eberth Rebuttal).

²⁰¹ Ex. EN-30 at 16-17 (Eberth Rebuttal).

²⁰² Ex. EN-30, Sched. 1 at paras. 22(c) and (d) (Eberth Rebuttal).

²⁰³ Ex. EN-30 at 18 (Eberth Rebuttal).

²⁰⁴ Ex. EN-19 at 7 (Glanzer Direct).

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75. Additional detail concerning the development of the Project's Preferred Route is provided in Section II of the Pipeline Routing Permit section below.
76. Enbridge designed the Project to meet all applicable federal codes and industry standards.²⁰⁵ The Project design calls for low carbon, high-strength X-70 steel, manufactured using a submerged arc welded welding process, resulting in pipe in a greater yield strength than the pipe used on existing Line 3.²⁰⁶ The wall thickness for the majority of the pipeline is proposed to be .515 inches and .600 to .750 inches where the pipeline crosses public roads, railroads, specific waterbodies, as well as directly downstream of certain identified pump stations.²⁰⁷
77. As part of the Project, Enbridge proposes to install eight new pump stations, spaced an average of approximately 42 miles apart.²⁰⁸ Four new pump stations would be constructed adjacent to the existing Enbridge Donaldson, Viking, Plummer, and Clearbrook sites. These new pump stations are replacements for the existing Line 3 pump stations at those sites.²⁰⁹ Four additional new pump stations, Two Inlets, Backus, Palisade, and Cromwell would be constructed east of Clearbrook. Clearbrook and the Backus Pump Station would include new inline inspection tool launcher and receiver traps in addition to the valves, metering, monitoring equipment, and associated electrical facilities that is required at all sites.²¹⁰ The existing Clearbrook terminal would include modifications to or replacement of an inline inspection tool receiver trap, valves, metering, monitoring equipment and associated electrical facilities.²¹¹
78. Enbridge proposes to install 27 mainline valves outside of pump stations and terminals in Minnesota. In addition, the proposed pump stations and terminals provide the ability to isolate the line, yielding a total of 35 mainline valves within the state of Minnesota as designed.²¹² The approximate distance between valves ranges from less than one mile to 27.3 miles, and the approximate average distance between valves is 9.5 miles. The valve placement takes into account the elevation changes, proximity to HCAs and waterbodies, and the reduction of potential oil released.²¹³
79. Mainline valves are designed to isolate sections of the pipeline for operational and maintenance purposes or in the event of a release.²¹⁴ Enbridge utilized several criteria in

²⁰⁵ Ex. EN-74 at 1 (Simonson Summary).

²⁰⁶ Ex. EN-22 at 4-5 (Simonson Direct).

²⁰⁷ Ex. EN-22 at 5 (Simonson Direct).

²⁰⁸ Ex. EN-22 at 7 (Simonson Direct).

²⁰⁹ Ex. EN-22 at 7 (Simonson Direct).

²¹⁰ Ex. EN-22 at 7 (Simonson Direct).

²¹¹ Ex. EN-22 at 8 (Simonson Direct).

²¹² Ex. EN-22 at 10 (Simonson Direct).

²¹³ Ex. EN-22 at 10 (Simonson Direct).

²¹⁴ Ex. EN-22 at 9 (Simonson Direct).

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determining the locations of mainline valves, including compliance with the valve location requirements specified by USDOT, Office of Pipeline Safety, PHMSA.²¹⁵ Additional criteria include, but are not limited to, the elevation profile of the proposed route, the location of High Consequence Areas (“HCAs”) on and near the centerline of the pipeline route, and whether installing a valve in a specific location would reduce the possible impact in the event of a release.²¹⁶ HCAs are defined in 49 C.F.R. Part 195.450 as high population or other populated areas, commercially navigable waterways, as well as unusually sensitive areas as defined in 49 C.F.R. Part 195.6.²¹⁷

80. The power source for Emergency Flow Restricting Devices (“EFRD”) is supplied by the local utility from a transformer service drop dedicated to Enbridge.²¹⁸ The communication and control power supply is backed up by a local Uninterruptible Power Supply at the EFRD site to maintain valve and process instrumentation status over Supervisory Control and Data Acquisition (“SCADA”) for the line operator to determine if the On-call first responder is needed at the site. In the event of a power outage of the electrical grid, the local Programmable Logic Controller will sense the loss of control power for the site and alarm the line operator over SCADA who would be responsible to initiate communications to the On-call personnel with first responder responsibilities.²¹⁹ The On-call first responder personnel are to remain within a one-hour radius (at the legal speed limit) for their respective area being covered. The On-call personnel receive and respond to the initial call immediately, and if necessary or requested are expected to be en route within 30 minutes, unless other arrangements can be made with other Company personnel closer to the reported incident.²²⁰
81. The Project as proposed will have an annual average capacity of 760 kbpd.²²¹ The annual average capacity refers to the average sustainable pipeline throughput that the pipeline will achieve over the course of the year, assuming historic average annual operating conditions.²²² In other words, at times, the capacity will be below the annual average and at times it will be above, but over the course of the year it will average approximately 760 kbpd.²²³ In addition to “annual average capacity,” there are two other terms sometimes used when referring to the capacity of the Project. The “full design capacity” of the pipeline and pump facilities, based on its proposed design and products to be transported,

²¹⁵ Ex. EN-22 at 9 (Simonson Direct).

²¹⁶ Ex. EN-22 at 9 (Simonson Direct).

²¹⁷ Ex. EN-22 at 9 (Simonson Direct).

²¹⁸ Ex. EN-45 at 16 (Simonson Rebuttal).

²¹⁹ Ex. EN-45 at 16 (Simonson Rebuttal).

²²⁰ Ex. EN-45 at 16 (Simonson Rebuttal).

²²¹ Ex. EN-24 at 5 (Eberth Direct).

²²² Ex. EN-1 at 8-3 (CN Application).

²²³ Ex. EN-19 at 7 (Glanzer Direct).

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- is 844 kbps.²²⁴ Full design capacity is calculated assuming ideal operating conditions, without factoring in typical operating issues like scheduled and unscheduled maintenance, which are reflected in the annual average capacity calculations.²²⁵ The Project also has an “ultimate design capacity”, considering its diameter, wall thickness, steel grade and crude slate of 1,016 kbps.²²⁶ The ultimate design capacity would result in an ultimate annual average capacity of 915 kbps but would require additional facilities which are not contemplated or proposed by Enbridge in these proceedings.²²⁷ Enbridge cannot operate the Project at the ultimate design capacity without adding additional pumping horsepower (i.e., infrastructure) that is not a part of the existing proposal.²²⁸
82. The Project would allow Enbridge to operate Line 3 in heavy, light, and mixed service, which would provide significant operational flexibility and the ability to better balance volumes moved on other Enbridge Mainline System pipelines.²²⁹ Enbridge stated that this operational flexibility improves system reliability and reduces per barrel energy consumption on the Enbridge Mainline System.²³⁰
83. The design factor for mainline pipe design is found in federal regulation 49 C.F.R. Part 195.106. It mandates that in all but in certain specified cases, the maximum design factor is 0.72 for mainline pipe design. The wall thickness and yield strength for all Project pipe will comply with the requirement that the MOP is a maximum of 72 percent of the rated yield strength of the pipe that will be installed.²³¹
84. Enbridge hired a consultant to perform studies that modeled interference effects of high voltage transmission powerlines, both alternating and direct current, that cross or parallel the Project.²³² Based on the results of these studies, a mitigation system has been designed and will be installed during construction. Enbridge will also perform follow up testing after construction to verify the mitigation system effectiveness and understand the extent of influence from high voltage transmission lines.²³³ If further remediation is needed, a specific mitigation plan will be implemented. Generally, further remediation would include installing electrical grounding connected to the pipeline through a solid state decoupler or polarization cell, which allows undesired induced currents to pass

²²⁴ Ex. EN-1 at 8-3 (CN Application).

²²⁵ Ex. EN-1 at 8-3 (CN Application).

²²⁶ Ex. EN-1 at 8-3 (CN Application).

²²⁷ Ex. EN-1 at 8-3 (CN Application).

²²⁸ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 63-64 (Glanzer); Ex. DER-1, Attach. 3 at 1 (O’Connell Direct).

²²⁹ Ex. EN-19 at 5 (Glanzer Direct).

²³⁰ Ex. EN-19 at 5 (Glanzer Direct).

²³¹ Ex. EN-22 at 7 (Simonson Direct).

²³² Ex. EN-45 at 2 (Simonson Rebuttal).

²³³ Ex. EN-45 at 2 (Simonson Rebuttal).

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through and dissipate through the grounding, while maintaining the desired cathodic protection direct current.²³⁴

85. If approved and constructed, the Project will meet federal and Enbridge cathodic protection timeline requirements as 49 C.F.R. 195.563 requires operating cathodic protection no later than one year after a pipeline is constructed, and the Project will be cathodically protected once all construction is complete.²³⁵
86. Enbridge design standard (D04-101 Cathodic Protection, Mainline) requires operating cathodic protection no later than 90 days after construction.²³⁶ If approved and constructed, the Project will meet both requirements and will have an operating cathodic protection system prior to being in service.²³⁷ Enbridge testified that there will not be a gap between the in-service date of the Project and operational cathodic protection.²³⁸ Clearbrook North will have cathodic protection available by tying into existing Enbridge rectifiers. The Project will tie into these operating cathodic protection systems during construction.²³⁹ Clearbrook South will have cathodic protection available through galvanic anodes installed at test stations, spaced approximately every mile. These galvanic anodes will also be connected to the pipeline during construction.²⁴⁰ The Clearbrook South section will transition from the temporary galvanic anodes to the impressed current cathodic protection system within one year.²⁴¹
87. For the Project in Minnesota, elevation profile and hydraulics are secondary considerations in the initial routing process. The primary drivers for route selection are human and environmental impacts, existing utility corridors or other public rights-of-way, High Consequence Areas, and constructability.²⁴²
88. Enbridge has designed the Project, including the pipe wall thickness, to meet or exceed PHMSA requirements for wall thickness and meets the thickness ratio requirements of 49 C.F.R. 195.207.²⁴³ At any time during transport or handling, if a pipe appears damaged, it is set aside for further evaluation to determine if it will be used or not. To further mitigate potential cracking concerns during transit, Enbridge is required to pressure test the pipe to

²³⁴ Ex. EN-45 at 2 (Simonson Rebuttal).

²³⁵ Ex. EN-45 at 5-6 (Simonson Rebuttal).

²³⁶ Ex. EN-45 at 6 (Simonson Rebuttal).

²³⁷ Ex. EN-45 at 6 (Simonson Rebuttal).

²³⁸ Ex. EN-45 at 6 (Simonson Rebuttal).

²³⁹ Ex. EN-45 at 6 (Simonson Rebuttal).

²⁴⁰ Ex. EN-45 at 6 (Simonson Rebuttal).

²⁴¹ Ex. EN-45 at 6 (Simonson Rebuttal).

²⁴² Ex. EN-45 at 12 (Simonson Rebuttal).

²⁴³ Ex. EN-45 at 13 (Simonson Rebuttal).

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125 percent of maximum operating pressure prior to placing the pipeline into service.²⁴⁴ Enbridge also runs in-line inspection tools (e.g., Corrosion, Crack, and Geometry tools) within the first year of operation.²⁴⁵

89. Once the Project is in service, Enbridge has committed to permanently remove the existing Line 3 from service.²⁴⁶ Enbridge will purge, clean, and decommission the line (as required by para. 22(b) of the Consent Decree), and then permanently disconnect it from the rest of the pipeline system, preventing oil from flowing back into existing Line 3.²⁴⁷ In addition, Enbridge will segment the line, which means it will cut out short sections of the pipeline, cap them (essentially walling those sections from one another), permanently close valves, and remove the associated facilities. In other words, Enbridge will make it impossible to use the pipe for crude oil transportation in the future.²⁴⁸ See Section II(E)(5) herein for additional discussion of deactivation.

E. Applicant’s Preferred Route.

90. The Project’s proposed route (“Preferred Route”) calls for 340 miles of 36-inch diameter pipeline and includes the permanent right-of-way and temporary work space needed to construct and operate the pipeline and associated facilities.²⁴⁹
91. The Preferred Route begins at the North Dakota/Minnesota border in Kittson County and extends to the southeast for approximately 111 miles to follow the existing Line 3 to the Enbridge Clearbrook Terminal in Clearwater County, Minnesota.²⁵⁰ Along this route, the Project would generally share and run parallel to the existing pipeline right-of-way with Enbridge’s Line 67 pipeline. Approximately 98.22 percent of the Preferred Route north of Clearbrook follows existing utility rights-of-way.²⁵¹ At Clearbrook, the Project would be connected to the existing Minnesota Pipe Line System for ultimate redelivery of such volumes to the Minnesota refineries.²⁵² At Clearbrook Terminal, the Line 3 Replacement Project maintains the same tankage connectivity to tanks 56, 57, 58, 59, 60, 61, 62, 63, and 64 as the existing Line 3 for any product that needs to land in tankage at Clearbrook Terminal. The Project would also be able to deliver product directly to Minnesota Pipe Line without going into tankage.²⁵³ The Project also maintains the same tankage

²⁴⁴ Ex. EN-45 at 13 (Simonson Rebuttal).

²⁴⁵ Ex. EN-45 at 13 (Simonson Rebuttal).

²⁴⁶ Ex. EN-30 at 15 (Eberth Rebuttal)

²⁴⁷ Ex. EN-30 at 19 (Eberth Rebuttal); Ex. EN-22 at 22 and Sched. 6 at 6-7 (Simonson Direct).

²⁴⁸ Ex. EN-30 at 19 (Eberth Rebuttal); Ex. EN-22 at 22 and Sched. 6 at 6-7 (Simonson Direct).

²⁴⁹ Ex. EN-24 at 5 (Eberth Direct).

²⁵⁰ Ex. EN-22 at 8 (Simonson Direct).

²⁵¹ Ex. EN-22 at 8 (Simonson Direct).

²⁵² Ex. EN-22 at 8 (Simonson Direct).

²⁵³ Ex. EN-22 at 8 (Simonson Direct).

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connectivity to tanks 56, 57, 58, 59, 60, 61, 62, 63 and 64 as the existing Line 3 for any product that needs injections into Line 3 at Clearbrook Terminal to be delivered to the Superior Terminal in Wisconsin.²⁵⁴

92. From the Clearbrook Terminal in Clearwater County, the Preferred Route generally follows other third-party pipelines as it extends to the south for approximately 65.5 miles to the southern portion of Hubbard County near Park Rapids, Minnesota.²⁵⁵ The Preferred Route then turns east for approximately 160.5 miles, running parallel to other third-party electric transmission and transportation corridors, and then rejoins the existing Enbridge Mainline System in Carlton County. At this point, the Preferred Route rejoins the existing pipeline right-of-way with Enbridge's Line 67, and continue to the ending point at the Wisconsin border in Carlton County.²⁵⁶ Approximately 75 percent of the Preferred Route parallels existing utility rights-of-way between Clearbrook and Superior. The Project crosses Kittson, Marshall, Pennington, Polk, Red Lake, Clearwater, Hubbard, Wadena, Cass, Crow Wing, Aitkin, and Carlton counties.²⁵⁷
93. Enbridge is requesting a 750-foot route width for the Project.²⁵⁸ The final alignment of the Project would be located within that designated route. Enbridge indicated that this width would provide flexibility for minor adjustments of the alignment or right-of-way to accommodate landowners' requests and unforeseen conditions.²⁵⁹
94. Enbridge will need a permanent right-of-way within which to construct, operate, and maintain the pipeline.²⁶⁰ The permanent right-of-way is typically 25 feet on both sides of the pipeline, measured from its centerline. Along much of the portion of the route from the North Dakota border to the Clearbrook Terminal, Enbridge will utilize 25 feet of existing Enbridge-owned right-of-way.²⁶¹ Enbridge needs to acquire the additional 25 feet to complete the 50-foot-wide right-of-way. Enbridge will acquire a 50-foot easement for the portion of the Preferred Route between Clearbrook and the Wisconsin border.²⁶² Enbridge does not have an existing easement for this portion of the Project, so an easement for the entire width of the right-of-way must be acquired from landowners. The Easement Agreement provides Enbridge with specific rights within the permanent right-of-way.²⁶³ In general, the Easement Agreement provides Enbridge with all the rights it

²⁵⁴ Ex. EN-22 at 8 (Simonson Direct).

²⁵⁵ Ex. EN-22 at 9 (Simonson Direct).

²⁵⁶ Ex. EN-22 at 9 (Simonson Direct).

²⁵⁷ Ex. EN-22 at 9 (Simonson Direct).

²⁵⁸ Ex. EN-30 at Sched. 4 at 11 (Eberth Rebuttal).

²⁵⁹ Ex. EN-30 at Sched. 4 at 11 (Eberth Rebuttal).

²⁶⁰ Ex. EN-6 at 5 (McKay Direct).

²⁶¹ Ex. EN-6 at 5 (McKay Direct).

²⁶² Ex. EN-6 at 5 (McKay Direct).

²⁶³ Ex. EN-6 at 5 (McKay Direct).

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needs to construct, operate, access, inspect, and maintain the pipeline.²⁶⁴ The specific right-of-way requirements for the Project are described in more detail in the Draft Route Permit attached as Schedule 4 to Mr. Eberth’s rebuttal testimony.

95. Enbridge needs to be able to access its pipelines both during and after construction. The Easement Agreement allows Enbridge to travel over the landowner’s property to get to the permanent right-of-way.²⁶⁵ As noted in the Easement Agreement, Enbridge will use existing roads, routes, and paths to access the permanent right-of-way whenever reasonably possible.²⁶⁶
96. Enbridge will also need temporary workspace to efficiently and safely construct the Project, if approved. Proper pipeline construction requires space to, among other things, store separated topsoil and subsoil piles to avoid mixing the two soil types, lay the pipe segments out for welding and inspection, and move heavy equipment and other vehicles along the route during the construction process.²⁶⁷ Often, this work cannot be completed within the boundaries of the permanent right-of-way, so Enbridge acquires temporary workspace from landowners. The typical size of this space will vary based on whether the area is upland or wetland due to different construction methods used for those conditions.²⁶⁸ Enbridge stated that construction of the Project will require approximately 120 feet of construction workspace in upland areas to allow temporary storage of topsoil and spoil and to accommodate safe operation of construction equipment.²⁶⁹ Enbridge would generally use a 95-foot-wide construction workspace in wetland areas.²⁷⁰
97. Additional temporary workspace (“ATWS”) would be required outside of the typical construction workspace to facilitate specific aspects of construction. ATWS will be needed where the Preferred Route would cross features such as waterbodies, wetlands, roads, railroads, foreign pipelines and utilities, HDD sites, and other special circumstances. Construction workspace will be delineated on construction drawings. Enbridge will limit construction activities to these defined work areas.²⁷¹ This area can be up to 100 feet wide and 200 feet long. Full ownership of the temporary workspace and ATWS will revert to the landowner after construction and restoration tasks are completed.²⁷²

²⁶⁴ Ex. EN-6 at 5 (McKay Direct).

²⁶⁵ Ex. EN-6 at 6 (McKay Direct).

²⁶⁶ Ex. EN-6 at 6 (McKay Direct).

²⁶⁷ Ex. EN-6 at 5 (McKay Direct).

²⁶⁸ Ex. EN-6 at 5 (McKay Direct).

²⁶⁹ Ex. EN-22 at 19 (Simonson Direct).

²⁷⁰ Ex. EN-22 at 19 (Simonson Direct).

²⁷¹ Ex. EN-22 at 19 (Simonson Direct).

²⁷² Ex. EN-6 at 5 (McKay Direct).

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VI. ALTERNATIVES EVALUATED.

A. System Alternatives.

98. A “system alternative” is a conceptual pipeline alternative to granting a CN for the Project.²⁷³ Unlike a route alternative, a CN system alternative could not actually be permitted as part of this process.²⁷⁴ The following “system alternatives” were analyzed in the EIS: No Action, SA-04, rail, and truck.
99. No Action. Under this scenario, the Project would not be constructed, and the existing Line 3 would continue to operate at its reduced capacity and with the attendant integrity digs.²⁷⁵
100. SA-04. SA-04 is a conceptual new pipeline to a different endpoint that is analyzed for comparative purposes. This hypothetical pipeline would deliver oil directly to Joliet, Illinois, bypassing Clearbrook and Superior, Wisconsin.²⁷⁶ It is approximately 400 miles longer than the Project, and approximately 68 percent of SA-04 is located outside Minnesota in North Dakota, Iowa, and Illinois.²⁷⁷
101. Rail. Absent the Project, some volume of crude oil will be transported by rail.²⁷⁸
102. Truck. This alternative involves the transportation of crude oil by truck.²⁷⁹
103. In addition, DOC-DER raised several other alternative pipelines in testimony, including the Energy East Pipeline, Trans Mountain Pipeline, Keystone XL Pipeline, and a hypothetical pipeline paralleling Spectra infrastructure.²⁸⁰ None of these alternatives were studied in the EIS.²⁸¹

B. Route Alternatives.

104. Various route alternatives were studied in the EIS with respect to the Route Permit. Specifically, the EIS analyzed four route alternatives and 24 RSAs, as detailed below.

²⁷³ Ex. EERA-29 at ES-4 (FEIS).

²⁷⁴ Ex. EERA-29 at 4-8 (FEIS).

²⁷⁵ Ex. EERA-29 at 4-6 – 4-7 (FEIS).

²⁷⁶ Ex. EERA-29 at ES-4 (FEIS).

²⁷⁷ Ex. EERA-29 at ES-4 and 4-8 – 4-9 (FEIS).

²⁷⁸ Ex. EERA-29 at 4-9 – 4-13 (FEIS).

²⁷⁹ Ex. EERA-29 at 4-13 – 4-16 (FEIS).

²⁸⁰ Ex. DER-1 at 57, 54-55, 59-60 (O’Connell Direct); Ex. DER-4, Sched. 1 at 19 (Fagan Direct).

²⁸¹ Ex. EERA-29 at 4-9 (FEIS).

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105. RA-03AM. RA-03AM is an alternative between Clearbrook and Carlton.²⁸² RA-03AM deviates from the Preferred Route at approximate MP 976.2 in the southwest corner of Hubbard County.²⁸³ RA-03AM travels south for 112 miles following the existing Viking Natural Gas Pipeline to Chisago County.²⁸⁴ It then turns northeast for 39 miles, paralleling Highway 23.²⁸⁵ Near Hinckley, it turns north and follows an existing utility corridor for 48 miles until it reconnects with the Preferred Route west of Interstate 35 at approximate MP 1121.1 in Carlton County.²⁸⁶ With a length of 199.0 miles, RA-03AM is approximately 54 miles longer than the Preferred Route.²⁸⁷
106. RA-06. RA-06 deviates from the Preferred Route at approximately MP 909.4 east of Clearbrook in Clearwater County.²⁸⁸ RA-06 then proceeds eastward through primary forest for 105 miles to Minnesota Highway 65, where it turns south through primarily forest for 55 miles to Highway 73.²⁸⁹ At Highway 73, it turns southeast through primarily forest for 45 miles and then exits Minnesota in Carlton County at approximate MP 1139.3.²⁹⁰ RA-06 is 205.4 miles long.²⁹¹
107. RA-07. RA-07 follows the Enbridge Mainline System corridor from the valve near Joliette, North Dakota, southeasterly to Clearbrook, Minnesota, and then on to Superior, Wisconsin.²⁹² RA-07 has a length of 282.5 miles.²⁹³
108. RA-08. RA-08 deviates from the Preferred Route at approximate MP 909.4, east of Clearbrook in Clearwater County.²⁹⁴ RA-08 is generally located south of and parallel to Highway 2 along the existing Great Lakes Gas Transmission Company pipeline corridor for 44 miles southeast, 43 miles east, and 87 miles southeast and then exits Minnesota in Carlton County at approximate MP 1139.3.²⁹⁵ RA-08 is 174.3 miles long.²⁹⁶

²⁸² Ex. EERA-29 at 4-20 (FEIS).

²⁸³ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

²⁸⁴ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

²⁸⁵ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

²⁸⁶ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

²⁸⁷ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

²⁸⁸ Ex. EN-22, Sched. 7 at 29 (Simonson Direct).

²⁸⁹ Ex. EN-22, Sched. 7 at 29 (Simonson Direct).

²⁹⁰ Ex. EN-22, Sched. 7 at 29 (Simonson Direct).

²⁹¹ Ex. EN-22, Sched. 7 at 29 (Simonson Direct).

²⁹² Ex. EN-22, Sched. 7 at 35 (Simonson Direct).

²⁹³ Ex. EN-22, Sched. 7 at 35 (Simonson Direct).

²⁹⁴ Ex. EN-22, Sched. 7 at 43 (Simonson Direct).

²⁹⁵ Ex. EN-22, Sched. 7 at 43 (Simonson Direct).

²⁹⁶ Ex. EN-22, Sched. 7 at 43 (Simonson Direct).

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109. RSAs. Overall, there is little evidence in the record with respect to most of the RSAs, apart from the information provided in the EIS. For additional discussion of the RSAs, see Section III(I) of the Pipeline Routing Permit section below.
110. Other than Enbridge sponsoring its Preferred Route, no party presented a witness sponsoring any of the above-referenced route alternatives or RSAs.

CERTIFICATE OF NEED

I. CERTIFICATE OF NEED CRITERIA.

111. Pursuant to Minn. R. 7853.0030, a CN from the Commission is required prior to construction for a new large petroleum pipeline, which is defined as “a pipeline greater than six inches in diameter and having more than 50 miles of its length in Minnesota used for the transportation of crude petroleum or petroleum fuels or oil or their derivatives”
112. Because the Project is a new large petroleum pipeline, the Project requires a CN under the terms of the Commission’s rules before it can be built.
113. The Commission rules specify the criteria the Commission is to apply in determine whether to grant a CN for a petroleum pipeline project. Those rules provide:

A certificate of need shall be granted to the applicant if it is determined that:

A. the probable result of denial would adversely affect the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant’s customers, or to the people of Minnesota and neighboring states, considering:

- (1) the accuracy of the applicant’s forecast for demand for the type of energy that would be supplied by the proposed facility;
- (2) the effects of the applicant’s existing or expected conservation programs and state and federal conservation programs;
- (3) the effects of the applicant’s promotional practices that may have given rise to the increase in the energy demand, particularly promotional practices that have occurred since 1974;
- (4) the ability of current facilities and planned facilities not requiring certificates of need, and to which the applicant has access, to meet the future demand; and
- (5) the effect of the proposed facility, or a suitable modification of it, in making efficient use of resources;

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B. a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record by parties or persons other than the applicant, considering:

- (1) the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;
- (2) the cost of the proposed facility and the cost of energy to be supplied by the proposed facility compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;
- (3) the effect of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and
- (4) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives;

C. the consequences to society of granting the certificate of need are more favorable than the consequences of denying the certificate, considering:

- (1) the relationship of the proposed facility, or a suitable modification of it, to overall state energy needs;
- (2) the effect of the proposed facility, or a suitable modification of it, upon the natural and socioeconomic environments compared to the effect of not building the facility;
- (3) the effects of the proposed facility or a suitable modification of it, in inducing future development; and
- (4) socially beneficial uses of the output of the proposed facility, or a suitable modification of it, including its uses to protect or enhance environmental quality; and

D. it has not been demonstrated on the record that the design, construction, or operation of the proposed facility will fail to comply with those relevant policies, rules, and regulations of other state and federal agencies and local governments.²⁹⁷

²⁹⁷ Minn. R. 7853.0130.

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114. As the Applicant, Enbridge bears the burden of demonstrating the need for the Project,²⁹⁸ with the specific burden being proof by a preponderance of the evidence.²⁹⁹

II. APPLICATION OF CERTIFICATE OF NEED CRITERIA.

A. The Future Adequacy, Reliability, or Efficiency of Energy Supply.

115. The first of the four criteria established by the Commission for the granting of a CN calls for an examination of whether:

the probable result of denial would adversely affect the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states.³⁰⁰

116. Under this criterion, the Commission considers: (1) an applicant's forecast of demand for the type of energy that would be supplied by the proposed facility; (2) its conservation programs and state and federal conservation programs; (3) its promotional practices; (4) the ability of current or planned facilities to meet the future demand; and (5) the facility's ability to make an efficient use of resources.³⁰¹
117. Minn. R. 7853.0130 does not distinguish between the relative importance of adequacy, reliability or efficiency of energy supply. The plain language of the rule provides that the probable result of an adverse impact on any one of adequacy, reliability or efficiency of energy supply is a consideration in granting a CN.³⁰²
118. The parties provided differing definitions of the terms "adequacy," "reliability" and "efficiency" of energy supply.

Adequacy:

119. Enbridge testified that "adequacy" of energy supply refers to providing shippers and refiners with sufficient pipeline capacity to transport a variety of crude grades to fulfill their needs.³⁰³
120. Enbridge further stated that an adequate pipeline system would have no to low apportionment due to the availability of sufficient pipeline capacity that is flexible in its ability to balance fluctuations in light/heavy nominations or other market fluctuations.³⁰⁴

²⁹⁸ See Minn. Stat. § 216B.243, subd. 3.

²⁹⁹ See Minn. R. 1400.7300, subp. 5.

³⁰⁰ Minn. R. 7853.0130(A).

³⁰¹ Minn. R. 7853.0130(A).

³⁰² See Minn. R. 7853.0130(A).

³⁰³ Ex. EN-38 at 2 (Glanzer Rebuttal).

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121. Enbridge also testified that a pipeline system comprised of several pipelines provides greater security of supply to refiners to cushion them in the event of temporary outages on any one pipeline, meaning a more adequate supply.³⁰⁵
122. Shippers define “adequacy” to mean that a pipeline’s capacity can satisfy current and foreseeable shipper demand.³⁰⁶
123. In past dockets DOC-DER used a similar definition, defining “adequacy” as “the ability of the Company to transport sufficient petroleum products to satisfy the demand of its producing, shipping, and refining customers.”³⁰⁷
124. In the current proceeding, DOC-DER used the Oxford dictionary definition of “adequate” as “satisfactory or acceptable in quality or quantity” to frame its review of the adequacy of energy supply.³⁰⁸
125. In past pipeline cases, in analyzing “adequacy” of energy supply, the Commission has considered forecasts of crude oil supply and whether current facilities provide sufficient capacity to meet shipper requests for additional supplies of crude oil.³⁰⁹

Reliability:

126. Enbridge defined reliability as the ability for a pipeline system to deliver batches at consistent, timely intervals, hence, allowing refiners to better plan for their operations.³¹⁰ Enbridge further stated that pipeline outages due to maintenance activities or other unplanned events reduce reliability, and impact refiners.³¹¹ Enbridge testified that if a pipeline system is in apportionment, the refiner does not receive the fully-nominated volumes they require to provide reliable service to their customers.³¹²

³⁰⁴ Ex. EN-38 at 2 (Glanzer Rebuttal).

³⁰⁵ Ex. EN-38 at 2 (Glanzer Rebuttal).

³⁰⁶ Ex. SH-2 at 3 (Shippers Rebuttal), citing *In re Application of Enbridge for a Certificate of Need for the Line 67 Phase 2*, MPUC Docket No. PL-9/CN-13-153, Order Granting Certificate of Need at 27 (Nov. 7, 2014).

³⁰⁷ Ex. SH-2 at 3 (Shippers Rebuttal) (citing *In re Application of Lakehead Pipe Line Co. for a Certificate of Need*, MPUC Docket No. PL-9/CN-01-1092, Direct Testimony of Steve Rakow at 10 (Sept. 28, 2001)).

³⁰⁸ Ex. DER-1 at 22 (O’Connell Direct).

³⁰⁹ See, e.g., *In the Matter of the Application of Enbridge for a Certificate of Need for the Line 67 Station Upgrade Project*, MPUC Docket No. PL-9/CN-12-590, Order Granting Certificate of Need at 4-5 (August 12, 2013); *In re Application of Enbridge for a Certificate of Need for the Line 67 Phase 2*, MPUC Docket No. PL-9/CN-13-153, Order Granting Certificate of Need at 27 (Nov. 7, 2014).

³¹⁰ Ex. EN-38 at 2 (Glanzer Rebuttal).

³¹¹ Ex. EN-38 at 2 (Glanzer Rebuttal).

³¹² Ex. EN-38 at 2 (Glanzer Rebuttal).

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127. Shippers generally define “reliability” to mean the ability of a transportation source to meet shippers’ needs consistently without interference due to maintenance or other disruptions.³¹³
128. In past dockets, DOC-DER defined “reliability” as “the ability of the Company to fully supply the demands of its customers despite changes in the economy and other factors that influence supply and operating climate.”³¹⁴
129. The DOC-DER’s definition in the Line 4 Expansion focused more on exogenous factors, such as the economy. But both address factors affecting the ability of a pipeline to meet demand in the face of changing conditions.³¹⁵
130. In the current proceeding, DOC-DER used the Oxford dictionary definition of “reliable” as “consistently good in quality or performance” to frame its review of reliability of energy supply.³¹⁶
131. In assessing reliability in pipeline proceedings, the Commission has considered forecasts of supply of crude oil, the ability of current pipelines to provide the capacity to meet shipper demands, and the reliability of the source of crude oil. For example, the Commission has observed that North American crude oil sources, such as those from Western Canada, are more reliable than overseas sources because overseas sources are more susceptible to supply disruptions such as geopolitical factors.³¹⁷
132. The Commission has also recognized the need for a pipeline system to have operational flexibility to ensure a reliable supply.³¹⁸

³¹³ Ex. SH-2 at 5-6 (Shippers Rebuttal).

³¹⁴ Ex. SH-2 at 5-6 (Shippers Rebuttal) (citing *In re Application of Lakehead Pipe Line Co. for a Certificate of Need*, MPUC Docket No. PL-9/CN-01-1092, Direct Testimony of Steve Rakow at 13 (Sept. 28, 2001)).

³¹⁵ *In re Application of Lakehead Pipe Line Co. for a Certificate of Need*, MPUC Docket No. PL-9/CN-01-1092, Direct Testimony of Steve Rakow at 13 (Sept. 28, 2001)).

³¹⁶ Ex. DER-1 at 22 (O’Connell Direct).

³¹⁷ See, e.g., *In the Matter of the Application of Enbridge for a Certificate of Need for the Line 67 Station Upgrade Project*, MPUC Docket No. PL-9/CN-12-590, Order Granting Certificate of Need at 4-5 (August 12, 2013); *In re Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line 67 (Alberta Clipper) Station Upgrade Project – Phase 2 – in Marshall, Clearwater, Itasca, Kittson, Red Lake, Cass, and St. Louis Counties*, MPUC Docket No. PL-9/CN-13-153, Order Granting Certificate of Need at 9, 27 (Nov. 7, 2014).

³¹⁸ *In the Matter of Application of Minnesota Pipe Line Company, LLC for a Certificate of Need for the Minnesota Pipe Line Reliability Project to Increase Pumping Capacity on the Line 4 Crude Oil Pipeline in Hubbard, Wadena, Morrison, Meeker, McLeod, and Scott Counties*, MPUC Docket No. PL-5/CN-14-320, Order Granting Certificate of Need at 6 (Aug. 31, 2015).

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Efficiency:

133. Enbridge testified that “efficiency” of energy supply for a pipeline system means a system that balances all of its operating parameters in order to provide the service level commitment to customers at the most economic cost.³¹⁹
134. One of the ways a pipeline operator can provide efficient service is by optimizing power utilization across the system.³²⁰
135. For shippers, “efficiency” means the ability to ship the most amount of crude oil, the longest distance, at the lowest monetary and non-monetary cost.³²¹
136. In the current proceeding, DOC-DER used the Oxford dictionary definition of “efficient” as “achieving maximum productivity with minimum wasted resources” to frame its review of efficiency of energy supply.³²²
137. In considering whether a pipeline will increase efficiency, the Commission has compared the proposal to other means of transporting crude oil.³²³ The Commission has noted that shipping crude oil by rail and truck is more expensive than shipping by a pipeline. Moreover rail and truck “generate a variety of ongoing adverse side-effects—through emissions, noise, and traffic congestion.”³²⁴ The Commission has also considered the impacts of a project on the overall energy efficiency of a pipeline system.³²⁵

1. Accuracy of Forecast Demand.

138. This subpart requires the Commission to consider “the accuracy of the applicant’s forecast of demand for the type of energy that would be supplied by the proposed facility.”³²⁶

³¹⁹ Ex. EN-38 at 2 (Glanzer Rebuttal).

³²⁰ Ex. EN-38 at 2 (Glanzer Rebuttal).

³²¹ Ex. SH-2 at 7 (Shippers Rebuttal).

³²² Ex. DER-1 at 23 (O’Connell Direct).

³²³ See *In re Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line 67 (Alberta Clipper) Station Upgrade Project – Phase 2 – in Marshall, Clearwater, Itasca, Kittson, Red Lake, Cass, and St. Louis Counties*, MPUC Docket No. PL-9/CN-13-153, Order Granting Certificate of Need at 9 (Nov. 7, 2014)

³²⁴ *In re Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line 67 (Alberta Clipper) Station Upgrade Project – Phase 2 – in Marshall, Clearwater, Itasca, Kittson, Red Lake, Cass, and St. Louis Counties*, MPUC Docket No. PL-9/CN-13-153, Order Granting Certificate of Need at 9 (Nov. 7, 2014).

³²⁵ See *In the Matter of Application of Minnesota Pipe Line Company, LLC for a Certificate of Need for the Minnesota Pipe Line Reliability Project to Increase Pumping Capacity on the Line 4 Crude Oil Pipeline in Hubbard, Wadena, Morrison, Meeker, McLeod, and Scott Counties*, MPUC Docket No. PL-5/CN-14-320, Order Granting Certificate of Need at 11 (Aug. 31, 2015).

³²⁶ Minn. R. 7853.0130(A) (1).

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1) Existing Need and Apportionment.

139. The Enbridge Mainline is the only pipeline source of Canadian crude oil for the Minnesota refineries, and Canadian crude oil is a critical feedstock for both Minnesota refineries, as the refiners state in their letters of support.³²⁷
140. As a common-carrier system, the Enbridge Mainline System must operate on a non-discriminatory basis and accept all reasonable requests for service (or “nominations”).³²⁸
141. After Enbridge verifies and accepts shippers’ nominations (“verified nominations”), the verified nominations are allocated between the various lines comprising the Enbridge Mainline System, in accordance with the line’s designated use (i.e., light, heavy, or mixed service).³²⁹
142. Enbridge testified that it designed its process of verifying nominations to prevent shippers from over-nominating volumes and thus inflating the apparent demand for crude oil transportation.³³⁰
143. If the total barrels nominated and verified for a specific crude type exceed the capacity of the pipelines that transport that crude type, apportionment is declared, and the available pipeline capacity is allocated amongst the shippers on a pro rata basis, in conformance with FERC tariffs.³³¹ This results in reducing the amount of crude oil each shipper receives compared to the amount nominated.³³² As a result, shippers must then either reduce their expected volume of crude oil to be shipped or find alternate ways to transport it, including rail or truck transport.³³³
144. The Enbridge Mainline System has experienced nearly continual apportionment over the past few years, meaning the current Enbridge Mainline System is not meeting current customer demand.³³⁴

³²⁷ Ex. EN-56, Sched. 1 at 4-5 (Earnest Surrebuttal); Ex. EN-56, Sched. 1 at 1-2 (Earnest Surrebuttal); Comment by Flint Hills Resources (Nov. 21, 2017) (eDocket No. [201711-137585-01](#)); Ex. EN-94, Sched. 1 at 1 (Earnest Supplemental Surrebuttal).

³²⁸ Ex. EN-19 at 10 (Glanzer Direct); Ex. SH-1 at 4 (Shippers Direct).

³²⁹ Ex. EN-19 at 10 (Glanzer Direct); Ex. SH-1 at 4-5 (Shippers Direct).

³³⁰ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 79 (Glanzer).

³³¹ Ex. EN-19 at 10 (Glanzer Direct); Ex. SH-1 at 5 (Shippers Direct).

³³² Ex. EN-19 at 10 (Glanzer Direct); Ex. SH-1 at 5-6 (Shippers Direct). For example, if verified nominations on the Mainline System were 200 units, but the capacity of the Mainline System was only 100 units, each shipper would receive 50 percent of its verified nominations. Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 45 (Fagan).

³³³ Ex. EN-19 at 11 (Glanzer Direct); Ex. SH-1 at 6 (Shippers Direct).

³³⁴ Ex. EN-19 at 12 (Table 3.5.2-2) (Glanzer Direct); Ex. EN-38, Sched. 2 and 3 (Glanzer Rebuttal).

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145. Since the most recent capacity expansion of the Enbridge Mainline System in Minnesota (the Line 67 expansion project placed in service in July of 2015), heavy crude has continued to be apportioned at levels as high as 40 percent,³³⁵ with Line 67 itself subject to apportionment in 10 of the 12 months after the expansion was placed in service.³³⁶ From September 2016 to February 2017, apportionment averaged 27 percent.³³⁷ No party disputed these figures.
146. Individual shippers face apportionment restrictions even if their own crude demand is not growing, because apportionment reflects aggregate demand for Mainline capacity.³³⁸ This is rooted in the open-access principle of the Enbridge Mainline System, whereby the nominated volumes of new customers have the same right of access to Mainline capacity as those of historical customers.³³⁹
147. To meet customer needs and alleviate apportionment, Enbridge has approached the Commission over the years to expand the capacity of the Mainline System.³⁴⁰

2) Forecasted Need.

a) Description of Forecasts in the Record.

148. In direct testimony, Enbridge witness Mr. Earnest discussed forecasts from three organizations: Canadian Association of Petroleum Producers (“CAPP”), NEB, and Alberta Energy Regulator (“AER”).³⁴¹
149. The NEB, which is an independent federal, quasi-judicial regulator, provides Canadian crude oil production outlooks every other year.³⁴²
150. AER, a quasi-judicial regulatory agency of the Government of Alberta, provides annual crude oil production outlooks for Alberta, which constitutes the preponderance of Western Canadian crude oil production.³⁴³
151. CAPP releases crude oil supply and production forecasts annually, and the associated report contains a great deal of information regarding the basis for the Canadian crude oil supply outlook and of crude oil market developments. Mr. Earnest testified that the

³³⁵ Ex. EN-38, Sched. 2 (Glanzer Rebuttal).

³³⁶ Ex. SH-2 at 5 (Shippers Rebuttal).

³³⁷ Ex. EN-19 at 14 (Glanzer Direct).

³³⁸ Ex. SH-2 at 10 (Shippers Rebuttal).

³³⁹ Ex. SH-2 at 10 (Shippers Rebuttal).

³⁴⁰ See Ex. EN-38 at 8 (Glanzer Rebuttal)

³⁴¹ Ex. EN-15 at 16-19 (Earnest Direct).

³⁴² Ex. EN-15, Sched. 2 at 42 (Earnest Direct).

³⁴³ Ex. EN-15, Sched. 2 at 42 (Earnest Direct).

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CAPP crude oil supply forecasts are commonly used for pipeline regulatory purposes in Canada and the U.S.³⁴⁴

152. CAPP forecasts result from a process that considers multiple factors that can influence supply and specifically note the current challenges impacting the crude oil industry.³⁴⁵
153. The 2017 CAPP Report noted that: “in addition to continuing low prices, Canadian producers will need to contend with carbon pricing and cumulative impacts from other federal and provincial climate policies, which their competitors in the U.S. may not be facing.”³⁴⁶
154. CAPP uses an internal analysis of historical trends, reviews expected drilling activity, conducts discussions with industry stakeholders and government agencies and surveys producers.³⁴⁷
155. When CAPP surveyed producers, it asked them to respond based on their own company’s view of the price outlook, as well as recent policy developments in Canada and the provinces.³⁴⁸
156. Additionally, CAPP “risks” the survey results based on the stage of development of the producers’ projects and its past performance.³⁴⁹
157. Mr. Earnest testified that the CAPP process leads to sound forecasts, which regulators in both the U.S. and Canada commonly use in pipeline proceedings.³⁵⁰
158. Both the 2016 and 2017 CAPP forecasts reflect “post-collapse” crude oil prices which can lend confidence to their results.³⁵¹
159. The Shippers testified that the CAPP forecasts should be regarded as the key forecast of crude oil supply from Western Canada.³⁵² The Shippers noted that CAPP members are engaged in the exploration, development, and production of much of Canada’s crude oil resources and thus have direct knowledge of Canadian crude oil production costs and

³⁴⁴ Ex. EN-15, Sched. 2 at 42 (Earnest Direct).

³⁴⁵ Ex. HTE-2, Sched. 5 at 1 (Stockman Direct) (page number refers to page of main body of CAPP Report).

³⁴⁶ Ex. HTE-2, Sched. 5 at 1 (Stockman Direct) (page number refers to page of main body of CAPP Report).

³⁴⁷ Ex. EN-37, Sched. 2 at 72 (Earnest Rebuttal); Ex. HTE-2, Sched. 5 at 3 (Stockman Direct).

³⁴⁸ Ex. HTE-2, Sched. 5 at 3 (Stockman Direct).

³⁴⁹ Ex. EN-37, Sched. 2 at 72 (Earnest Rebuttal).

³⁵⁰ Ex. EN-15, Sched. 2 at 43 (Earnest Direct).

³⁵¹ Ex. EN-37, Sched. 2 at 45 (Earnest Rebuttal); *see also* Ex. SH-2 at 20 (Shipper Rebuttal); Ex. DER-4, Sched. 1 at 38 (Fagan Direct).

³⁵² Ex. SH-2 at 20 (Shippers Rebuttal).

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supply and further noted that CAPP forecasts change in response to shifts in the crude oil price environment.³⁵³

160. Only CAPP releases both a production and a supply forecast.³⁵⁴ A production forecast provides the volume of crude oil that is expected to be extracted from the underground crude oil reservoirs, whereas a supply forecast is projecting the volume of crude oil that will be supplied (or delivered) to the market.³⁵⁵ In most areas of the world, a production forecast and a supply forecast would be identical.³⁵⁶ However, in Western Canada, the volume of individual grades (e.g., light, heavy) of crude oil produced can differ significantly from the volume of the individual crude oil grades that are supplied to the market.³⁵⁷
161. The record demonstrates that the CAPP 2016 forecast may be a conservative outlook of Canadian crude oil supply.³⁵⁸
162. The NEB 2016 report titled *Canada's Energy Future* was prepared to provide a key reference point to discuss the country's energy future.³⁵⁹ The report drew on the extensive energy market expertise of the NEB's technical staff, as well as energy experts from government, industry, environmental organizations, and academia across Canada.³⁶⁰ In October 2016, the NEB released a report update, including production forecasts, that captured several recently announced climate policies, and revised the crude oil price assumptions used, utilizing three crude oil price scenarios that it terms Reference, High, and Low Price Cases.³⁶¹ The NEB reference case shows higher levels of crude oil production than the 2016 CAPP forecast, with the High-Price case, not surprisingly, even higher.³⁶² The NEB Low-Price scenario shows virtually identical production levels as the CAPP 2016 forecast until approximately 2028, at which point the 2016 CAPP forecast shows slightly higher growth.³⁶³
163. The AER 2016 forecast of Western Canadian crude production shows higher growth in production levels than the 2016 CAPP forecast,³⁶⁴ and even Rystad Energy, the

³⁵³ Ex. SH-2 at 20 (Shippers Rebuttal).

³⁵⁴ Ex. EN-15, Sched. 2 at 42 (Earnest Direct).

³⁵⁵ Ex. EN-15, Sched. 2 at 42 (Earnest Direct).

³⁵⁶ Ex. EN-15, Sched. 2 at 42 (Earnest Direct).

³⁵⁷ Ex. EN-15, Sched. 2 at 42 (Earnest Direct).

³⁵⁸ Ex. EN-37, Sched. 1 at 18 (Earnest Rebuttal).

³⁵⁹ Ex. EN-15, Sched. 2 at 44 (Earnest Direct).

³⁶⁰ Ex. EN-15, Sched. 2 at 43 (Earnest Direct).

³⁶¹ Ex. EN-15, Sched. 2 at 43 (Earnest Direct).

³⁶² Ex. EN-15, Sched. 2 at 44-45 (Earnest Direct).

³⁶³ Ex. EN-15, Sched. 2 at 44-46 (Earnest Direct).

³⁶⁴ Ex. EN-15, Sched. 2 at 46-47 (Earnest Direct).

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Norwegian consulting organization whose information HTE witness Mr. Stockman uses, shows a base case for Canadian oil sands production that projects higher growth in production levels than the CAPP 2016 forecast.³⁶⁵

164. CAPP's June 2017 report is slightly higher than the CAPP 2016 forecast³⁶⁶ and predicts that overall Canadian oil production will grow to 5.1 million bpd in 2030.³⁶⁷ This amount would represent a 1.3-million-bpd increase from the 3.85 million bpd produced in 2016.³⁶⁸ This projected increase is driven by a 53-percent rise in forecasted production of Western Canada oil sands.³⁶⁹ CAPP predicts Western Canada oil sands will increase to 3.7 million bpd by 2030, up from 2.4 million bpd in 2016.³⁷⁰
165. The NEB's forecast of Western Canadian crude oil production is similar: 1.257 million bpd of additional production between 2017 and 2030.³⁷¹ AER's 2017 forecast estimates bitumen production to grow by 1.34 million bpd between 2016 and 2026. Conventional crude oil production is expected to remain largely constant.³⁷²
166. Using the 2016 CAPP forecast, Mr. Earnest projected full utilization of the Project's incremental capacity once it is placed in service.³⁷³
167. The record also contains analysis of Project utilization under a range of circumstances, including the other forecasts in the record. This analysis was prepared by Enbridge in response to DOC-DER Information Requests and in Enbridge's rebuttal testimony, where Mr. Earnest presented five additional analyses of Project utilization based on: (1) the NEB Low-Price Forecast; (2) the NEB Reference case; (3) the NEB High-Price Forecast; (4) the CAPP 2017 forecast; and finally (5) a scenario that assumed only Canadian oil sands operating and in construction and broke those analyses out to separately examine the utilization of Enbridge's heavy and light crude oil lines.³⁷⁴
168. Under each forecast scenario, the Enbridge Mainline System heavy crude oil pipelines are projected to be fully utilized and operate at capacity throughout the forecast period.³⁷⁵ In this circumstance, the heavy crude oil pipelines will continue to be in apportionment,

³⁶⁵ Ex. EN-37, Sched. 2 at 61-63 and Figure 15 (Earnest Rebuttal).

³⁶⁶ Ex. EN-37, Sched. 2 at 76 (Earnest Rebuttal).

³⁶⁷ Ex. SH-1 at 12 (Shippers Direct).

³⁶⁸ Ex. SH-1 at 12 (Shippers Direct).

³⁶⁹ Ex. SH-1 at 12 (Shippers Direct).

³⁷⁰ Ex. SH-1 at 12 (Shippers Direct).

³⁷¹ Ex. SH-1 at 13 (Shippers Direct).

³⁷² Ex. SH-1 at 13 (Shippers Direct).

³⁷³ Ex. EN-15, Sched. 2 at 87 (Earnest Direct); see also Ex. EN-37 at 3 (Earnest Rebuttal).

³⁷⁴ Ex. EN-37, Sched. 1 at 18-25 (Earnest Rebuttal).

³⁷⁵ Ex. EN-15, Sched. 2 at 9, 13 (Earnest Direct).

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even with the incremental capacity of the Project.³⁷⁶ Consequently, all refineries downstream of Gretna, including those in Minnesota, will need to source a portion of their heavy crude oil from other locations or utilize rail transport to ship Western Canadian crude oil to their refineries (or do some combination).³⁷⁷

b) Evidence of Customer Support.

169. Shippers have stated repeatedly their concerns regarding ongoing apportionment and that denial of the CN would have an adverse effect on the future adequacy, reliability, and efficiency of energy supply to Enbridge's customers.³⁷⁸
170. The L3R Program requires capital investment of approximately \$7.5 billion.³⁷⁹ For Enbridge to commit to proceeding with the L3R Program, it required significant shipper support.³⁸⁰
171. Shippers have shown support for the L3F Program through the Representative Shippers Group ("RSG"), a group representing more than 75 percent of total throughput on the Enbridge Mainline,³⁸¹ which approved the increased tolls related to the Program in 2014.³⁸²
172. Enbridge negotiated the Project with the RSG over the course of 14 months.³⁸³ The RSG and Enbridge reached agreement on the terms of the rate increase and the scope of the Project.³⁸⁴ This was memorialized in the Issue Resolution Sheet ("IRS") which is attached to the CN Application.³⁸⁵
173. Although, the RSG initially approved the IRS in February 2014, when the price of crude oil was \$100/barrel ("bbl"), the RSG affirmed its commitment to the IRS in August of 2016, when crude oil prices had fallen to \$45/bbl.³⁸⁶

³⁷⁶ Ex. EN-15, Sched. 2 at 9 (Earnest Direct).

³⁷⁷ Ex. EN-15, Sched. 2 at 9 (Earnest Direct).

³⁷⁸ See, e.g., Ex. SH-2 at 15 (Shippers Rebuttal). Ex. SH-1 at 7 (Shippers Direct); Evid. Hrg. Tr. Vol. 9A (Nov. 15, 2017) at 20-21 (Kahler); Evid. Hrg. Tr. Vol. 9A (Nov. 15, 2017) at 61 (Van Heyst); Evid. Hrg. Tr. Vol. 9A (Nov. 15, 2017) at 97-98 (Shahady).

³⁷⁹ Ex. EN-14 at 8 (Fleeton Direct).

³⁸⁰ Ex. EN-71 at 2 (Fleeton Summary); Ex. EN-14 at 8 (Fleeton Direct).

³⁸¹ Ex. SH-1 at 8 (Shippers Direct); Ex. EN-14 at 6 (Fleeton Direct).

³⁸² Ex. SH-1 at 9 (Shippers Direct); Ex. EN-71 at 2 (Fleeton Summary).

³⁸³ Ex. EN-14 at 7 (Fleeton Direct).

³⁸⁴ Ex. EN-14 at 7 (Fleeton Direct).

³⁸⁵ Ex. EN-14 at 7 (Fleeton Direct); Ex. EN-1, Appendix D (CN Application).

³⁸⁶ Ex. SH-2 at 15 (Shippers Rebuttal).

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174. Shippers also indicated their support for the Project and concern regarding the impact of denial, the letters of support, provided in Appendix E to the Application.³⁸⁷
175. Flint Hills Resources (“FHR”), owner and operator of the Pine Bend refinery in Rosemount, Minnesota has filed three separate letters indicating its strong support for the Project.³⁸⁸ On August 16, 2017, FHR explained that the Pine Bend refinery produces most of the transportation fuels used in Minnesota, a significant portion of the fuels used in neighboring state, a significant percentage of the asphalt used in Minnesota and across the country, as well as heating fuels and the refined products used as building blocks in plastics, fertilizers, medicines and synthetic materials.³⁸⁹
176. FHR also explained that the Pine Bend refinery “relies exclusively on the Enbridge pipeline system to provide it the crude oil it needs to help meet demand for transportation fuel and other products.”³⁹⁰ FHR further explained that competition for line space on the Enbridge system continues to increase, with significant capacity added downstream of Minnesota, leading to apportionment that negatively impacts the refinery.³⁹¹
177. FHR concluded its first letter, stating:

Failing to replace the pipeline at its proposed capacity or shutting it down will increase apportionment and reduce reliability to the detriment of Minnesota refineries and Minnesota consumers.³⁹²

178. FHR filed a second letter on October 11, 2017,³⁹³ in response to DOC-DER testimony, and stated, in part:

[I]f *Line 3 is not replaced* . . . Flint Hills Resources would likely be compelled to explore other alternatives for meeting its crude oil needs, including the possibility of receiving crude by rail, river vessel, or perhaps other pipeline projects. In our view, among these and other alternatives, replacing Line 3 is by far the best option with respect to public safety, environmental protection, and cost-effectiveness.³⁹⁴

³⁸⁷ Ex. EN-14 at 7 (Fleaton Direct).

³⁸⁸ See Ex. EN-56, Sched. 1 at 1-2 (Earnest Surrebuttal); Ex. EN-56, Sched. 1 at 4-5 (Earnest Surrebuttal); Comment by Flint Hills Resources (Nov. 21, 2017) (eDocket No. [201711-137585-01](#)).

³⁸⁹ Ex. EN-56, Sched. 1 at 4 (Earnest Surrebuttal).

³⁹⁰ Ex. EN-56, Sched. 1 at 4 (Earnest Surrebuttal).

³⁹¹ Ex. EN-56, Sched. 1 at 5 (Earnest Surrebuttal).

³⁹² Ex. EN-56, Sched. 1 at 5 (Earnest Surrebuttal).

³⁹³ Ex. EN-56, Sched. 1 at 1 (Earnest Surrebuttal).

³⁹⁴ Ex. EN-56, Sched. 1 at 1-2 (Earnest Surrebuttal).

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179. Following the Supplemental Surrebuttal Testimony of DOC-DER witness Dr. Fagan, FHR filed its third letter on November 21, 2017.³⁹⁵ In this third letter, FHR stated:

Improved utilization at Pine Bend as well as improvements at the other Minnesota refinery together with the growth of pipeline capacity downstream of Minnesota that has outpaced the growth of upstream pipeline capacity has led to greater apportionment of the Enbridge system. Apportionment is a significant factor in refinery economics and can affect the long-term business health of a refinery, including future investment decisions. It can also affect fuel prices and the ability of refineries to reliably supply markets.

...

Refineries operate in highly competitive commodity markets. Access to economic crude oil is a primary factor in a refinery's ability to be competitive. If a refinery cannot receive its preferred crude slate when it needs it or the cost of that crude is artificially high due to transportation constraints, then a refinery's operations will be less competitive. Land-locked refineries, such as those in Minnesota, have fewer options to relieve apportionment than coastal refineries that have access to global crude markets or refineries in states with naturally-occurring oil. This is among the reasons why replacing Enbridge Line 3 is so important to Minnesota.³⁹⁶

180. After explaining that crude oil storage capabilities cannot meaningfully impact apportionment as suggested by DOC-DER, FHR concluded:

To be clear, the Enbridge Line 3 Replacement Project is critically important to the Pine Bend refinery and its ability to continue serving the transportation fuel needs of Minnesota and the surrounding states. Preventing Enbridge from replacing its Line 3 pipeline by denying its Certificate of Need application would have a deleterious effect on apportionment and threaten the reliability and efficiency of the pipeline system on which Pine Bend relies for all its crude oil needs. It also has the potential to affect future investment decisions in the refinery.³⁹⁷

³⁹⁵ Comment by Flint Hills Resources (Nov. 21, 2017) (eDocket No. [201711-137585-01](#)).

³⁹⁶ Comment by Flint Hills Resources at 1-2 (Nov. 21, 2017) (eDocket No. [201711-137585-01](#)).

³⁹⁷ Comment by Flint Hills Resources at 2 (Nov. 21, 2017) (eDocket No. [201711-137585-01](#)).

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181. In prior proceedings, the Commission has given significant weight to impacts on Minnesota’s refineries, including FHR.³⁹⁸
182. The only other Minnesota refiner, the Andeavor St. Paul Park refinery, also filed a letter of support for the Project, stating:

Enbridge Line 3, which is currently operating at a significantly reduced capacity, is an important part of the Enbridge Mainline System upon which Minnesota and the region rely. The replacement of Line 3 with a modern, state of the art pipeline that renews the 760,000 barrels per day capacity of Line 3 will help reduce apportionment on the Enbridge Mainline System and improve the [St. Paul Park] Refinery's access to needed crude oil supply.

. . .

As a customer of the Enbridge system, Andeavor believes that the failure to approve the Project will adversely affect the adequacy, reliability and efficiency of energy supply, not only to Minnesota, but the region and all those downstream who rely on the Enbridge system.³⁹⁹

183. Also included in the record and demonstrating customer and commercial support for the Project are:
- Direct, rebuttal, surrebuttal, and evidentiary hearing testimony from Paul Kahler, Transportation Regulatory Advisor for Cenovus Energy Inc., with nearly 30 years of industry experience and Cenovus’ representative on the RSG.⁴⁰⁰
 - Direct, rebuttal, surrebuttal, and evidentiary hearing testimony from John Van Heyst, Manager, Marketing Logistics for Suncor Energy Marketing Inc., with over 30 years of industry experience.⁴⁰¹

³⁹⁸ *In re Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line 67 (Alberta Clipper) Station Upgrade Project – Phase 2 – in Marshall, Clearwater, Itasca, Kittson, Red Lake, Cass, and St. Louis Counties*, MPUC Docket No. PL-9/CN-13-153, Order Granting Certificate of Need at 21 (Nov. 7, 2014).

³⁹⁹ Ex. EN-94, Sched. 1 at 1-2 (Earnest Supplemental Surrebuttal).

⁴⁰⁰ Ex. SH-1 at 1-10 (Shippers Direct); Ex. SH-2 at 1-16 (Shippers Rebuttal); Ex. SH-3 at 7-11 (Shippers Surrebuttal); Evid. Hrg. Tr. Vol. 9A (Nov. 15, 2017) at 16-55 (Kahler).

⁴⁰¹ Ex. SH-1 at 10-15 (Shippers Direct); Ex. SH-2 at 17-28 (Shippers Rebuttal); Ex. SH-3 at 1-7 (Shippers Surrebuttal); Evid. Hrg. Tr. Vol. 9A (Nov. 15, 2017) at 56-95 (Van Heyst).

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- Direct, rebuttal, and evidentiary hearing testimony from Edward Shahady, Term Supply and Logistics Manager, Fuels, for BP Products North America, with over 15 years of industry experience.⁴⁰²
- A letter of support from Calumet Specialty Partners, owner of the Superior refinery that supplies gasoline, diesel, asphalt, and fuel oil to Minnesota and Wisconsin and is entirely dependent of the Enbridge Mainline System for its crude oil supply.⁴⁰³
- Two different letters of support from Marathon Petroleum Company (“MPC”), the largest refiner in the Midwest, in which Marathon emphasized the reliability improvement that can be gained with the Project and noted, in part: “MPC supported replacing Line 3 for two reasons. First, continuing to implement the extensive integrity dig program would have significant adverse impacts on the environment, landowners, and ability of Line 3 to continue to provide reliable service. Second, the replacement would allow Enbridge to restore the operating pressure of Line 3 thereby increasing the effective capacity of the pipeline and reducing apportionment currently being experienced on the Enbridge system.”⁴⁰⁴
- BP Products North America, Inc., Marathon Petroleum Corporation, Suncor Energy Marketing Inc., Canadian National Resources Limited, and Cenovus Energy Inc. provided letters of support that were included in Appendix E to the Application.⁴⁰⁵

c) DOC-DER Testimony.

184. DOC-DER offered testimony from Ms. Kate O’Connell which concluded that Enbridge has not demonstrated a need for the Project.⁴⁰⁶
185. DOC-DER acknowledged that it does not have the necessary expertise to critically analyze this issue and therefore engaged outside consulting assistance.⁴⁰⁷
186. DOC-DER staff witness, Ms. O’Connell, had never testified in a crude oil facilities certificate of need proceeding.⁴⁰⁸

⁴⁰² Ex. SH-1 at 15-21 (Shippers Direct); Ex. SH-2 at 28-32 (Shippers Rebuttal); Evid. Hrg. Tr. Vol. 9A (Nov. 15, 2017) at 95-137 (Shahady).

⁴⁰³ Ex. SH-1, Sched. A (Shippers Direct).

⁴⁰⁴ Ex. SH-1, Sched. A (April 7, 2015 and July 7, 2017 letters from C. M. Palmer, MPC Senior Vice President) (Shippers Direct).

⁴⁰⁵ Ex. EN-14 at 7 (Fleeton Direct); EN-1, Appendix E (CN Application).

⁴⁰⁶ See Ex. DER-1 (O’Connell Direct); Ex. DER-6 (O’Connell Surrebuttal).

⁴⁰⁷ See Evid. Hrg. Tr. Vol. 1A (Nov. 1, 2017) at 86 (Anderson).

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187. To assist it in this case, DOC-DER secured the consulting services of Dr. Fagan and London Economics, Inc. (“LEI”) in July of 2017.⁴⁰⁹ Dr. Fagan also had never testified in a regulatory or judicial proceeding involving crude oil markets.⁴¹⁰
188. Dr. Fagan testified that the scope of her engagement in this proceeding was limited to “providing a critical review of two expert reports filed in the docket” in support of Enbridge’s certificate of need application.⁴¹¹
189. Dr. Fagan and LEI did not analyze and/or offer an opinion on a number of issues, including:
- whether denial of the certificate of need would have an adverse impact on the adequacy, reliability, or efficiency of crude oil supply to Minnesota and neighboring states;⁴¹²
 - whether construction of the Project would enhance the adequacy, reliability, or efficiency of crude oil supply to Minnesota and neighboring states;⁴¹³
 - comparing alternative scenarios as to their impact on the adequacy, reliability, or efficiency of crude oil supply;⁴¹⁴
 - analyzing the impact on crude supply in Minnesota or the Midwest if existing Line 3 is taken out of service without the Project being built;⁴¹⁵
 - performing an outlook or testimony on oil prices or oil supply;⁴¹⁶
 - analyzing the effect of the Project on the efficient use of resources or the energy efficiency of the overall Enbridge system with and without the Project;⁴¹⁷ and

⁴⁰⁸ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 32-34 (O’Connell).

⁴⁰⁹ Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 23 (Fagan).

⁴¹⁰ Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 23-24 (Fagan).

⁴¹¹ See Ex. DER-4 at 2, Sched. 1 at 1 (Fagan Direct); Ex. DER-7, Sched. 1 at 3, 4 (Fagan Surrebuttal); Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 15 (Fagan). DOC-DER subsequently requested additional work provided as “Supplemental Surrebuttal” testimony, Ex. DER-9 (Fagan Supplemental Surrebuttal), discussed further, below.

⁴¹² Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 25-26 (Fagan).

⁴¹³ Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 28-29 (Fagan).

⁴¹⁴ Ex. EN-37, Sched. 2 (DOC-DER Response to Enbridge IR No. 4) (Earnest Rebuttal); Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 28-29 (Fagan).

⁴¹⁵ Ex. EN-37, Sched. 2 (DOC-DER Response to Enbridge IR Nos. 5, 14) (Earnest Rebuttal); Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 29-30 (Fagan).

⁴¹⁶ Ex. EN-37, Sched. 2 (DOC-DER Response to Enbridge IR No. 8) (Earnest Rebuttal); Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 26 (Fagan).

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- analyzing the reliability of the Enbridge system with and without the Project.⁴¹⁸
190. Dr. Fagan specifically stated that “the LEI Report is not intended to determine the effect of denial of the certificate of need”⁴¹⁹ and that “LEI did *not* conclude that there is no additional need for oil in the Minnesota market going forward.”⁴²⁰
191. The narrow scope of work requested of LEI resulted in Dr. Fagan making three central observations: (1) Enbridge’s supply forecast should have considered a range of future scenarios;⁴²¹ (2) Enbridge should have considered refined product demand in its forecasts;⁴²² (3) Minnesota district refineries have been operating at high levels of utilization.⁴²³ In addition, while she examined apportionment issues in her supplemental surrebuttal testimony, she could not draw any conclusion as to whether apportionment has effectively limited the supply of heavy crude oil to the Minnesota district refineries.⁴²⁴
192. Dr. Fagan criticized Enbridge for not considering “more than one potential future for oil supply, demand, or infrastructure” in its forecasts.⁴²⁵ However, as discussed in Sections II(A)(1)(2)(a)-(b) above, there is a range of credible forecasts in this record. Each forecast scenario and each infrastructure scenario analyzed in the record demonstrated that the Project will be fully utilized once in service.⁴²⁶
193. In her direct testimony, Dr. Fagan stated that in Enbridge’s forecasts “a forecast for demand for refined products by end-users plays no role in the outlook.”⁴²⁷ However, in her surrebuttal testimony, Dr. Fagan clarified the rather limited impact of this observation, stating that her analysis of refined products “demonstrated the likely continuing integration of refined product markets. LEI did *not* argue it would reduce L3R program utilization.”⁴²⁸

⁴¹⁷ Ex. EN-37, Sched. 2 (DOC-DER Response to Enbridge IR No. 13) (Earnest Rebuttal); Evid. Hrg. Tr. Vol. 9B (Nov.15, 2017) at 26 (Fagan).

⁴¹⁸ Ex. EN-37, Sched. 2 (DOC-DER Response to Enbridge IR No. 13) (Earnest Rebuttal).

⁴¹⁹ Ex. DER-7, Sched. 1 at 4 (Fagan Surrebuttal) (Emphasis added).

⁴²⁰ Ex. DER-7, Sched. 1 at 12 (Fagan Surrebuttal) (Emphasis added).

⁴²¹ See Ex. DER-4, Sched. 1 at 4 (Fagan Direct).

⁴²² See Ex. DER-4, Sched. 1 at 4-5, 25 (Fagan Direct).

⁴²³ See Ex. DER-4, Sched. 1 at 14 (Fagan Direct).

⁴²⁴ See Ex. DER-9 at 1 (Fagan Supplemental Surrebuttal).

⁴²⁵ Ex. DER-4, Sched. 1 at 5 (Fagan Direct).

⁴²⁶ Ex. EN-15 at 20 (Earnest Direct); Ex. SH-2 at 9 (Shippers Rebuttal).

⁴²⁷ Ex. DER-4, Sched. 1 at 25 (Fagan Direct).

⁴²⁸ Ex. DER-7, Sched. 1 at 4 (Fagan Surrebuttal).

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194. Dr. Fagan also observed in her direct testimony that the refined products are continental and that exports increasingly link the U.S. to global refined markets.⁴²⁹ Given this interconnectedness, Dr. Fagan observed that:
- additional crude pipeline capacity such as the Enbridge Line 3 project could contribute to slightly wider availability of crude oil and therefore somewhat lower prices of crude oil and refined products (all other things equal) generally across the US, and by implication, for Minnesota and its neighbors.⁴³⁰
195. In response to DOC-DER discovery and in its rebuttal testimony, Enbridge modeled a “reduced refined product demand” scenario that assumed a 75 percent market share for electric vehicles by 2035.⁴³¹ That analysis indicated “that the light and heavy crude oil pipelines in the Enbridge Mainline after the L3R Program is finished will operate at capacity throughout the forecast period under this scenario of reduced refined product demand.”⁴³²
196. The Enbridge Mainline System transports crude oil not refined product. Therefore, it is the demand for crude oil that will drive utilization of the Enbridge Mainline System, including the Project.⁴³³ Current demand for crude oil already exceeds the Enbridge Mainline System capacity, causing consistent apportionment.⁴³⁴ Additionally, every reasonable forecast and infrastructure scenario modeled shows full utilization of the Enbridge Mainline System with the Project in place, demonstrating the demand for the Project’s additional capacity.⁴³⁵
197. Dr. Fagan’s third general observation was that the Minnesota district refineries have been operating at high utilization levels.⁴³⁶ However, Dr. Fagan herself made clear in surrebuttal testimony that this observation “did not suggest the Project is unnecessary based on Minnesota district refinery utilization.”⁴³⁷
198. Dr. Fagan’s limitation on the impact of her testimony came after FHR stated that it disagreed with “critical aspects of the Department’s analysis of its refinery utilization,

⁴²⁹ Ex. DER-4, Sched. 1 at 13-16 (Fagan Direct).

⁴³⁰ Ex. DER-4, Sched. 1 at 6 (Fagan Direct).

⁴³¹ Ex. EN-37, Sched. 1 at 41-43 (Earnest Rebuttal); Ex. EN-37, Sched. 4 (Enbridge Response to DOC-DER IR No. 237) (Earnest Rebuttal).

⁴³² Ex. EN-37 at 43 (Earnest Rebuttal).

⁴³³ Ex. EN-37, Sched. 1 at 46 (Earnest Rebuttal).

⁴³⁴ Ex. EN-37 at 6 (Earnest Rebuttal); Ex. EN-19 at 11 (Glanzer Direct); Ex. SH-1 at 5-6 (Shippers Direct); Ex. EN-14 at 6 (Fleeton Direct).

⁴³⁵ Ex. EN-37 at 3 (Earnest Rebuttal); Ex. EN-37, Sched. 1 at 25 (Earnest Rebuttal).

⁴³⁶ Ex. DER-7, Sched. 1 at 11 (Fagan Surrebuttal).

⁴³⁷ Ex. DER-7, Sched. 1 at 11 (Fagan Surrebuttal).

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market reach, and market demand.”⁴³⁸ FHR noted that “the Department’s analysis incorrectly concludes that the Flint Hills Resources Pine Bend refinery is at or near full utilization. Neither the Department nor its expert consulted directly with Flint Hills Resources prior to formulating this opinion.”⁴³⁹ As FHR stated, “[t]he Pine Bend refinery is not at full utilization. . . . The refinery also recently received a permit to implement several projects that will eventually give it the ability to consistently operate near its nameplate, while also reducing key emissions. These and other projects that have come online since 2012 have led to a steep change in the refinery’s overall efficiency and utilization. This, in turn, has led to growing demand for crude oil supplied by the Enbridge Mainline System.”⁴⁴⁰

199. Dr. Fagan presented supplemental surrebuttal testimony attempting to analyze the impact of apportionment on Minnesota district refiners but her analysis was “inconclusive.”⁴⁴¹
200. Relying on Dr. Fagan’s testimony, DOC-DER and Ms. O’Connell reached a conclusion that the certificate of need should be denied, in part due to Enbridge’s alleged failure to satisfy Criterion A of the CN Rules, and that “Minnesota would be better off if Enbridge proposed to cease operations of the existing Line 3, without any new pipeline being built.”⁴⁴²
201. The DOC-DER did not inform Dr. Fagan of Ms. O’Connell’s conclusion on the ultimate question of need before filing testimony recommending denial.⁴⁴³
202. The testimonies of Dr. Fagan and Ms. O’Connell are inconsistent in a number of respects. For example, DOC-DER witness Ms. O’Connell testified that:

Enbridge’s statement about the effects of denial of the proposed Project on Minnesota refineries does not appear to be completely accurate, given the high levels of refinery utilization rates of all refineries in Minnesota and surrounding states as discussed in Department Witness Dr. Fagan’s testimony.⁴⁴⁴

However, DOC-DER did not inquire of the Minnesota or Superior refiners or other shippers to understand their views on these matters⁴⁴⁵ and Dr. Fagan stated that her

⁴³⁸ Ex. EN-56, Sched. 1 at 1 (Earnest Surrebuttal).

⁴³⁹ Ex. EN-56, Sched. 1 at 1 (Earnest Surrebuttal).

⁴⁴⁰ Ex. EN-56, Sched. 1 at 2 (Earnest Surrebuttal).

⁴⁴¹ Ex. DER-9 at 1 (Fagan Supplemental Surrebuttal).

⁴⁴² Ex. DER-1 at 92 (O’Connell Direct).

⁴⁴³ Evid. Hrg. Tr. Vol 9B (Nov. 15, 2017) at 51 (Fagan) (Emphasis added).

⁴⁴⁴ Ex. DER-1 at 34 (O’Connell Direct) (Emphasis added).

⁴⁴⁵ See Evid. Hrg. Tr. Vol 9B (Nov. 15, 2017) at 49-50 (Fagan); Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 41 (O’Connell).

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testimony did not analyze the effect of denial⁴⁴⁶ and “did not suggest the Project is unnecessary based on Minnesota district refinery utilization.”⁴⁴⁷

203. DOC-DER witness Ms. O’Connell stated that tshe did not separately analyze Enbridge’s forecast data.⁴⁴⁸ Rather, she relied on Dr. Fagan’s direct testimony “as a whole,” in concluding that Enbridge’s forecast was flawed.⁴⁴⁹ However, Dr. Fagan explicitly stated that “LEI did not conclude that there is no additional need for oil in the Minnesota market going forward.”⁴⁵⁰ Dr. Fagan also stated that she did not analyze the overall need for the Project or its impact (or the impact of denial) on the adequacy, reliability or efficiency of energy supply.⁴⁵¹
204. Regarding the “adequacy” of energy supply, Ms. O’Connell agreed that “it is critical that adequate supplies are delivered so that markets can function.”⁴⁵² However, Ms. O’Connell acknowledged that her analysis did not consider whether the delivery point mattered, when determining the adequacy of supply.⁴⁵³
205. The record demonstrates that, in an integrated market, delivery points matter, particularly for refiners such as the Minnesota and Superior refiners who depend on deliveries at Clearbrook and Superior. In addition, Enbridge witness Mr. Earnest modeled a number of infrastructure scenarios with different delivery points (e.g., SA-04 delivering to Illinois) to determine the impact of those different delivery points on usage of the Enbridge Mainline System,⁴⁵⁴ but Ms. O’Connell stated that she “did not look at his modeling.”⁴⁵⁵
206. Ms. O’Connell stated that “reliability” refers to supplies that are consistently good in quality so that crude oil markets can function in a predictable manner.⁴⁵⁶ She agreed that this means shippers receive the type of crude oil that they desire and that they can consistently receive that supply without interruption.⁴⁵⁷
207. Ms. O’Connell acknowledged important reliability benefits of the Project, including:

⁴⁴⁶ Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 25-26 (Fagan).

⁴⁴⁷ Ex. DER-7, Sched. 1 at 11 (Fagan Surrebuttal) (Emphasis added).

⁴⁴⁸ Evid. Hrg. Tr. Vol 12A (Nov. 20, 2017) at 37 (O’Connell).

⁴⁴⁹ Ex. DER-6 at 34 (O’Connell Surrebuttal).

⁴⁵⁰ Ex. DER-7, Sched. 1 at 12 (Fagan Surrebuttal) (Emphasis added).

⁴⁵¹ Ex. DER-7 at 4 (Fagan Surrebuttal).

⁴⁵² Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 42-43 (O’Connell)

⁴⁵³ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 44-45 (O’Connell)

⁴⁵⁴ Ex. EN-37, Sched. 1 at 26-40 (Earnest Rebuttal).

⁴⁵⁵ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 45-47 (O’Connell) (quote at 47:12-13).

⁴⁵⁶ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 54-55 (O’Connell).

⁴⁵⁷ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 55-56 (O’Connell).

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- Without the Project, existing Line 3 will require substantial maintenance that can interrupt supply;⁴⁵⁸ and
 - Existing Line 3 transports primarily only light crude, whereas the Project enables transportation of either light or heavy crude, providing increased flexibility.⁴⁵⁹
208. Ms. O’Connell stated that she relied on Dr. Fagan’s direct testimony conclusions that Enbridge’s forecast did not consider more than one potential future for oil supply, demand or infrastructure.⁴⁶⁰ At hearing, Ms. O’Connell was asked if she would agree that Enbridge provided multiple forecast scenarios to DOC-DER through the discovery process that were not analyzed by Dr. Fagan in her direct testimony. She responded: “I’m not aware whether Dr. Fagan considered or didn’t consider [those scenarios], I just don’t know.”⁴⁶¹
209. Ms. O’Connell did not recall Dr. Fagan acknowledging that she could not express an opinion as to whether crude oil production in Western Canada will increase over the next several years.⁴⁶²
210. Ms. O’Connell acknowledged that she did not review Dr. Fagan’s discovery responses, where Dr. Fagan acknowledged the limitations of her testimony,⁴⁶³ and that in drawing her conclusions regarding need, she relied exclusively on Dr. Fagan’s initial report, presented in direct testimony.⁴⁶⁴
211. Ms. O’Connell also stated that in reaching her conclusions under Minn. R. 7853.0130 she relied on the highly sensitive trade secret information in her direct testimony.⁴⁶⁵ Ms. O’Connell asserted that the highly sensitive trade secret information “did in fact address how Minnesota refineries would be affected by the Proposed Project.”⁴⁶⁶ However, at hearing, Ms. O’Connell admitted that the highly sensitive trade secret graphs in her direct testimony were inaccurate.⁴⁶⁷ Enbridge provided accurate data reflecting the impact of the Project on Minnesota refiners.⁴⁶⁸ For example, in 2016, Flint Hills Resources’

⁴⁵⁸ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 56 (O’Connell).

⁴⁵⁹ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 56-57 (O’Connell).

⁴⁶⁰ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 60-61 (O’Connell).

⁴⁶¹ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 62 (O’Connell).

⁴⁶² Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 65 (O’Connell).

⁴⁶³ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 65-66 (O’Connell).

⁴⁶⁴ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 60-61 (O’Connell).

⁴⁶⁵ Ex. DER-6 at 29, 39-41, 49, 63, 70 and 74 (O’Connell Surrebuttal).

⁴⁶⁶ Ex. DER-6 at 39 (O’Connell Surrebuttal).

⁴⁶⁷ Evid. Hr’g Tr. Vol. 12B (Nov. 20, 2017) at 77-95 (O’Connell).

⁴⁶⁸ Ex. EN-21, Schedule 5 (Glanzer Direct).

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verified nominations included [HIGHLY SENSITIVE TRADE SECRET DATA BEGINS... ...HIGHLY SENSITIVE TRADE SECRET DATA ENDS] kilobarrels of heavy crude, and it received [HIGHLY SENSITIVE TRADE SECRET DATA BEGINS... ...HIGHLY SENSITIVE TRADE SECRET DATA ENDS] kilobarrels.⁴⁶⁹ Similar data is available for Andeavor’s St. Paul Park Refinery.⁴⁷⁰ Accordingly, the Minnesota refineries are currently unable to ship all of the crude oil they need via the Enbridge Mainline System.

212. Overall, DOC-DER testimony does not support a determination that a certificate of need for the Project can be denied without creating an adverse impact on the adequacy, efficiency or reliability of energy supply to Minnesota and neighboring states.

d) Intervenor Testimony.

213. With respect to intervenors, the primary witnesses providing testimony concerning crude oil supply and production forecasts were Mr. Stockman on behalf of HTE and Dr. Joseph on behalf of FOH. Mr. Stockman and Dr. Joseph testified that much lower Western Canadian crude oil supply volumes should be used for Project utilization analysis, while simultaneously arguing that the analysis must assume that two or three more major export pipelines totaling 0.5 to 2 million bpd of takeaway pipeline capacity from Canada will be built.⁴⁷¹
214. Neither Mr. Stockman nor Dr. Joseph provide an explanation as to why the oil industry would be prepared to pay billions of dollars for additional export pipelines, if the crude oil supply outlook is flat or declining.⁴⁷²
215. Mr. Stockman and Dr. Joseph suggest that future crude oil prices are unlikely to recover and that production levels will therefore suffer, impliedly suggesting that the 2016 CAPP forecast fails to reflect this view of forward-looking prices.⁴⁷³ However, the CAPP 2016 forecast appears conservative when compared to other credible forecasts presented in this record.
216. CAPP specifically called out the low price environment as a challenge it considered in developing its forecast.⁴⁷⁴
217. While future crude prices are uncertain, production (and therefore supply) volumes are comparatively resistant to changes in absolute crude price. Mr. Earnest testified that: “[c]rude oil production under the NEB High Price Scenario is about 13 percent higher

⁴⁶⁹ Ex. EN-21, Schedule 5 at 5 and 15 (Glanzer Direct).

⁴⁷⁰ Ex. EN-21, Schedule 5 (Glanzer Direct).

⁴⁷¹ Ex. HTE-2 at 24-27, 31 (Stockman Direct); Ex. FOH-6 at 7-8, 14-16 (Joseph Direct).

⁴⁷² Ex. EN-37, Sched. 1 at 26 (Earnest Rebuttal).

⁴⁷³ Ex. FOH-6 at ii (Joseph Direct); Ex. HTE-2 at 20 (Stockman Direct).

⁴⁷⁴ Ex. EN-37, Sched. 1 at 45, 72 (Earnest Rebuttal).

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than the Reference Price Scenario in 2030, and production under the Low Price Scenario is about 10 percent lower. However, the crude oil prices in 2030 for the High and Low Price Cases are 37 percent above and 47 percent below the Reference Case price, respectively.”⁴⁷⁵

218. Mr. Stockman criticized Enbridge for relying exclusively on the CAPP 2017 supply forecast in his modeling of the utilization of the Project to support energy supply to Minnesota and the region.⁴⁷⁶ However, during the evidentiary hearing Mr. Stockman acknowledged that Enbridge did not use the CAPP 2017 forecast and that, in fact, that forecast was not even available at the time Enbridge filed its direct testimony.⁴⁷⁷ Mr. Stockman also acknowledged that his claim that all of Enbridge’s models did not rely on a single forecast was incorrect, and that Enbridge’s analysis presented multiple different scenarios.⁴⁷⁸
219. At the evidentiary hearing, Mr. Stockman also withdrew his assertion in prefiled testimony that Enbridge witness Mr. Earnest conducted an “old apples against new oranges” comparison, in discussing the reasonableness of the CAPP forecast by allegedly using an October 2016 production forecast for all of Canada from the NEB and comparing it to 2017 supply forecast for western Canada from CAPP.⁴⁷⁹ In doing so, Mr. Stockman also conceded that, contrary to his prior testimony at hearing, he did not review all of Mr. Earnest’s rebuttal testimony and attachments or discovery responses prior to filing his surrebuttal testimony that critiqued Mr. Earnest’s work.⁴⁸⁰
220. In his prefiled testimony, Mr. Stockman provided a graph purporting to show that, per Rystad (a Norwegian consulting firm), oil sands production will flatten and then decrease under a “low crude oil price” scenario. However, this graph is not the Rystad Low Case, but is a forecast generated by Mr. Stockman using very restrictive criteria to query the Rystad database.⁴⁸¹
221. The Rystad Base Case shows an increase in Oil Sands production through 2030 (+1,453 kbpd) higher than that predicted by CAPP in its 2016 forecast (+1,013 kbpd) – the forecast included in the analytical modeling for the January 2017 Muse Report.⁴⁸²
222. Mr. Stockman also suggested that sales of heavy crude development assets are indicative of the decline of heavy crude oil development.⁴⁸³ As Enbridge witness Mr. Earnest

⁴⁷⁵ Ex. EN-15, Sched. 2 at 45 (Earnest Direct).

⁴⁷⁶ Ex. HTE-4 at 11 (Stockman Surrebuttal).

⁴⁷⁷ Evid. Hrg. Tr. Vol. 5A (Nov. 8, 2017) at 41-42 (Stockman).

⁴⁷⁸ Evid. Hrg. Tr. Vol. 5A (Nov. 8, 2017) at 43-44 (Stockman).

⁴⁷⁹ Ex. HTE-4 at 7-8 (Stockman Surrebuttal)

⁴⁸⁰ Evid. Hrg. Tr. Vol. 5A (Nov. 8, 2017) at 46 (Stockman).

⁴⁸¹ Ex. EN-37, Sched. 1 at 61-62 (Earnest Rebuttal).

⁴⁸² Ex. EN-37, Sched. 1 at 61-62 (Earnest Rebuttal).

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- testified, this ignores the other half of this transaction, which shows that parties are still interested in acquiring these assets.⁴⁸⁴
223. Mr. Stockman further testified that the CAPP forecasts are biased. However, the 2017 CAPP Forecast does not predict the type of aggressive growth one would expect from a supposedly biased report.⁴⁸⁵
224. The U.S. currently imports millions of barrels per day of crude oil from countries other than Canada, which means that there is plenty of foreign, non-Canadian crude oil that can be displaced from the U.S. crude oil market with additional supplies from Canada.⁴⁸⁶
225. Canadian crude oil is currently being shipped by rail to the U.S., which strongly suggests that the pipelines are full. In the fourth quarter of 2016, Canadian rail shipments of crude oil to the U.S. averaged 129 kbpd.⁴⁸⁷
226. Finally, Mr. Stockman discussed a decline in total crude-by-rail shipments in the U.S..⁴⁸⁸ However, this testimony did not acknowledge that the dramatic increase in pipeline investment in the U.S., particularly between the Midwest and Gulf Coast, has led to a significant reduction in crude-by-rail shipments of oil produced in North Dakota's Williston Basin from the Midwest to the Gulf Coast and other regions of the U.S..⁴⁸⁹ However, the crude-by-rail shipments from Canada to PADD II and III have not similarly declined – and have, in fact, increased – because there has not be a similar increase in available pipeline capacity to those areas.⁴⁹⁰
227. Dr. Joseph also criticized Enbridge for allegedly relying on a single crude oil supply scenario in support of the Project. Dr. Joseph, who had never before provided testimony concerning the crude oil markets,⁴⁹¹ acknowledged that, like Mr. Stockman, he did not review all of the Company's discovery responses to DOC-DER in developing his testimony and may have been unaware of the multiple scenarios analyzed by the Company.⁴⁹²

⁴⁸³ Ex. HTE-2 at 18 (Stockman Direct)

⁴⁸⁴ Ex. SH-2 at 19 (Shippers Rebuttal).

⁴⁸⁵ Ex. SH-2 at 20-21 (Shippers Rebuttal).

⁴⁸⁶ Ex. EN-37, Sched. 1 at 69 (Earnest Rebuttal).

⁴⁸⁷ Ex. EN-37, Sched. 1 at 66 (Earnest Rebuttal).

⁴⁸⁸ Ex. HTE -3 at 20 (Stockman Rebuttal).

⁴⁸⁹ Ex. SH-3 at 7-8 (Shippers Surrebuttal).

⁴⁹⁰ Ex. SH-3 at 7-8 (Shippers Surrebuttal).

⁴⁹¹ Evid. Hrg. Vol. Tr. Vol. 7A (Nov. 13, 2017) at 38-39 (Joseph).

⁴⁹² Evid. Hrg. Vol. Tr. Vol. 7A (Nov. 13, 2017) at 51 (Joseph). Curiously, despite his criticism of Enbridge, Dr. Joseph himself used a single oil production forecast in attempting to criticize the CAPP 2016 forecast.

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228. Dr. Joseph testified that “there is excess [Western Canadian crude oil] pipeline capacity to PADD II” and that “apportionment shouldn’t be an issue.”⁴⁹³ However, the record conclusively establishes that there is not excess pipeline capacity between Western Canada and the Midwest, and that both the Enbridge Mainline System and the Keystone pipeline have been consistently in apportionment in 2016 and 2017.⁴⁹⁴ Further, the evidence of customer concern regarding apportionment, as demonstrated in this record, directly contradicts Mr. Joseph’s assertion that “apportionment shouldn’t be an issue.”⁴⁹⁵
229. Dr. Joseph also testified that the CAPP forecasts have a “propensity for overestimating future oil production,” citing a study from 2013. However, the record demonstrates that the CAPP forecast is high about half of the time, and it is low about half of the time. There is no evidence of an optimistic bias in the CAPP forecasts.⁴⁹⁶
230. Dr. Joseph further testified that the CAPP forecasts through 2016 have become increasingly pessimistic (lower production), with the apparent implication that this trend will continue. However, the latest CAPP 2017 forecast, which was released on June 13, 2017, and available to Dr. Joseph for his analysis, is higher than the 2016 CAPP forecast over the next several years.⁴⁹⁷
231. Dr. Joseph further states that the Canadian Oil Sands production cost is at the high end of the cost curve for international crude oils, and provides a graph with Oil Sands production costs that shows an average Oil Sands production cost of \$69 per barrel. Dr. Joseph then explains that the oil price needed to justify Oil Sands expansion are \$85 per barrel for in situ projects and \$106 per barrel for mining projects.⁴⁹⁸ Dr. Joseph cites a 2014 Canadian Energy Research Institute (“CERI”) study to support this assertion. However, CERI produces this study on an annual basis, and it is publicly available.⁴⁹⁹ The most recent CERI study, released in February 2017, indicates that the Oil Sands supply costs have dropped to \$60.52 per barrel and \$75.73 per barrel for new in situ and

That single forecast varied little from the CAPP forecast through 2025. *See* Ex. FOH-6 at 9 (Joseph Direct); Ex. EN-37, Sched. 1 at 74 (Earnest Rebuttal).

⁴⁹³ Ex. FOH-6 at 21-22 (Joseph Direct).

⁴⁹⁴ *See, e.g.*, Ex. EN-37, Sched. 1 at 78 and Sched. 4 (Earnest Rebuttal); Ex. EN-19 at 12 (Table 3.5.2-2) (Glanzer Direct); Ex. EN-38, Sched. 2 and 3 (Glanzer Rebuttal).

⁴⁹⁵ *See e.g.*, Ex. SH-1 at 4 (Shippers Direct); Ex. SH-2 at 10 (Shippers Rebuttal); Ex. EN-56, Sched. 1 at 1-2, 4-5 (Earnest Surrebuttal); Comment by Flint Hills Resources (Nov. 21, 2017) (eDocket No. [201711-137585-01](#)).

⁴⁹⁶ Ex. EN-37, Sched. 1 at 73 (Earnest Rebuttal).

⁴⁹⁷ Ex. EN-37, Sched. 1 at 76 (Earnest Rebuttal).

⁴⁹⁸ Ex. FOH-6 at 15 (Joseph Direct).

⁴⁹⁹ Ex. EN-37, Sched. 1 at 76 (Earnest Rebuttal).

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mining projects, respectively.⁵⁰⁰ Consequently, Dr. Joseph’s use of the dated CERI data acts to inflate his representation of the Oil Sands supply costs by about 40 percent.⁵⁰¹

232. Intervenor testimony does not support a finding that the Project can be denied without creating an adverse impact on the adequacy, efficiency or reliability of energy supply to Minnesota and neighboring states.

**e) Summary of Forecasts and the Impact of the
Project on Forecasted Apportionment.**

233. Overall, the forecasts in this record demonstrate that the gap between forecast Western Canadian crude oil supply and the existing pipeline capacity is more than the capacity of any single project.⁵⁰²
234. Mr. Earnest’s analysis demonstrated that even with other additional pipeline capacity – for example, if the Trans Mountain Expansion Project is constructed and becomes operational – the Project will be fully utilized.⁵⁰³
235. Without improved pipeline capacity out of Western Canada, the previously noted gap between production and pipeline capacity will likely drive higher Enbridge Mainline System apportionment, which will affect all shippers.⁵⁰⁴
236. Due to the common carrier nature of the Enbridge Mainline System, any further increase in crude oil demand anywhere that Enbridge delivers crude oil – Chicago, Ohio, or any of southbound pipelines to the Gulf Coast – will increase apportionment.⁵⁰⁵ Higher apportionment means that the Minnesota refineries get their crude oil deliveries cut back more.⁵⁰⁶ For Minnesota, it does not matter where on the Enbridge system crude oil demand increases – an increase anywhere is bad if the Enbridge Mainline System is full.⁵⁰⁷

⁵⁰⁰ Ex. EN-37, Sched. 1 at 76 (Earnest Rebuttal).

⁵⁰¹ Ex. EN-37, Sched. 1 at 76 (Earnest Rebuttal).

⁵⁰² Ex. SH-2 at 27 (Shippers Rebuttal); Ex. EN-37, Sched. 1 at 8 (Earnest Rebuttal) (“A multi-scenario analysis demonstrates that the L3R Program will be fully utilized under a range of crude oil supply scenarios that differ, in 2035, by almost 2 million b/d.”).

⁵⁰³ Ex. EN-37 at 4 (Earnest Rebuttal).

⁵⁰⁴ Ex. SH-1 at 15 (Shippers Direct).

⁵⁰⁵ Ex. EN-69 at 1 (Earnest Summary).

⁵⁰⁶ Ex. EN-19 at 11 (Glanzer Direct).

⁵⁰⁷ Ex. EN-69 at 1 (Earnest Summary).

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237. Dr. Fagan and Dr. Joseph agreed that, even if the Minnesota refineries' demand remains flat, if other shipper demands increase, any resulting apportionment would result in the Minnesota refineries having their deliveries reduced.⁵⁰⁸
238. Looking forward, without the restored capacity made available by the Project, apportionment levels on the Enbridge Mainline System heavy crude oil lines are expected to exceed 25 percent in all years through 2035.⁵⁰⁹ These apportionment levels would directly impact the Minnesota refineries, which rely on the Enbridge Mainline System for their pipeline crude oil supply.⁵¹⁰
239. Enbridge's forecasted throughput and resulting apportionment is validated by comparing the forecasted apportionment values with historical nomination and apportionment data such as the period from September 2016 to February 2017, when apportionment averaged 27 percent.⁵¹¹
240. In addition to restoring capacity, replacing Line 3 will allow it to be operated in mixed service (moving both light and heavy crude on the pipeline), meeting a critical need of the shippers, including Minnesota's Pine Bend and St. Paul Park refineries, by providing additional capacity for heavy crude supply, which helps reduce apportionment of the heavy crude used by these refineries.⁵¹²
241. The Project will help shippers avoid the consequences of ongoing pressure restrictions and the need for extensive integrity digs and repairs on existing Line 3.⁵¹³ The Shippers explained that these repairs routinely increase apportionment and cause shipping delays.⁵¹⁴ With the Project, shippers, including the Minnesota refiners, can access heavy oil supply from Western Canada from three lines (new Line 3, Line 4, and Line 67) instead of just two (Lines 4 and 67), cushioning the impact of outages.⁵¹⁵
242. When apportionment is declared, all refineries that receive crude oil via the Enbridge Mainline are forced to cut crude oil runs or obtain their crude oil supply by an alternative transportation option, such as rail.⁵¹⁶ Without the Project, there would not be adequate pipeline capacity and so apportionment on the Mainline and shippers' use of alternative modes of transportation, like rail, would be expected to continue and grow.⁵¹⁷ The

⁵⁰⁹ Ex. EN-37, Sched. 1 at 11 (Earnest Rebuttal).

⁵¹⁰ Ex. EN-30 at 4 (Eberth Rebuttal).

⁵¹¹ Ex. EN-19 at 14 (Glanzer Direct).

⁵¹² Ex. EN-14 at 7 (Fleeton Direct); Ex. EN-19 at 14-15 (Glanzer Direct).

⁵¹³ Ex. EN-38 at 3 (Glanzer Rebuttal).

⁵¹⁴ Ex. SH-2 at 7 (Shippers Rebuttal).

⁵¹⁵ Ex. EN-38 at 3 (Glanzer Rebuttal); Ex. SH-2 at 7 (Shippers Rebuttal).

⁵¹⁶ Ex. EN-37, Sched. 1 at 10 (Earnest Rebuttal).

⁵¹⁷ Ex. SH-2 at 3-4 (Shippers Rebuttal).

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current rail system in Minnesota does not presently have the sufficient surplus capacity required to fully support the increase in crude-by-rail traffic that will occur if the Project is not approved.⁵¹⁸

243. Without the restored capacity made available by the Project, apportionment levels on the Enbridge Mainline System heavy crude oil lines are expected to exceed 25 percent in all years through 2035.⁵¹⁹ These projections may well be conservative, as they assumed construction and commercial operation of the Trans Mountain Expansion Project in 2021, despite the uncertainty that this pipeline will be commissioned.⁵²⁰
244. The Project is forecast to significantly reduce the apportionment on the Enbridge Mainline System.⁵²¹ Specifically, the Project reduces apportionment to less than 10 percent for a number of years if the Trans Mountain Expansion Project is commissioned in 2021, and to less than 20 percent in all years (from 35 percent) if Trans Mountain is not built.⁵²²

2. Effect of Conservation Programs.

245. As a common carrier, Enbridge does not buy or sell crude oil or petroleum products. Rather, Enbridge serves as a transportation company that ships crude oil to market where it can be refined. Therefore, Enbridge's conservation efforts do not have any impact on crude oil supply or demand.⁵²³
246. Rather, Enbridge focuses its conservation efforts on measures that can reduce its own consumption of energy and Enbridge described those efforts, as well as its renewable energy and environmental stewardship efforts, in its CN Application and in rebuttal testimony.⁵²⁴
247. Looking beyond Enbridge's efforts, various witnesses suggested that electric vehicles ("EVs") would result in a future, decreased demand for the refined products that may be produced by the crude oil to be transported by the Project.⁵²⁵
248. In response to discovery from DOC-DER, Enbridge analyzed a scenario with significant EV penetration. The analysis indicates that the light and heavy crude oil pipelines in the

⁵¹⁸ Ex. EN-10 at 2 (Rennicke Direct).

⁵¹⁹ Ex. EN-37, Sched. 1 at 11 (Earnest Rebuttal); Ex. EN-37, Sched. 4 at 1-3 (Response to DOC-DER IR No. 133) (Earnest Rebuttal).

⁵²⁰ Ex. EN-37, Sched. 1 at 12 (Earnest Rebuttal).

⁵²¹ Ex. EN-37, Sched. 1 at 13 (Earnest Rebuttal).

⁵²² Ex. EN-37, Sched. 1 at 13-14 (Earnest Rebuttal).

⁵²³ Ex. EN-1 at 5-1 (CN Application).

⁵²⁴ Ex. EN-1 at 5-1–5-7 (CN Application); Ex. EN-30 at 23-26 (Eberth Rebuttal).

⁵²⁵ Ex. HTE-2 at 64-65 (Stockman Direct); Ex. FOH-6 at 16 (Joseph Direct).

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Enbridge Mainline after the L3R Program is finished will operate at capacity throughout the forecast period, even under a scenario of reduced refined product demand.⁵²⁶

249. There is no evidence in the record that any other conservation programs will lessen the need for the Project.⁵²⁷
250. There is no combination of renewable fuel or electrical car initiatives that promise to reduce gasoline and diesel demand such that it could be met by local supply over the forecast period.⁵²⁸

3. Effect of Promotional Activities.

251. The record contains no evidence suggesting that promotional activities undertaken by Enbridge have given rise to the need for the Project.⁵²⁹

4. Ability of Current and Planned Facilities not Requiring Certificates of Need and to Which Enbridge has Access to Meet State and Regional Energy Needs.

252. Under Minn. R. 7853.0130(A)(4), the Commission must consider whether current facilities or planned facilities not requiring a certificate of need and to which the applicant has access can meet the future demand. Within this proceeding, the parties evaluated whether Enbridge's existing facilities, upgrades to Enbridge's existing facilities, and other proposed pipelines not crossing Minnesota, including Keystone XL, Energy East, Trans Mountain Expansion Project, and a hypothetical pipeline paralleling Spectra facilities could meet the need met by the Line 3 Replacement Project.

1) Existing Facilities.

253. Substantial evidence in this record demonstrates that existing Enbridge facilities are unable to meet existing crude oil transportation needs, let alone the forecasted increases. Both the Enbridge Mainline and the Keystone pipeline have been consistently in apportionment in 2016 and 2017, and apportionment is forecasted to increase.⁵³⁰
254. Shippers cannot currently obtain all of the Mainline capacity they are nominating due to apportionment. Apportionment reduces the adequacy, reliability, and efficiency in supplying crude oil to market customers by way of the Mainline and by having to ship oil by more expensive means. FHR, Calumet Specialty Products Partners, LP, and Marathon Petroleum Company ("Marathon"), in their letters of support, have identified their

⁵²⁶ Ex. EN-37, Sched. 1 at 41-43 (Earnest Rebuttal).

⁵²⁷ *E.g.*, Ex. EN-1 at Ch. 5.0 (CN Application).

⁵²⁸ Ex. EN-15 at 6 (Earnest Direct).

⁵²⁹ Ex. EN-1 at 4-3 (CN Application).

⁵³⁰ Ex. EN-37, Sched. 1 at 55, 78 (Earnest Rebuttal).

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situations and concerns with apportionment affecting their ability to satisfy the crude oil requirements for their respective refineries.⁵³¹

255. Heavy crudes continue to be apportioned, including to Minnesota refiners. Absent the Project as proposed, as Mainline nominations grow through the forecast period, as shown in response to DOC-DER IR No. 133B, even if Minnesota shippers' volume remains flat, Minnesota shippers will continue to see increasing volume cut-off of their nominations.⁵³² This is because apportionment on the Enbridge Mainline system impacts all shippers equally, even if Minnesota shippers have not increased their volume.⁵³³ In a scenario where demand for crude oil by other refineries sourcing volumes from the Mainline system grows, overall nominations on the system will increase.⁵³⁴ If system nominations increase and apportionment increases to 35 percent, delivery volumes to Minnesota will be reduced to 195 kbpd, even though Minnesota nominations remain at 300 kbpd.⁵³⁵ During periods of high apportionment, refiners will react to a shortage of preferred supply via pipelines, and will source barrels by other means, such as rail, to meet their demand in a sub-optimal manner.⁵³⁶
256. Under the forecasts discussed above, apportionment on the Mainline heavy crude oil pipelines exceeds approximately 25 percent in all years of the forecast period.⁵³⁷ This means that the heavy crude oil nominations of all shippers, including the Minnesota refineries, will be reduced by at least 25 percent without the Project.⁵³⁸ In 2016, heavy crude oil was approximately 60 percent of the total crude oil shipped by the Enbridge Mainline.⁵³⁹
257. Without the assumption that the Trans Mountain Expansion Project proceeds, the Enbridge Mainline apportionment for heavy crude oil if the Project is denied averages about 35 percent.⁵⁴⁰ Without the Trans Mountain Expansion Project, the forecast indicates that the Mainline light crude oil pipelines will begin to experience apportionment as well.⁵⁴¹

⁵³¹ See Ex. SH-1, Sched. A (Shippers Direct); Ex. EN-37 at 6 (Earnest Rebuttal).

⁵³² Ex. EN-38 at 7 (Glanzer Rebuttal).

⁵³³ Ex. EN-38 at 7 (Glanzer Rebuttal).

⁵³⁴ Ex. EN-38 at 7 (Glanzer Rebuttal).

⁵³⁵ Ex. EN-38 at 7 (Glanzer Rebuttal).

⁵³⁶ Ex. EN-38 at 7 (Glanzer Rebuttal).

⁵³⁷ Ex. EN-37, Sched. 1 at 11 (Earnest Rebuttal).

⁵³⁸ Ex. EN-37, Sched. 1 at 11 (Earnest Rebuttal).

⁵³⁹ Ex. EN-37, Sched. 1 at 11 (Earnest Rebuttal).

⁵⁴⁰ Ex. EN-37, Sched. 1 at 12 (Earnest Rebuttal).

⁵⁴¹ Ex. EN-37, Sched. 1 at 12 (Earnest Rebuttal).

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2) Line 67 Upgrade.

258. In her direct testimony, DOC-DER witness O’Connell stated that “regarding Minn. R. 7853.0130 subp. A(4), at least as to the purposed increase in capacity of the existing Line 3, it appears that the increases in the capacity of Enbridge’s Line 67, for which the Commission granted Enbridge certificates of need, are already meeting that claimed need.”⁵⁴² At the evidentiary hearing, Ms. O’Connell clarified these statements, indicating that her testimony was not intended to indicate that the capacity added on Line 67 could be used to relieve current apportionment on the Enbridge Mainline System.⁵⁴³ Instead, it was meant to explain why there was additional capacity moving on the Enbridge Mainline System.⁵⁴⁴
259. The Line 67 expansion previously approved by the Commission is not a replacement for the volume being requested by the Project because it is already in use and is currently fully utilized.⁵⁴⁵ The historical apportionment numbers in this record included the fully-expanded capacity of Line 67 to 800 kbps from its startup in July 2015 onwards. This shows that the Line 67 expansion is not sufficient to fully relieve apportionment.⁵⁴⁶
260. Line 67 not only provides insufficient capacity to address apportionment, but it does not and cannot address the integrity issues on existing Line 3 that are prompting the replacement proposal.

3) Upgrades to Current Enbridge Facilities.

261. HTE has asserted that the Project is not needed because of potential upgrades to existing Enbridge facilities.⁵⁴⁷ These arguments lack support in the record. Rather, the record demonstrates that there is no combination of modification or upgrade to existing Enbridge facilities that could meet the Project’s need.⁵⁴⁸

⁵⁴² Ex. DER-1 at 28 (O’Connell Direct).

⁵⁴³ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 54, 131 (O’Connell).

⁵⁴⁴ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 109, 131 (O’Connell).

⁵⁴⁵ Ex. SH-2 at 4 (Shippers Rebuttal).

⁵⁴⁶ Ex. EN-38 at 8 (Glanzer Rebuttal); Ex. SH-2 at 4-5 (Shippers Rebuttal) (quoting the United States Department of State’s Supplemental Environmental Impact Statement (“SEIS”) on the Line 67 expansion as stating that the Line 67 expansion has not met all of shippers’ demands. The SEIS also noted that “Line 67 was subject to apportionment 10 out of the 12 months indicating the demand exceeded the design capacity”, and Ex. EN-38 at 8 (Glanzer Rebuttal) (stating “The Line 67 expansion previously approved by the Commission is not a replacement for the volume being requested by the Project because it is already in use and is currently fully utilized. Historical apportionment included the fully-expanded capacity of Line 67 to 800 kbps from its startup in July 2015 onwards. Heavies on the Enbridge Mainline system have been in almost constant apportionment since 2015. This shows that the Line 67 expansion is not sufficient to fully relieve apportionment.”)).

⁵⁴⁷ Ex. HTE-2 at 71 (Stockman Direct).

⁵⁴⁸ Ex. EN-38 at 16 (Glanzer Rebuttal); Ex. EN-39 at 7-8 (Fleeton Rebuttal).

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262. Enbridge continuously evaluates its existing pipeline system to look for ways to meet its customers' needs and operate the system more efficiently.⁵⁴⁹ When Enbridge observed continued apportionment on the Enbridge Mainline System, it twice asked that Commission to approve upgrades to Line 67 to move additional capacity and lessen that apportionment.⁵⁵⁰ As noted above, Line 67 is now fully utilized and cannot be further expanded.⁵⁵¹ In addition, Enbridge recently completed hydro tests on Line 2 that confirmed the integrity of that line and allowed Enbridge to lift some temporary pressure restrictions and move additional capacity on that pipeline.⁵⁵² Despite these activities, the Enbridge Mainline System remains in apportionment.⁵⁵³
263. Should existing Line 3 be shut down for any significant period of time, Enbridge cannot shift the product currently moving on Line 3 to other Enbridge pipelines, nor can Enbridge expand the capacity of the existing pipelines on the Mainline System from Western Canada to Superior, Wisconsin to increase the overall transportation of crude oil.⁵⁵⁴ Accordingly, expansion of an existing pipeline on the Enbridge Mainline System is not a viable alternative to the Project.⁵⁵⁵
264. HTE witness Mr. Stockman testified that Enbridge could “significantly increase the capacity of its Mainline System by expanding a number of its existing pipelines and reversing Line 13, also known as the Southern Lights Pipeline, which currently transports diluent from Illinois to Alberta.”⁵⁵⁶ Specifically, Mr. Stockman asserts that as much as 500 kbpd of additional pipeline capacity could be achieved through the following projects: (1) Line 4 Capacity Restoration; (2) Line 13 Reversal; (3) BEP Idle; (4) System Station Upgrades; and (5) System DRA Optimization.⁵⁵⁷ The record demonstrates that the projects listed in Mr. Stockman’s direct testimony are not alternatives to the Project for multiple reasons, including:⁵⁵⁸
- The Line 4 Capacity Restoration project is designed to restore Line 4 back to its annual quoted capacity. This proposed project does provide some incremental heavy capacity out of Western Canada; however, it only

⁵⁴⁹ Ex. EN-14 at 3-5 (Fleeton Direct); Ex. EN-19 at 14-15 (Glanzer Direct).

⁵⁵⁰ Ex. EN-24 at 21 (Eberth Direct).

⁵⁵¹ Ex. EN-24 at 21 (Eberth Direct); Ex. EN-38, at 8 (Glanzer Rebuttal); Ex. EN-38, Sched. 1 at 1 (Glanzer Rebuttal).

⁵⁵² Evid. Hrg. Tr. Vol. 10B (Nov. 16, 2017) at 45 (Eberth).

⁵⁵³ Ex. EN-38 at 8 (Glanzer Rebuttal); Ex. EN-38, Sched. 2 (Glanzer Rebuttal).

⁵⁵⁴ Evid. Hrg. Tr. Vol. 10B (Nov. 16, 2017) at 45-46 (Eberth); Ex. EN-24 at 21 (Eberth Direct).

⁵⁵⁵ Ex. EN-24 at 21 (Eberth Direct).

⁵⁵⁶ Ex. HTE-2 at 32 (Stockman Direct). DOC-DER did not analyze this issue. Ms. O’Connell also stated that she didn’t “really have the expertise to be able to examine whether they can expand the capacity of their existing pipelines.”⁵⁵⁶

⁵⁵⁷ Ex. HTE-2 at 28-36 (Stockman Direct).

⁵⁵⁸ See Ex. EN-38 at 16 (Glanzer Rebuttal); Ex. EN-39 at 7-8 (Fleeton Rebuttal).

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reduces forecasted heavy apportionment by a marginal amount when compared to the Project, and hence is not an alternative to the Project.⁵⁵⁹

- The BEP Idle project is neither a capacity recovery project, nor a capacity growth project. Instead, it allows more long-haul, light-volume movements on Line 2 by reducing North Dakota receipts onto the Mainline system.⁵⁶⁰ The BEP Idle project is not an alternative to the Project because it does not restore or add any additional heavy capacity out of Western Canada and only facilitates additional light crude transportation. The Project will operate in mixed service, and the BEP Idle can only feasibly be implemented after the Project is in-service.⁵⁶¹
- The System DRA Optimization and System Station Upgrades projects also require the Project to be in-service first, which eliminates them from being alternatives to the Line 3 Replacement.⁵⁶²
- The Line 13 Reversal project is also not an alternative to the Project due to: (i) the delayed timing of when Enbridge could consider starting to develop the project because of existing contractual obligations on Line 13 through as late as 2040; (ii) limited capacity increase of only light volumes achieved from the Project; and (iii) an existing pipeline route that does not provide the same flexibility.⁵⁶³

4) Other Pipeline Alternatives.

265. Other pipeline proposals or concepts, including Trans Mountain Expansion, Keystone XL, Energy East, or a Spectra hypothetical, do not fit within the plain language of this Rule subpart because none are available to Enbridge.⁵⁶⁴ Further, even if any of these pipelines were available to Enbridge, none service Midwestern refineries, including the Minnesota Refiners,⁵⁶⁵ and therefore cannot address the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states.
266. As noted previously, the record demonstrates that even if Trans Mountain Expansion proceeds and becomes operational, apportionment will still occur on the Mainline absent

⁵⁵⁹ Ex. EN-39 at 7-8 (Fleeton Rebuttal).

⁵⁶⁰ Ex. EN-38 at 16 (Glanzer Rebuttal).

⁵⁶¹ Ex. EN-39 at 7-8 (Fleeton Rebuttal).

⁵⁶² Ex. EN-39 at 7-8 (Fleeton Rebuttal); Ex. EN-38 at 16 (Glanzer Rebuttal).

⁵⁶³ Ex. EN-39 at 7-8 (Fleeton Rebuttal).

⁵⁶⁴ Minn. R. 7853.0130A(4) states “the ability of current facilities and planned facilities not requiring certificates of need, and to which the applicant has access, to meet the future demand.” (Emphasis added.)

⁵⁶⁵ Ex. EN-39 at 5-7 (Fleeton Rebuttal); Ex. EN-34 at 12-15 (Glanzer Rebuttal); Ex. EN-37, Sched. 1 at 27 (Earnest Rebuttal).

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the Project, and the Project is anticipated to be fully utilized even with the Trans Mountain Expansion in service.⁵⁶⁶

267. Keystone XL is also not available as an alternative to Enbridge and its shippers. First, the future of Keystone XL is still unclear.⁵⁶⁷ Second, even if it were constructed, Keystone XL project does not serve the same customers as the Project.⁵⁶⁸ According to the TransCanada website, Keystone XL proposes to build a pipeline from Hardisty, Alberta, to Steelman, Nebraska, to integrate with the existing Marketlink pipeline from Steelman to the U.S. Gulf Coast.⁵⁶⁹ The Enbridge Mainline serves the refineries in Minnesota, Wisconsin, Illinois, Michigan, and Eastern Canada. None of these refineries are served by the Keystone XL project, and as such, Keystone XL is not a valid alternative to the Project.⁵⁷⁰
268. Energy East was a proposed 4,500-kilometer pipeline project that would have transported approximately 1.1 million barrels of crude oil per day from Alberta and Saskatchewan to the refineries of Eastern Canada, and a marine terminal in New Brunswick, Canada. The project proponent, TransCanada, announced October 5, 2017 that the project is cancelled.⁵⁷¹
269. DOC-DER also proposed the concept of a Spectra pipeline project in an information request. There is no proposed Spectra Pipeline Project; Enbridge and the industry have never had any discussions on a Spectra pipeline concept.⁵⁷² A recent Spectra open season seeking committed shippers for expanded capacity failed to receive industry support, demonstrating that it was not viewed as a commercial alternative to the Project. Like for Keystone XL, there is limited pipeline capacity serving eastern PADD II refineries from Spectra's terminus at Wood River, Illinois.⁵⁷³
270. The remaining alternative would be to use rail to move the Western Canadian crude oil to offset the impact of apportionment on Midwest refineries. According to CAPP, in Western Canada, "rail provides the means of transportation for supplies that exceed the major pipeline capacity exiting Western Canada and the demand of Alberta and Saskatchewan refineries."⁵⁷⁴ The current rail-loading capacity originating in Western Canada is 754 kbpd.⁵⁷⁵ Canada's NEB publishes data on Canadian crude oil exports by

⁵⁶⁶ Ex. EN-37 at 4 (Earnest Rebuttal); Ex. EN-37, Sched. 1 at 36 (Earnest Rebuttal).

⁵⁶⁷ Ex. EN-39 at 5-6 (Fleeton Rebuttal).

⁵⁶⁸ Ex. EN-39 at 5 (Fleeton Rebuttal).

⁵⁶⁹ Ex. EN-39 at 5 (Fleeton Rebuttal).

⁵⁷⁰ Ex. EN-39 at 5 (Fleeton Rebuttal).

⁵⁷¹ Ex. EN-38 at 13 (Glanzer Rebuttal).

⁵⁷² Ex. EN-39 at 6 (Fleeton Rebuttal).

⁵⁷³ Ex. SH-2 at 32 (Shippers Rebuttal).

⁵⁷⁴ Ex. SH-1 at 7 (Shippers Direct).

⁵⁷⁵ Ex. SH-1 at 7 (Shippers Direct).

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rail. On average, approximately 133 kbpd of Canadian crude oil was exported by rail in the first half of 2017 versus about 86 kbpd in the first half of 2016.⁵⁷⁶ As discussed in Section II(B)(4) below, no party asserts that rail is a more reasonable alternative than the Project.

5. Effect of the Project in Making an Efficient Use of Resources.

271. Under Minn. R. 7853.0130(A)(5), the Commission considers the effect of the Project in making efficient use of resources.
272. Existing Line 3 is not operating up to its design capacity because of pressure restrictions voluntarily put in place by Enbridge as a result of integrity risks. Specifically, although existing Line 3 was designed to transport upwards of 760 kbpd, it currently transports approximately only half that much (390 kbpd), despite demand for additional capacity.⁵⁷⁷ Because of these integrity risks, existing Line 3 will require approximately 7,000 integrity digs in the U.S. over the next 15 years if it remains in service.⁵⁷⁸ Each integrity dig is a disruption to landowners and the environment, and can result in an outage of the pipeline.⁵⁷⁹ By contrast, the Project restores the pipeline's historical operating capabilities and avoids thousands of integrity digs.
273. The Project is more energy efficient than existing Line 3 on a per barrel basis.⁵⁸⁰ Enbridge relies on electricity to power the pumps that apply the pressure required to move crude oil through its pipelines.⁵⁸¹ There would be an overall reduction in electric power requirements on the Enbridge Mainline System on a per barrel basis because the Project will increase Enbridge's ability to optimize crude allocations between the various pipelines on the Enbridge Mainline System.⁵⁸² Assuming equal throughput on the

⁵⁷⁶ Ex. SH-1 at 7 (Shippers Direct).

⁵⁷⁷ Ex. EN-39 at 4 (Fleeton Rebuttal).

⁵⁷⁸ Ex. EN-68 at 2-3 (Kennett Summary) (“[W]e performed over 950 excavations in the last 16 years on Line 3 in the U.S. and are forecasting approximately 7000 excavations in the next 15 years just to keep Line 3 operating at a reduced capacity. The resources required for such a program, and the disruption to the environment and landowners along the pipeline, would be extraordinary.”).

⁵⁷⁹ Ex. EN-9 at 7 (Bergland Direct) (“Although the no-action alternative would not result in the construction of a new pipeline, it would nonetheless have environmental impacts. Specifically, the environmental impacts of no action would involve continued, year-after-year, integrity digs along the existing Line 3 right-of-way. When Enbridge conducts an integrity dig, it excavates a portion of the pipeline for a visual and potential physical examination, which disturbs the environment. Integrity digs may result in stormwater discharges, increased noise levels (equal to that of construction of the Project), and emissions, such as dust. An integrity dig can take from two days to two weeks, depending on the nature of the site and the results of the visual examination. . . . Depending on the locations of the required integrity digs, it is possible that the same landowners would be impacted in multiple years.”); Ex. EN-19 at 16 (Glanzer Direct) (“Pipeline maintenance occasionally requires taking a pipeline out of service. . . . Replacing Line 3 will reduce the number of maintenance events requiring such outages.”).

⁵⁸⁰ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁸¹ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁸² Ex. EN-19 at 16 (Glanzer Direct) (“Assuming equal throughput on the Enbridge Mainline System pre- and post-Project, the Project would result in an estimated reduction in annual power requirements of approximately

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Enbridge Mainline System pre- and post-Project, the Project would result in an estimated reduction in annual power requirements of approximately 88.5 GWh, which is the equivalent of saving over 61,000 metric tons of CO₂ for Minnesota operations.⁵⁸³ The estimated reduction in annual power requirements for the overall Enbridge System would be 494 GWh, which is equivalent of saving 341,000 metric tons of CO₂ emissions.⁵⁸⁴

274. Replacing Line 3 with 36-inch diameter pipe also offers power savings at all flow rates as compared to using a 34-inch pipeline.⁵⁸⁵ A 36-inch pipeline is more efficient than a 34-inch pipeline at the same flow rate because the greater internal area of the 36-inch pipeline means that the fluid moves slower than in the 34-inch pipeline.⁵⁸⁶ For the same type of fluid, a fluid moving more slowly will experience less friction and so will require less pressure to pump, therefore requiring less power.⁵⁸⁷ At 760 kbpd, the Project will save 108 GWh of energy as compared to the power required to move the same volume on a 34-inch pipeline.⁵⁸⁸
275. The Project also results in increased flexibility on the Enbridge Mainline System as a whole, which results in benefits and efficiencies across the system.⁵⁸⁹ Specifically, the Project is being designed for mixed service, which will allow Enbridge to allocate crude oil types amongst the various pipelines and respond to future energy needs in either light or heavy crude without requiring significant infrastructure changes.⁵⁹⁰ For example, recently there has been higher demand for heavy crude, as the heavy pipelines are full and in apportionment whereas the light pipelines have not been in apportionment as consistently.⁵⁹¹ The pipeline system today is separated into a predominantly heavy and predominantly light system, so Enbridge has limited ability to adjust to customer needs with respect to light/heavy market swings. The Project restores the mixed light/heavy capability to Line 3 and gives Enbridge the capability to more effectively respond to changing market and customer needs.⁵⁹² The mixed service of the pipeline will also

88.5 GWh, which is the equivalent of saving over 61,000 metric tons of CO₂ for Minnesota operations. The estimated reduction in annual power requirements for the overall Enbridge System would be 494 GWh, which is equivalent of saving 341,000 metric tons of CO₂ emissions.”).

⁵⁸³ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁸⁴ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁸⁵ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁸⁶ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁸⁷ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁸⁸ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁸⁹ Ex. EN-19 at 15 (Glanzer Direct).

⁵⁹⁰ Ex. EN-19 at 17 (Glanzer Direct).

⁵⁹¹ Ex. EN-19 at 15 (Glanzer Direct).

⁵⁹² Ex. EN-19 at 15 (Glanzer Direct).

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allow Enbridge to transport a heavy crude in place of a light crude or vice versa if there is a diversion to other markets when refineries have unplanned events.⁵⁹³

276. Because this “swing capability” enables about 180 kbpd of the currently unused capacity on the Enbridge Mainline System to be utilized, the Project is projected to reduce rail shipments by up to about 500 kbpd.⁵⁹⁴
277. The Project further provides benefit by allowing Enbridge to minimize the effect on crude oil throughput and quality due to necessary maintenance on the Mainline System. Pipeline maintenance occasionally requires taking a pipeline out of service. Line 3 will require almost 7,000 integrity digs over the next 15 years, which will result in repairs that could take Line 3 temporarily out of service during the maintenance activities.⁵⁹⁵ Replacing Line 3 will reduce the number of maintenance events requiring such outages. The mixed service of the pipeline will also allow Enbridge to transport a heavy crude in place of a light crude or vice versa if there is a diversion to other markets when refineries have unplanned events.⁵⁹⁶
278. In addition, Enbridge has adopted a number of conservation initiatives.⁵⁹⁷ Energy costs represent the largest single recurring expense in pipeline operation. Enbridge’s energy conservation goal is to minimize electricity use through the implementation of internal programs directed at continuous improvement of energy efficiency. Enbridge purchases high efficiency pumps and motors for new pump installations at a premium initial cost in an effort to minimize long-term energy requirements.⁵⁹⁸ For the Project, Enbridge will use Variable Frequency Drives (“VFDs”) for its mainline pumping units. VFDs allow the pipeline operator to vary the pump rotation speed, thereby controlling the pressure produced by the pump to match the desired flow rate in the pipeline, allowing the pipeline to operate more energy efficiently than when not using VFDs.⁵⁹⁹ Operating conditions play a key role in the design of the pump stations for optimum efficiency. VFDs will control the operating speed of the new mainline pumps.⁶⁰⁰

⁵⁹³ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁹⁴ Ex. EN-15, Sched. 2 at 12 (Earnest Direct).

⁵⁹⁵ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁹⁶ Ex. EN-19 at 16 (Glanzer Direct).

⁵⁹⁷ Ex. EN-22 at 20 (Simonson Direct).

⁵⁹⁸ Ex. EN-22 at 21 (Simonson Direct).

⁵⁹⁹ Ex. EN-22 at 21 (Simonson Direct).

⁶⁰⁰ Ex. EN-22 at 21 (Simonson Direct).

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B. Analysis of Alternatives.

279. The second criterion used by the Commission in assessing a CN requires consideration of whether a more reasonable and prudent alternative to the proposed facility has been demonstrated by a preponderance of evidence in the record.⁶⁰¹
280. To determine whether such a preferred alternative has been established, the Commission examines: (1) the size, type, and timing of the proposed facility compared to those of reasonable alternatives; (2) the cost of the proposed facility compared to the costs of reasonable alternatives; (3) the effects of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and (4) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives.⁶⁰²
281. The following alternatives were identified and analyzed in this record: (1) the Project; (2) continued use of Existing Line 3 (also termed “No Action”); (3) System Alternative 04 (“SA-04”); (4) rail; and (5) truck. In addition to the alternatives identified during EIS scoping and analyzed in the EIS, other parties and DOC-DER have provided limited information in this record concerning other hypothetical alternatives, such as hypothetical pipelines and expansions of existing pipelines.

1. The Project.

1) Size, Type, and Timing.

282. The Project is a 36-inch crude oil pipeline engineered to operate at an average annual capacity of 760 kbpd that was originally proposed to be in-service in 2017; however, the in-service date is now anticipated to be 2019.⁶⁰³ Despite the delayed in-service date, shippers (such as FHR) continue to support the Project.⁶⁰⁴
283. In the IRS, the shippers expected that the Project would be in service sometime in the third quarter of 2017, i.e., by the end of last month. Therefore, when the RSG agreed to accept higher tolls, shippers anticipated that the Project would be in service today.⁶⁰⁵ Additional discussion of the existing need for the Project is in Sections II(A)(1)(1) and II(A)(4) above.

⁶⁰¹ Minn. R. 7853.0130(B).

⁶⁰² Minn. R. 7853.0130(B).

⁶⁰³ Ex. EN-30 at 15 (Eberth Rebuttal).

⁶⁰⁴ Ex. EN-39 at 9 (Fleeton Rebuttal) (“The IRS was developed by Enbridge and the RSG over a fourteen month negotiation process. The RSG participants are all highly commercially sophisticated parties that completely understood what they were bargaining for and what it would cost them. The shippers further reaffirmed their support for the Project by foregoing their right to terminate the IRS after Enbridge notified the RSG that the regulatory approvals were not received prior to the condition precedent date of August 2016.”).

⁶⁰⁵ Ex. SH-2 at 5 (Shippers Rebuttal).

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2) Cost.

284. The Project is a private investment that is anticipated to cost \$2.1 billion in Minnesota, \$2.6 billion in the U.S., and \$7.5 billion overall.⁶⁰⁶
285. Further, the record demonstrates that, without the Project, crude oil will likely be transported via rail and truck, which is more expensive.⁶⁰⁷

3) Effects Upon the Natural and Socioeconomic Environments.

286. Project impacts on the natural environments are generally anticipated to be temporary and/or minimal. The Project follows existing pipeline corridors, transmission line corridors or, road rights of way for approximately 80 percent of the route as one means of mitigating environmental impact.⁶⁰⁸ Enbridge works to address the concerns of landowners and other stakeholders, resulting in voluntary easement agreements with over 90 percent of landowners along the Preferred Route and numerous agreed-upon route segment adjustments to minimize impacts related to the Project.⁶⁰⁹ Detailed mitigation plans have been developed to address issues such as wetlands and waterbody crossings, impacts to agriculture, and unanticipated discoveries of cultural resources, further minimizing impacts of the Project.⁶¹⁰
287. The Preferred Route reflects feedback Enbridge received through its stakeholder, tribal, and community outreach. Specifically, discussions with the Leech Lake Band were a key factor in Enbridge proposing the Preferred Route to avoid crossing the Leech Lake Reservation.⁶¹¹ Similarly, Enbridge agreed to RSA-05, a route segment alternative proposed to address concerns raised by the White Earth Band regarding potential impacts to wild rice resources on Upper and Lower Rice Lakes.⁶¹²
288. With respect to wild rice, existing conditions demonstrate that the Project will not have significant or permanent impacts.⁶¹³ For example, several commenters raised concerns about the proposed crossing of Mud Lake, a wild rice waterbody. Notably, there are four existing crude oil pipelines (owned by the Minnesota Pipe Line Company) in the place in the corridor on the east end of Mud Lake that will be closer than the Project.⁶¹⁴ And,

⁶⁰⁶ Ex. EN-24 at 6 (Eberth Direct); Ex. EN-1 at 2-5 (CN Application).

⁶⁰⁷ Ex. EN-39 at 4 (Fleeton Rebuttal).

⁶⁰⁸ Ex. EN-74 at 1 (Simonson Summary).

⁶⁰⁹ Ex. EN-30 at 8 (Eberth Rebuttal).

⁶¹⁰ Ex. EN-30 at 8 (Eberth Rebuttal).

⁶¹¹ Ex. EN-30 at 8 (Eberth Rebuttal).

⁶¹² Ex. EN-30 at 8 (Eberth Rebuttal).

⁶¹³ Ex. EN-50 at 9 (Lee Rebuttal).

⁶¹⁴ Ex. EN-50 at 11 (Lee Rebuttal).

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with the adoption of RSA-05, as proposed by Enbridge, the Mud Lake basin would no longer have a hydrologic connection to the Project.⁶¹⁵

289. Multiple witnesses expressed concern regarding the greenhouse gas (“GHG”) emissions associated with the Project.⁶¹⁶ On this front, the Project compares favorably to other CN alternatives. The true emissions comparison must be between shipping the 370 kbpd of restored capacity by pipeline or by rail, which has significantly higher emissions than a pipeline.⁶¹⁷
290. Enbridge’s plan to deactivate the existing pipeline in place is designed to limit human and environmental impacts. Deactivation in place is industry standard, and deactivated pipeline does not, and has not, posed a threat to the general public, landowners, and the environment.⁶¹⁸ Above federal regulations, Enbridge is electing to maintain the existing Line 3 right-of-way, which includes patrolling and monitoring surface conditions, maintaining cathodic protection, and mitigating impacts of exposed pipe.⁶¹⁹ These measures will also limit human and environmental impacts related to deactivation.
291. With respect to impacts on the socioeconomic environment, construction of the Project will have significant economic benefits to the Minnesota economy.⁶²⁰ The estimated Project construction cost for the portion located in Minnesota is approximately \$2.1 billion.⁶²¹ This private investment in Minnesota is anticipated to be responsible for an estimated 13,604 jobs, \$864,721,326 in labor income, and total economic output of \$2,253,696,670.⁶²²
292. In addition, the Project will reduce the volume of Canadian crude oil shipped via rail by between 110 and 500 kbpd, much of which will otherwise transit Minnesota by train, avoiding rail congestion that could otherwise have a negative impact on sectors of Minnesota’s economy, such as agriculture.⁶²³ Numerous public comments noted this important benefit of the Project.⁶²⁴

⁶¹⁵ Ex. EN-50 at 11 (Lee Rebuttal).

⁶¹⁶ Ex. YC-14 at 14 (Abraham Direct); Ex. YC-2 at 6-7 (Scott Direct); Ex. YC-16 at 4 (Snyder Direct).

⁶¹⁷ Ex. EN-57 at 3 (Glanzer Surrebuttal).

⁶¹⁸ Ex. EN-74 at 2 (Simonson Summary).

⁶¹⁹ Ex. EN-22 at 23 (Simonson Direct).

⁶²⁰ Ex. EN-11 at 2 (Lichty Direct).

⁶²¹ Ex. EN-11 at 2 (Lichty Direct).

⁶²² Ex. EN-11 at 2 (Lichty Direct).

⁶²³ Ex. EN-15, Sched. 2 at 13 (Earnest Direct).

⁶²⁴ Comment by East Polk County Farm Bureau (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)); Comment by Judith Torman (Nov. 28, 2017) (Batch 25) (eDocket No. [201711-137704-02](#)); Comment by Minnesota Grain and Feed Association (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)); Comment by Norden Township (Nov. 13, 2017) (Batch 12) (eDocket No. [201711-137314-01](#)); Thief River Pub. Hrg. Tr. Vol 1A at 40 (Sept. 26, 2017) (Isane); Thief River Pub. Hrg. Tr. Vol 1A at 96 (Sept. 26, 2017) (Nerhus);

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293. Finally, the Project will result in important benefits to the local governments crossed by the Preferred Route. Enbridge has played an important role in the economic development in these areas, and they are almost uniformly in support of the Project, as set forth in Section III (Federal, State, and Local Government Participation) above.⁶²⁵

4) Reliability.

294. These Findings include an extensive discussion of the reliability benefits of the Project to Minnesota and the region in Sections II(A)(1), (4), and (5) herein.

295. For example, the Project will be a new pipeline constructed with modern materials and technology.⁶²⁶ Further, the restored capacity that will be provided by the Project will more reliably meet shipper needs, as noted by both Minnesota refineries, who have both stated their approval for the Project in this record.⁶²⁷

296. The Project would also allow the railroads more flexibility to respond to the transportation demand cycles of other commodities, such as grain and other agricultural products.⁶²⁸ This would enable Minnesota to reduce the risk of economic disruption as a result of rail congestion and would thus have positive impacts on other sectors of Minnesota's economy, as well.⁶²⁹

2. “No Action.”

297. It does not appear that any party supports the status quo – i.e., the continued operation of the existing Line 3 at its current reduced capacity (the “No Action” scenario). And, as discussed in Section II(A)(4), it is not possible for Enbridge to further expand existing infrastructure to accommodate the transportation of Line 3 oil shipments.⁶³⁰

Thief River Pub. Hrg. Tr. Vol 1A at 109 (Sept. 26, 2017) (Bring); Bemidji Pub. Hrg. Tr. Vol 6A at 68 (Oct. 17, 2017) (Naastad).

⁶²⁵ See, e.g., Ex. P-124 (Comment by St. Louis County Commissioners) (“We . . . strongly support the proposal by Enbridge to replace Line 3 in the preferred route”); Ex. P-100 (Comment by City of Deer River) (“[W]e strongly support Enbridge’s Line 3 Replacement and urge that this Project continues forward”); Ex. P-17 (Resolution of Marshall County) (“Marshall County Board of Commissioners hereby enthusiastically and unanimously support the Enbridge Energy Line 3 Replacement Project”); Ex. P-34 (Resolution of Pennington County) (“Pennington County extends its support for Enbridge’s proposed Line 3 Replacement Project, their Preferred Route and their plan for deactivating the existing Line 3 and urges the Public Utilities Commission to adhere to an efficient permitting process . . . and to approve Enbridge’s proposed route”).

⁶²⁶ Ex. EN-30 at 8 (Eberth Rebuttal); Ex. EN-45 at 25 (Simonson Rebuttal).

⁶²⁷ Ex. EN-94, Sched. 1 at 1-2 (Earnest Supplemental Surrebuttal); Ex. EN-56, Sched. 1 at 4-5 (Earnest Surrebuttal); Ex. EN-56, Sched. 1 at 1-2 (Earnest Surrebuttal); Comment by Flint Hills Resources (Nov. 21, 2017) (eDocket No. [201711-137585-01](#)).

⁶²⁸ Ex. EN-10 at 2 (Rennicke Direct).

⁶²⁹ Ex. EN-10 at 2 (Rennicke Direct).

⁶³⁰ Ex. EN-24 at 21 (Eberth Direct).

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1) Size, Type, and Timing.

298. Under the No Action scenario, Enbridge would continue to operate the existing Line 3 at its current reduced capacity (390 kbpd) and conduct the thousands of integrity digs necessary to continue the safe operations of the pipeline.⁶³¹
299. Enbridge performed over 950 excavations in the last 16 years on Line 3 in the U.S. and is forecasting approximately 7,000 excavations in the next 15 years just to keep Line 3 operating at a reduced capacity.⁶³² Line 3 in the U.S. was built in 1962/1963 with two characteristics that make this pipeline particularly susceptible to integrity threats.⁶³³ The first characteristic is that the majority of the coating on the outside of the pipe is polyethylene (“PE”) tape, which has been found to dis-bond from the pipe, making the pipeline more susceptible to both external corrosion and stress corrosion cracking (“SCC”).⁶³⁴ As a result, Line 3 in the U.S. has: external corrosion on over 50 percent of its pipe sections between welds (referred to as “pipe joints”); ten times as many corrosion anomalies per mile (with a depth of more than 20 percent of the pipe wall thickness) than any other Enbridge pipeline in the same corridor; and SCC affecting over 15 percent of the pipe joints, and five times as many SCC anomalies per mile (with a depth of more than 10 percent of the pipe wall thickness) than any other Enbridge pipeline in the same corridor.⁶³⁵ To fully address external corrosion issues, it would be necessary to remove and replace all of the dis-bonded PE-tape coating, which would not be accomplished through the current dig and repair program.⁶³⁶ The second characteristic that has made Line 3 susceptible to integrity threats is that on Line 3 in the U.S., 53 percent of the longitudinal welds are flash welded, which was a pipe manufacturing process that has an inherently higher susceptibility to the formation of defects along the seam of the pipe.⁶³⁷ Because of the time-dependent threat of external corrosion, it is expected that the frequency and quantity of maintenance activities will increase in an exponential fashion with associated landowner and environmental impacts, and sometimes interruptions to the operation of the pipeline.⁶³⁸
300. The Consent Decree requires Enbridge to limit the maximum operating pressure on the original Line 3 unless it chooses to conduct a hydrostatic pressure test.⁶³⁹ If the existing Line 3 is not taken out of service by the Consent Decree’s December 31, 2017 deadline,

⁶³¹ Ex. EERA-29 at 4-6 – 4-7 (FEIS); Ex. EN-12 at 23-34 (Kennett Direct).

⁶³² Ex. EN-68 at 2 (Kennett Summary).

⁶³³ Ex. EN-12 at 12 (Kennett Direct).

⁶³⁴ Ex. EN-12 at 12 (Kennett Direct).

⁶³⁵ Ex. EN-12 at 12 (Kennett Direct).

⁶³⁶ Ex. EN-12 at 29 (Kennett Direct).

⁶³⁷ Ex. EN-12 at 12-13 (Kennett Direct).

⁶³⁸ Ex. EN-32 at 4-5 (Kennett Rebuttal).

⁶³⁹ Ex. EN-30 at 18 (Eberth Rebuttal).

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the Consent Decree imposes additional requirements on its continued operation.⁶⁴⁰ These requirements include the completion and validation of in-line inspections annually for crack, corrosion and geometry threats (Enbridge currently inspects every 12 to 18 months) and completion of identified repairs.⁶⁴¹

2) Cost.

301. The 7,000 integrity digs currently forecast for the existing Line 3 in the U.S. (approximately 6,250 of which would be in Minnesota) over the next 15 years are anticipated to cost approximately \$2 billion.⁶⁴² Because shippers (including the Minnesota refiners) would be forced to source their crude oil supplies via alternative, and more expensive, transportation methods (such as rail and truck), the No Action scenario would likely result in increased costs for shippers. Rail transport costs for crude oil are typically \$5 to \$10 higher per barrel than pipeline transport cost.⁶⁴³

3) Effects Upon the Natural and Socioeconomic Environments.

302. The impacts of not building the facility have the potential to have unique, and sometimes greater, potential costs to the natural environment than the Project.⁶⁴⁴
303. The environmental impacts of No Action would involve continued, year-after-year, integrity digs along the existing Line 3 right-of-way.⁶⁴⁵ When Enbridge conducts an integrity dig, it excavates a portion of the pipeline for a visual and potential physical examination, which disturbs the environment.⁶⁴⁶ Integrity digs may result in stormwater discharges, increased noise levels (equal to that of construction of the Project), and emissions, such as dust.⁶⁴⁷ An integrity dig can take from two days to two weeks, depending on the nature of the site and the results of the visual examination.⁶⁴⁸ Because of the large number of integrity digs currently forecasted to be necessary for the continued safe operation of the existing Line 3, the no-action alternative would have ongoing, year-after-year impacts on the human and natural environments.⁶⁴⁹ Depending

⁶⁴⁰ Ex. EN-30, Sched. 1 at 26-27 (Eberth Rebuttal).

⁶⁴¹ Ex. EN-12 at 24 (Kennett Direct) and Ex. EN-30, Sched. 1 at 29-30 (Eberth Rebuttal).

⁶⁴² Ex. EN-12 at 24 (Kennett Direct).

⁶⁴³ Ex. EN-40 at 10 (Rennicke Rebuttal).

⁶⁴⁴ Ex. EN-46 at 4 (Bergland Rebuttal).

⁶⁴⁵ Ex. EN-9 at 7 (Bergland Direct).

⁶⁴⁶ Ex. EN-9 at 7 (Bergland Direct).

⁶⁴⁷ Ex. EN-9 at 7 (Bergland Direct).

⁶⁴⁸ Ex. EN-9 at 7 (Bergland Direct).

⁶⁴⁹ Ex. EN-9 at 7 (Bergland Direct).

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on the locations of the required integrity digs, it is possible that the same landowners would be impacted in multiple years.⁶⁵⁰

304. The analysis indicates that these 6,250 integrity digs would be required on approximately 858 tracts, or about one-half of all existing Line 3 tracts.⁶⁵¹ Within the Chippewa National Forest (“CNF”) and on the Leech Lake and Fond du Lac Reservations, an estimated 484 digs would be required over the next 15 years.⁶⁵² The FEIS indicates that the duration and magnitude of the impacts associated with the Project and CN Alternatives vary depending on the specific resource. In the case of the Project and continued use of the existing Line 3, both could potentially damage forests, wild rice, and fish and wildlife habitat.⁶⁵³
305. Specifically, an estimated 145 digs would be required within CNF which is home to more lakes and wetlands than any other national forest.⁶⁵⁴ Integrity digs may result in stormwater discharges, increased noise levels (equal to that of construction of the Project), and emissions, such as dust. Even after conducting these 6,000 integrity digs, Enbridge would not be able to restore the historical operating capabilities of the existing Line 3, and it would continue to operate at a reduced pressure, with resulting negative impacts from apportionment on shippers.⁶⁵⁵
306. Additionally, under the no-action alternative, some of the crude oil transported by the Project would likely be shipped via rail or truck, with resulting environmental impacts.⁶⁵⁶ Transporting 760 kpbpd via rail would require the construction of rail car loading and off-loading facilities by third parties.⁶⁵⁷ In addition, construction of new lateral aboveground rail service lines would be required, which would come with new human and environmental impacts.⁶⁵⁸
307. In FEIS Table 10.7-2, the Project fares better than the continued use of existing Line 3 for all categories related to “high-quality water resources, both surface waters and ground waters” – fewer potentially exposed resources of concern in the categories of HCA unusually sensitive ecological areas, HCA drinking water sources, and drinking water AOIs. Tables 10.7-2 and 10.7-3 conclude that the Project could potentially impact approximately 170,000 acres of “all” resources of concern, in the event of an unanticipated release of crude oil, as compared to approximately 270,000 acres of

⁶⁵⁰ Ex. EN-9 at 7 (Bergland Direct).

⁶⁵¹ Ex. EN-46 at 7 (Bergland Rebuttal).

⁶⁵² Ex. EN-46 at 7 (Bergland Rebuttal).

⁶⁵³ Ex. EN-46 at 7 (Bergland Rebuttal).

⁶⁵⁴ Ex. EN-46 at 10 (Bergland Rebuttal).

⁶⁵⁵ Ex. EN-12 at 29 (Kennett Direct).

⁶⁵⁶ Ex. EN-9 at 7 (Bergland Direct).

⁶⁵⁷ Ex. EN-9 at 7 (Bergland Direct).

⁶⁵⁸ Ex. EN-9 at 7 (Bergland Direct).

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resources for continued use of existing Line 3 (FEIS, page 10-148).⁶⁵⁹ The FEIS conclusions indicate that continuing to operate Line 3 will result in more potentially exposed resources of concern than the Project.⁶⁶⁰

308. Many of the parties in this proceeding have expressed concerns about the risk of a release from the Project. The Project reduces the risk of an accidental release when compared to not completing the Project.⁶⁶¹ Specifically, modern pipelines are less susceptible to integrity threats than vintage pipelines; modern pipeline construction incorporates improvements in construction, manufacturing, protective coating, inspection, and testing which did not exist when the existing Line 3 was constructed and installed.⁶⁶² From a failure frequency perspective, new pipelines provide obvious advantages to vintage pipelines.⁶⁶³
309. With respect to impacts on the socioeconomic environment, the No Action scenario will increase the volume of Western Canadian crude moving by rail through Minnesota.⁶⁶⁴ This added crude-by-rail will increase competition for rail service with a wide range of commodities (such as agricultural products) that are vital to Minnesota's economy and that are also expected to see growth.⁶⁶⁵ The current rail system in Minnesota simply does not have the capacity required to fully support the increase in crude-by-rail traffic that would occur if the Project is not approved.⁶⁶⁶

4) Reliability.

310. The No Action scenario decreases the reliability of crude oil supply to Enbridge's shippers, including Minnesota's refineries.

⁶⁵⁹ Ex. EN-46 at 5 (Bergland Rebuttal).

⁶⁶⁰ Ex. EN-46 at 5 (Bergland Rebuttal); *see also* Grand Rapids Pub. Hrg. Tr. Vol. 3A at 108 (Oct. 10, 2017) (Wilson) ("So if you are concerned about water quality, I would suggest you should be for this Enbridge Line 3 project.").

⁶⁶¹ Ex. EN-51 at 19 (Mittelstadt Rebuttal).

⁶⁶² Ex. EN-51 at 19 (Mittelstadt Rebuttal).

⁶⁶³ Ex. EN-80 at 2 (Mittelstadt Summary); Ex. EN-51 at 19 (Mittelstadt Rebuttal).

⁶⁶⁴ Ex. EN-10, Sched. 2 at 6 (Rennicke Direct).

⁶⁶⁵ Ex. EN-72 at 2 (Rennicke Summary).

⁶⁶⁶ Ex. EN-10 at 2 (Rennicke Direct); *see also* Ex. EN-58 at 2 (Rennicke Surrebuttal) ("For Canadian crude-by-rail moving to U.S. PADD II and III, National Energy Board data shows a 49 percent increase in exports over the past five years (with some seasonal variation), and an 18.8 percent increase in just the past year from July 2016 to July 2017. So, unlike other growth markets for oil that have seen pipeline capacity expand – thereby taking oil off the railroads – pressure on pipeline capacity from Canada to key U.S. markets continues to build, meaning that some oil will move by rail if pipeline capacity is insufficient.").

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311. The No Action scenario is not as reliable because it does not provide sufficient transportation capacity to meet current shipper needs, much less forecasted needs.⁶⁶⁷
312. The No Action scenario is not as reliable as the Project because, under this scenario, an existing, 50-year-old pipeline would continue to operate, rather than a new pipeline. Even though it is possible for Enbridge to actively manage the integrity of a 50-year-old pipeline with known deficiencies, a newer pipeline will have much less susceptibility to integrity threats based on the benefits of modern materials, manufacturing methods, construction, and inspection practices.⁶⁶⁸ Other governments that have considered the L3R Program have recognized this substantial benefit when approving replacement.⁶⁶⁹
313. No action will increase the volume of Western Canadian crude moving by rail through Minnesota.⁶⁷⁰ This region has already seen an increase in crude-by-rail traffic because of the lack of pipeline capacity; notably, on average, approximately 133 kbpd of Canadian crude oil was exported by rail in the first half of 2017 versus about 86 kbpd in the first half of 2016.⁶⁷¹ This is a significant increase.
314. This added crude-by-rail will increase competition for rail service with a wide range of commodities (such as agricultural products) that are vital to Minnesota's economy and that are also expected to see growth.⁶⁷² Minnesota would likely see a significant increase in crude oil trains.⁶⁷³ This increase could range from a low of four additional trains per day in 2021 and 2022 to a high of 16 additional trains per day in 2031.⁶⁷⁴
315. Minnesota's rail network is of vital importance to the state's economy.⁶⁷⁵ Each year, railroads pick up \$11.2 billion in goods in Minnesota and deliver some \$9.7 billion in goods.⁶⁷⁶ Rail transports the majority of bulk commodities that move to, from, and through Minnesota, such as grain, coal, and minerals, while the same rail lines are used for passenger services.⁶⁷⁷ The current rail system in Minnesota does not presently have

⁶⁶⁷ Ex. EN-38 at 7 (Glanzer Rebuttal).

⁶⁶⁸ Ex. EN-51 at 19 (Mittelstadt Rebuttal).

⁶⁶⁹ See Thief River Pub. Hrg. Tr. Vol. 1B at 75-76 (Sept. 26, 2017) (Eberth).

⁶⁷⁰ Ex. EN-10, Sched. 2 at 6 (Rennicke Direct); Ex. EN-37, Sched. 1 at 49 (Earnest Rebuttal).

⁶⁷¹ Ex. SH-1 at 7 (Shippers Direct).

⁶⁷² Ex. EN-72 at 2 (Rennicke Summary).

⁶⁷³ Ex. EN-10, Sched. 2 at 12 (Rennicke Direct).

⁶⁷⁴ Ex. EN-10, Sched. 2 at 12 (Rennicke Direct).

⁶⁷⁵ Ex. EN-10, Sched. 2 at 5 (Rennicke Direct).

⁶⁷⁶ Ex. EN-10, Sched. 2 at 5 (Rennicke Direct).

⁶⁷⁷ Ex. EN-10, Sched. 2 at 60-61 (Rennicke Direct).

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the sufficient surplus capacity required to fully support the increase in crude-by-rail traffic that will occur if the Project is not approved.⁶⁷⁸

3. SA-04.

316. SA-04 is a conceptual pipeline alternative to a different endpoint than the Project. A significant majority of SA-04 is located outside Minnesota in North Dakota, Iowa, and Illinois.⁶⁷⁹
317. SA-04 is not an alternative to the Project. SA-04 does not meet the purpose and need of the Project.⁶⁸⁰ No individual with credible experience in this industry asserts that SA-04 is a viable project that would meet shippers' needs and serve Minnesota and the region. Rather, the record shows that SA-04 would *harm* Minnesota's refineries.⁶⁸¹ Further, SA-04 does not reduce environmental and human impacts since if it ever occurred it would mean more than 500 miles of additional pipeline compared to the Project. As such, SA-04 redistributes environmental and human impacts to other states, rather than minimizing those impacts.⁶⁸²

1) Size, Type, and Timing of Facility.

318. SA-04 is a hypothetical system alternative that would completely bypass Clearbrook, Minnesota, and Superior, Wisconsin. SA-04 does not have commercial support, has not been subjected to serious route study or permitting or land acquisition.⁶⁸³
319. SA-04 would require a pipeline of approximately 800 miles in length, with approximately 250 of those miles in Minnesota.⁶⁸⁴ It would require approximately 16 pump stations and numerous mainline valves.⁶⁸⁵
320. No party seeks to construct SA-04, so the timing of any in-service date is purely hypothetical. No party seeks to construct SA-04 because it does not meet an identified need.⁶⁸⁶ It would not deliver to refiners in Minnesota and Wisconsin that rely upon the Enbridge Mainline System. As such, the Minnesota refiners would lose a substantial portion of the available shipping capacity on the Enbridge Mainline System, but would

⁶⁷⁸ Ex. EN-10 at 2 (Rennicke Direct).

⁶⁷⁹ Ex. EERA-29 at 4-8 (FEIS).

⁶⁸⁰ See Ex. EN-14 at 11 (Fleeton Direct); Ex. SH-1 at 9 (Shippers Direct); Ex. EN-37, Sched. 1 at 39-40 (Earnest Rebuttal).

⁶⁸¹ Ex. EN-24 at 21 (Eberth Direct).

⁶⁸² Ex. EN-24 at 21 (Eberth Direct).

⁶⁸³ Ex. EN-45 at 24 (Simonson Rebuttal).

⁶⁸⁴ Ex. EERA-29 at 4-9 (FEIS).

⁶⁸⁵ Ex. EERA-29 at 4-8 (FEIS).

⁶⁸⁶ Ex. EN-37, Sched. 1 at 39-40 (Earnest Rebuttal).

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still bear the increased cost.⁶⁸⁷ CAPP and Marathon both commented on the failure of SA-04 to address the market's need.⁶⁸⁸

321. More specifically, SA-04:

- Reduces the Enbridge Mainline capacity available to Minnesota (and Wisconsin) refineries by 359 kbpd (the capacity of the existing Line 3 of 390 kbpd * 92 percent);
- Reduces the adequacy of crude oil supply to Minnesota and other Midwestern refineries due to higher apportionment levels;
- Reduces the reliability of crude oil supply via pipeline to the Minnesota refineries because there are fewer pipelines connected to Clearbrook;
- Increases the transportation cost incurred on the Enbridge Mainline for the Minnesota refineries by \$28 million per year, due to an increase in Enbridge Mainline rates because of the higher capital cost of SA-04;
- Reduces the effective capacity of the Enbridge Mainline by approximately 180 kbpd, because SA-04 does not provide the necessary swing capacity between light and heavy crude oil service on the Gretna-Clearbrook and the Clearbrook-Superior segments to fully utilize the capabilities of the other pipelines in the Enbridge Mainline.⁶⁸⁹

2) Cost.

322. SA-04 is estimated to cost approximately \$3 billion more than the Project (approximately \$5.5 billion overall in the U.S.).⁶⁹⁰ As noted above, this would result in increased costs to shippers on the Enbridge Mainline System, even those shippers (like the Minnesota refiners) that would not have access to deliveries from SA-04.

⁶⁸⁷ Ex. EN-24 at 21 (Eberth Direct); Ex. EN-14 at 11 (Fleaton Direct) (“SA-04-L3 completely bypasses Minnesota, providing no interconnection to the Minnesota Pipe Line System. If SA-04-L3 were constructed and the existing Line 3 taken out of service, Minnesota refiners would lose access to approximately 25 percent of the crude oil supplies they currently have access to via the Enbridge Mainline System. Despite losing market opportunities, as shippers on the Enbridge Mainline System, Minnesota refiners would still bear its increased costs.”).

⁶⁸⁸ Comment by CAPP (July 20, 2017) (eDocket No. [20177-134091-05](#)); Ex. SH-1, Sched. A at 5-6 (Shippers Direct).

⁶⁸⁹ Ex. EN-37, Sched. 1 at 39-40 (Earnest Rebuttal).

⁶⁹⁰ Ex. EN-14 at 11 (Fleaton Direct).

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**3) Impacts on the Natural and Socioeconomic
Environments of the Project Compared to Alternatives.**

323. Regardless of the impacts of SA-04, it is not a more reasonable and prudent alternative than the Project because it does not meet any identified need.⁶⁹¹ A hypothetical project that does not meet any identified need cannot be an alternative to the Project, let alone a more reasonable and prudent one.
324. Even with respect to environmental impacts, SA-04 does not compare favorably to the Project. Rather, the record evidence establishes that SA-04 is not a feasible and prudent alternative, and the Project is more consistent with the public health, safety, and welfare.
325. As described in the FEIS, approximately 70 percent of SA-04 is located outside of Minnesota in North Dakota, Iowa, and Illinois.⁶⁹² Its total length is approximately 800 miles, approximately 450 miles longer than the Proposed Route.⁶⁹³ Apart from the impacts to karst terrain as SA-04 was originally described in scoping (discussed in more detail below), SA-04 would have the following environmental impacts compared to the Project:⁶⁹⁴
- Groundwater: Table 5.2.1.1-4 of the FEIS indicates that SA-04 would cross more high water table vulnerability aquifers, EPA-listed contaminated sites, wellhead protection areas, domestic wells, and public wells than the Project.
 - Surface Waters: As described in Table 5.2.1.2-14 of the FEIS, SA-04 would also cross 636 surface waters; 409 more than the Project. SA-04 is routed within 5 miles of the Red River through North Dakota for approximately 102 miles and would cross approximately 119 tributaries to the Red River. SA-04 would also still cross the Mississippi River, and would do so at the U.S. Army Corps of Engineers (“USACE”) Mississippi River Pools 11-22 Recreation Area.
 - Fish and Wildlife: Attachment C of Enbridge’s July 10, 2017 DEIS comments provides a discussion of the various fish and wildlife habitat crossed by SA-04 in North Dakota, Iowa, and Illinois as presented in each state’s Wildlife Action Plan. Attachment C describes the priority terrestrial and aquatic habitat areas established by each state that would be crossed by SA-04 and identifies the potential species that use these habitats. Some features of note that SA-04 would cross are a coldwater stream providing trout habitat in Mitchell County, Iowa, and several waterbodies and tributaries to waterbodies that are known to contain freshwater mussel populations in North Dakota and Illinois.

⁶⁹¹ Ex. EN-38 at 9 (Glanzer Rebuttal).

⁶⁹² Ex. EN-46 at 14 (Bergland Rebuttal).

⁶⁹³ Ex. EN-46 at 14 (Bergland Rebuttal).

⁶⁹⁴ Ex. EN-46 at 14-16 (Bergland Rebuttal).

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- Protected Species: Due to the increased length associated with SA-04, it also has the potential to encounter suitable habitat for more federally-listed and state-listed species. As described in Table 5.2.5-26 of the FEIS, SA-04 has the potential to impact 15 federally-listed species versus 9 federally-listed species that may be impacted by the Project, and SA-04 would impact 34 state-listed species versus 13 species that may be impacted by the Project. The Species in Greatest Conservation Need GAP models presented in the FEIS also show that SA-04 would impact more acres of mammal, bird, and herptile habitat than the Applicant's Project.
- Wildlife Conservation Areas: As described in Table 5.2.4-11 of the FEIS, SA-04 would impact 847 acres of wildlife conservation areas, the majority which would occur in the U.S. Fish and Wildlife Service's Dakota Tallgrass Prairie Wildlife Management Area ("WMA"). This WMA was specifically established to preserve quality tallgrass prairie habitat in southeastern North Dakota and eastern South Dakota to help maintain biodiversity and to reduce habitat fragmentation (https://www.fws.gov/refuge/Dakota_Tallgrass_Prairie/wildlife_and_habitat/index.html). In comparison, the Preferred Route would impact 448 acres of wildlife conservation lands according to Table 5.2.4-8 of the FEIS, mainly consisting of State Forest lands.
- Habitat Fragmentation: The FEIS provides a discussion of the forest fragmentation impacts associated with the Project. As presented in Attachment C of Enbridge's July 10, 2017 DEIS comments, SA-04 would also have habitat fragmentation impacts on grasslands. Tallgrass, mixed, and shortgrass prairies are among the most endangered ecosystems in the U.S., and tallgrass prairies are considered a globally endangered resource. In North Dakota, it is estimated that only three percent of the remaining native prairie is unplowed. SA-04 would cross tallgrass prairie in the Sand Deltas and Beach Ridges focus area identified by the North Dakota Wildlife Action Plan WAP, and also within the Midewin National Tallgrass Prairie administered by the U.S. Forest Service in Joliet, Illinois. Indeed, SA-04 would terminate near this National Tallgrass Prairie and Enbridge would need to construct a new 55-acre terminal facility in the vicinity.
- GHGs: The alternatives analyzed in the FEIS are based on the same amount of oil being transported; therefore, any conclusions regarding the lifecycle GHG emissions apply to each alternative. The FEIS appropriately recognizes that, as stated in Section 5.2.7.3.3, "In general, the air quality impacts associated with construction and operation of SA-04 would be significantly higher to those described above for the Applicant's Project." This is due to the fact that SA-04 is 2.3 times longer, which requires additional pump stations and a major terminal.⁶⁹⁵

⁶⁹⁵ Ex. EN-46 at 14-16 (Bergland Rebuttal).

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326. When viewing this conceptual alternative, potential impacts in other states must also be considered. SA-04 would result in a collective significant adverse environmental impact.⁶⁹⁶
327. Section 5.2.2.2.3 of the FEIS acknowledges that SA-04 as described in scoping would pass through approximately 76 miles of karst conditions, extending from southeastern Minnesota through Iowa and ending in northwestern Illinois. Section 5.2.2.2.1 of the FEIS indicates that the Preferred Route does not cross karst topography.⁶⁹⁷
328. On pages 5-14 and 5-18, the FEIS describes the high vulnerability of karst aquifers to contamination and structural changes with ground disturbance, including induced sinkhole formation and alteration of groundwater flow. There are additional potential impacts related to constructing in karst terrain, including impacts to surface water features, and wildlife and their habitat. On page 5-369, the FEIS mentions algific talus slope habitats that occur in Iowa and Illinois, which are rare karst cold microclimate habitat supporting rare plant and animal species. Specialized avoidance and mitigation measures would need to be implemented to cross such topography.⁶⁹⁸ As Enbridge stated in the DEIS comments filed July 10, 2017, karst conditions would ideally be avoided not only due to the potential impacts on the natural environment, but also due to the potential impacts on the pipeline itself resulting from subsidence and/or sinkhole formation.⁶⁹⁹ As stated in the rebuttal testimony of Mr. Ray Wuolo, karst topography can form above any area underlain by carbonate rocks and can take the form of sinkholes or general subsidence.⁷⁰⁰ The formation of these conditions is unpredictable. Other witnesses also identify the karst topography issue as a problem.⁷⁰¹
329. The karst potential extends south of the Minnesota-Iowa border. Karst remains an issue for SA-04 in Iowa as well.⁷⁰²
330. SA-04 appears to cross rivers at areas further downstream than the planned Preferred Route crossings. For example, SA-04 crosses the Mississippi River, and at a much wider point than the Project.⁷⁰³ Crossing sizeable moving water bodies further downstream usually means that there is more water and it is moving faster than it is further upstream.

⁶⁹⁶ Ex. EN-46 at 16 (Bergland Rebuttal).

⁶⁹⁷ Ex. EN-46 at 17 (Bergland Rebuttal).

⁶⁹⁸ Ex. EN-46 at 17 (Bergland Rebuttal).

⁶⁹⁹ Ex. EN-46 at 17 (Bergland Rebuttal).

⁷⁰⁰ Ex. EN-49 at 5 (Wuolo Rebuttal).

⁷⁰¹ Ex. EN-46 at 17 (Bergland Rebuttal); *see* Ex. FOH-7 at 3-4 (Smith Direct); Ex. HTE-1- at 4-5 (Merritt Direct).

⁷⁰² Ex. EN-46 at 19 (Bergland Rebuttal); Ex. EN-59 at 2 (Wuolo Surrebuttal).

⁷⁰³ Bemidji Pub. Hrg. Tr. Vol. 6A at 59 (Oct. 17, 2017) (Prestby and Smith) (“Q: And it looks like it would cross the Mississippi eventually in Illinois maybe? A: It crosses the Mississippi down near Davenport. Q: Okay. At a much wider spot in the Mississippi than in Minnesota, correct? A: That’s correct.”).

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From an emergency response perspective, crossings further upstream, where there is less water moving with less velocity, are more conducive to an effective response. As a result, emergency response to a release into a moving water body along SA-04 may prove more difficult than along the Preferred Route.⁷⁰⁴

331. Further, it is likely that the populated centers and drinking water sources from St. Peter, Le Sueur, and Blakely would be impacted from a large volume release into the Minnesota River from SA-04.⁷⁰⁵
332. From an emergency response perspective, the Preferred Route is preferable to SA-04 in terms of response because of the Preferred Route's proximity to existing PLM Shops along the Mainline Corridor.⁷⁰⁶ Enbridge's emergency response equipment is located at those PLM Shops, where it is maintained, secured, and easily accessed by employees, when needed.⁷⁰⁷ The Preferred Route's proximity to Enbridge's trained responders and resources at other locations (e.g., Duluth, Superior) also allows for emergency response synergies that SA-04 would not allow.⁷⁰⁸ Put a different way, Enbridge's trained responders not already stationed at PLM Shops would be a much shorter drive to the Preferred Route than SA-04. There are trained responders based in Clearbrook, Bemidji, and Superior that could respond far quicker along the Preferred Route than along SA-04.⁷⁰⁹

4) Reliability.

333. SA-04 does not provide the reliability benefits that the Project would provide. SA-04 does not provide deliveries to either Clearbrook or Superior, does not utilize existing infrastructure, and results in underutilization of existing infrastructure.⁷¹⁰ SA-04 effectively bypasses Minnesota, providing no interconnection to the Minnesota Pipe Line System. If SA-04 were constructed and the existing Line 3 was taken out of service, Minnesota refiners would lose access to approximately 25 percent of the crude oil supplies they currently have access to via the Enbridge Mainline System; however, they would still bear its increased costs.⁷¹¹
334. As a practical matter, SA-04 does not provide reliability benefits because choosing SA-04 is effectively choosing No Action. Further, the concept of SA-04 reduces reliability of crude oil supply to Minnesota and Midwestern refineries by providing less

⁷⁰⁴ Ex. EN-33 at 5-6 (Haskins Rebuttal).

⁷⁰⁵ Ex. EN-52 at 41 (Horn Rebuttal).

⁷⁰⁶ Ex. EN-33 at 5 (Haskins Rebuttal).

⁷⁰⁷ Ex. EN-33 at 5 (Haskins Rebuttal).

⁷⁰⁸ Ex. EN-33 at 5 (Haskins Rebuttal).

⁷⁰⁹ Ex. EN-33 at 5 (Haskins Rebuttal).

⁷¹⁰ Ex. EN-38 at 8-9 (Glanzer Rebuttal).

⁷¹¹ Ex. EN-14 at 11 (Fleeton Direct).

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connectivity at Clearbrook and therefore to Minnesota.⁷¹² SA-04 would create higher apportionment on the Mainline for shippers, negatively impacting the adequacy of crude oil supply to Minnesota and other Midwestern refineries.⁷¹³ Additionally, SA-04 decreases efficiency in energy supply because it would require building a pipeline in the U.S. that would unnecessarily be approximately twice as long as the Project as proposed, increasing transportation costs for all refiners.⁷¹⁴

335. Because SA-04 does not connect at Clearbrook and Superior, locations where other Enbridge pipelines have connections, the reliability benefits of a multiline pipeline system are reduced considerably.⁷¹⁵

4. Rail.

336. No party asserts that rail is a reasonable alternative to the Project, and the record establishes that it is not.
337. Transporting 760 kbpd of crude oil by rail would require new oil storage and loading facilities and upgraded rail access. Specifically: a loading facility, including approach tracks, storage tracks, and active loading facilities, and 14-mile rail line near Gretna, Canada; recommissioning abandoned rail facilities and construction of an offloading facility near Clearbrook, Minnesota; and, expansion of an existing rail logistics facility near Superior, Wisconsin.⁷¹⁶
338. Transporting 760 kbpd of crude oil by rail would require ten 110-car trains per day.⁷¹⁷ This does not include the empty trains that would be returning to their point of origin after delivering the crude oil.⁷¹⁸
339. Based on the calculations for the number of tank cars needed to deliver the specified volumes per day, the estimated transit times of the unit trains, and the time necessary for loading and offloading the tank cars and for empty trains to make return trips to Gretna, approximately 7,200 new tank cars would be required.⁷¹⁹ Assuming a cost of \$140,000 per car, the capitalization to amass the needed number of unit trains would be approximately \$1 billion.⁷²⁰

⁷¹² Ex. EN-30 at 5 (Eberth Rebuttal).

⁷¹³ Ex. EN-30 at 5 (Eberth Rebuttal).

⁷¹⁴ Ex. EN-30 at 5-6 (Eberth Rebuttal).

⁷¹⁵ Ex. EN-39 at 5 (Fleeton Rebuttal).

⁷¹⁶ Ex. EERA-29 at 4-11 (FEIS).

⁷¹⁷ Ex. EERA-29 at 4-12 (FEIS).

⁷¹⁸ Ex. EN-10, Sched. 2 at 39 (Rennicke Direct).

⁷¹⁹ Ex. EERA-29 at 4-13 (FEIS).

⁷²⁰ Ex. EERA-29 at 4-13 (FEIS).

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340. The above estimate does not include the cost of constructing the new rail spurs or any associated rail infrastructure needed, railway maintenance, labor costs, fuel, or other associated expenses.⁷²¹ It also does not include the cost of constructing unit train terminal facilities for loading and offloading, which have been estimated to range from approximately \$85 to \$125 million.⁷²²
341. Further, crude oil transportation by pipeline is more efficient and economic when compared to crude by rail or truck.⁷²³
342. Rail is also not a better alternative from an environmental and human standpoint. Rail lines in Minnesota travel through cities and along rivers (including the Mississippi River) and lakes. They also travel through tribal reservations. Many rail lines cross roads at-grade, meaning that increased crude-by-rail would have attendant traffic and safety impacts. Regulators have identified at-grade crossings as an area for safety improvements, recognizing the safety risks that they pose.⁷²⁴ For example, because of concerns over crude-by-rail routes, the Minnesota State Legislature in 2014 provided \$2 million to MnDOT to study and improve safety for “grade crossings that have significant safety risks due to increased crude-by-rail activity.”⁷²⁵ In its report, MnDOT notes that it had identified more than 700 miles of train routes carrying Bakken crude oil across Minnesota, and that these routes had 683 at-grade crossings.⁷²⁶ By contrast, pipelines do not intersect other modes of transportation. Notably, the operation of the Dakota Access Pipeline has now resulted in a noticeable decrease in Bakken crude-by-rail.⁷²⁷ The same, however, is not true for Western Canadian crude; on average, approximately 133 kbpd of Canadian crude oil was exported by rail in the first half of 2017 versus about 86 kbpd in the first half of 2016.⁷²⁸
343. In addition, rail does not compare favorably to the Project from a GHG emissions perspective; as identified in Table 5.2.7-21 of the FEIS, rail would result in more than 1,500 times as many direct GHG emissions than the Project as proposed.⁷²⁹
344. Finally, long-haul crude by rail (like that which would be needed to transport Western Canadian crude to PADD II in the absence of the Project) is subject to weather, traffic, and other congestion delays and, as such, is not as reliable as pipeline transportation.⁷³⁰

⁷²¹ Ex. EERA-29 at 4-13 (FEIS).

⁷²² Ex. EERA-29 at 4-13 (FEIS).

⁷²³ Ex. EN-39 at 4 (Fleeton Rebuttal).

⁷²⁴ Ex. EN-10, Sched. 2 at 55 (Rennicke Direct).

⁷²⁵ Ex. EN-10, Sched. 2 at 55 (Rennicke Direct).

⁷²⁶ Ex. EN-10, Sched. 2 at 55 (Rennicke Direct).

⁷²⁷ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 133 (Rennicke).

⁷²⁸ Ex. SH-1 at 7 (Shippers Direct).

⁷²⁹ Ex. EERA-29 at 5-465 (FEIS).

⁷³⁰ Ex. EN-10, Sched. 2 at 6, 9 (Rennicke Direct).

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As discussed in Sections II(A)(1) and (4) and II(B)(2) herein, additional crude-by-rail would also affect the reliability of transportation for other commodities important to Minnesota, such as grain.⁷³¹

5. Truck.

345. As with rail, no party asserts that truck transportation of crude oil is an alternative to the Project, and the record establishes that it is not.
346. Transporting 760 kbpd would require approximately 4,000 tanker trucks per day to travel from Gretna to the Clearbrook and Superior terminals. This scenario would require development of truck loading and offloading facilities and new or upgraded road access to the interstate highway system.⁷³² Specifically, these new developments could include: a truck loading facility near the Gretna pump station; additional passing lanes or other infrastructure between Gretna and Pembina, North Dakota; truck off-loading facilities and access road at the Clearbrook terminal; upgrades to existing roads; and new road(s) near the Superior terminal.⁷³³
347. Based on the estimated number of tanker trucks needed to deliver 760 kbpd, a conservative estimate of the time necessary for loading and offloading, and the time necessary for empty trucks to return to Gretna, 12,000 new tanker trucks could be required.⁷³⁴ Assuming an estimated cost of \$200,000 per truck, an initial capital investment of \$2.4 billion would be required. With the mileage the trucks would cover in steady service, the economic life of a truck would be approximately five year, so that cost would be repeated every five years through the lifespan of the Project.⁷³⁵
348. In addition to the safety concerns associated with transporting large volumes of crude oil via truck, truck transportation would have, among the CN alternatives, the highest GHG emissions and resulting social cost of carbon estimates.⁷³⁶
349. Because trucking is subject to weather, traffic, and equipment reliability delays, there is no dispute that it would not provide the same reliable transportation as the Project. And, as with rail, it would result in impacts on the transportation of other important commodities.⁷³⁷

⁷³¹ Ex. EN-10, Sched. 2 at 50 (Rennicke Direct).

⁷³² Ex. EERA-29 at 4-15 (FEIS).

⁷³³ Ex. EERA-29 at 4-15 – 4-16 (FEIS).

⁷³⁴ Ex. EERA-29 at 4-16 (FEIS).

⁷³⁵ Ex. EERA-29 at 4-16 (FEIS).

⁷³⁶ Ex. EERA-29 at 5-465 (FEIS).

⁷³⁷ Ex. EN-10, Sched. 22-23 at 50 (Rennicke Direct).

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6. Keystone XL.

350. Keystone XL project does not serve the same customers as the Project.⁷³⁸ According to the TransCanada website, Keystone XL proposes to build a pipeline from Hardisty, Alberta, to Steelman, Nebraska, to integrate with the existing Marketlink pipeline from Steelman to the U.S. Gulf Coast.⁷³⁹ The Enbridge Mainline serves the refineries in Minnesota, Wisconsin, Illinois, Michigan and Eastern Canada. None of these refineries are served by the Keystone XL project, and as such, Keystone XL is not a valid alternative to the Project.⁷⁴⁰
351. Further, there is no certainty that Keystone XL will be built.⁷⁴¹
352. Neither DOC-DER nor the FEIS analyzed the environmental impacts of Keystone XL. However, it is approximately 500 miles longer than the Project and would thus have a greater magnitude of impacts.⁷⁴²

7. Spectra Concept.

353. There is no proposed Spectra Pipeline Project; it is only a concept proposed by DOC-DER in an information request. This concept was not an alternative that was included by the Commission in its December 5, 2016 EIS Final Scoping Decision. Enbridge and industry have never had discussions on a Spectra Pipeline concept.⁷⁴³ Further, a recent Spectra open season seeking committed shippers for expanded capacity failed to receive industry support, demonstrating that it was not viewed as a commercial alternative to the Project.⁷⁴⁴
354. Neither DOC-DER nor the FEIS analyzed the environmental impacts of a Spectra hypothetical pipeline. However, it is approximately 1,300 miles longer than the Project and would thus have a greater magnitude of impacts.⁷⁴⁵
355. In summary, the record demonstrates that none of the alternatives to the Project would provide a more reasonable and prudent alternative, after considering the factors in Minn. R. 7853.0130(B).

⁷³⁸ Ex. EN-39 at 5 (Fleeton Rebuttal).

⁷³⁹ Ex. EN-39 at 5 (Fleeton Rebuttal).

⁷⁴⁰ Ex. EN-39 at 5 (Fleeton Rebuttal); Ex. SH-2 at 32 (Shippers Rebuttal).

⁷⁴¹ Ex. EN-30 at 6 (Eberth Rebuttal).

⁷⁴² Ex. EN-75 at 2 (Bergland Summary); Ex. EN-46 at 13 (Bergland Rebuttal).

⁷⁴³ Ex. EN-39 at 6 (Fleeton Rebuttal).

⁷⁴⁴ Ex. SH-2 at 32 (Shippers Rebuttal).

⁷⁴⁵ Ex. EN-75 at 2 (Bergland Summary).

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C. Consequences of Building the Project Compared to Not Building the Project.

356. For its third criterion, the Commission examines whether “the consequences to society of granting the certificate of need are more favorable than the consequences of denying the certificate.”⁷⁴⁶
357. In analyzing this question, the Commission considers: (1) the relationship of the proposed facility, or a suitable modification of it, to overall state energy needs; (2) the effect of the proposed facility, or a suitable modification of it, upon the natural and socioeconomic environments compared to the effect of not building the facility; (3) the effects of the proposed facility, or a suitable modification of it, in inducing future development; and (4) socially beneficial uses of the output of the proposed facility, or a suitable modification of it, including its uses to protect or enhance environmental quality.⁷⁴⁷

1. Overall State Energy Needs.

358. Minnesota is interdependent with its neighboring states for energy supply.⁷⁴⁸
359. Minnesota hosts two crude oil refineries, the Flint Hills Pine Bend and the Andeavor (formerly Northern Tier Energy) St. Paul Park facilities, that provide the majority of the gasoline and diesel fuel used in Minnesota, along with providing other refined products.⁷⁴⁹
360. The remaining demand in Minnesota, as well as North Dakota, South Dakota, Wisconsin, and Iowa (collectively the “Five-State Area”) is satisfied in part by refineries in other states. In Minnesota and South Dakota, the deficit is met by refineries located in the MidContinent (Kansas and Oklahoma). In the case of Wisconsin, the deficit is primarily met by pipeline deliveries from refineries in the Chicago area, supplemented by deliveries from refineries located in Southern Illinois. Iowa is also partially supplied out of the Chicago area, as well as from Midcontinent refineries. North Dakota receives some product for a refinery in central Montana.⁷⁵⁰
361. Minnesota does not produce any crude oil, so the Minnesota refineries rely on imports to meet their supply needs.⁷⁵¹
362. Enbridge provides the only pipeline source of Canadian crude supply for the Minnesota refineries, as they obtain all of their pipeline crude oil supplies off of the Enbridge system at Clearbrook.⁷⁵²

⁷⁴⁶ Minn. R. 7853.0130(C).

⁷⁴⁷ Minn. R. 7853.0130(C).

⁷⁴⁸ Ex. EN-38 at 5 (Glanzer Rebuttal).

⁷⁴⁹ Ex. EN- 15, Sched. 1 at 6-7 (Earnest Direct).

⁷⁵⁰ Ex. EN-15 at 10 (Earnest Direct).

⁷⁵¹ Ex. EN-15 at 13 (Earnest Direct).

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363. EIA statistics indicate that 2008 was the last time that Minnesota refineries imported crude oil from a country other than Canada (1 kbpd, from Venezuela).⁷⁵³ The only pipeline by which non-Canadian crude oil imports could be delivered to Minnesota refineries was taken out of service in early 2013. The refineries in Wisconsin and North Dakota have never had pipeline access to non-Canadian imports.⁷⁵⁴
364. Within Minnesota, North Dakota, South Dakota, Wisconsin, and Iowa (the “Five-State Area”), there are refineries located in Minnesota, North Dakota, and Wisconsin. South Dakota and Iowa have no refineries. Approximately 55 percent of the total demand for refined products in the Five-State Area is satisfied by the local refineries within the area itself.⁷⁵⁵
365. Effects on refined product supply from refineries in the Midwest and the Midcontinent outside of the Five-State area impact fuel prices in Minnesota. On August 8, 2015, the large BP Whiting refinery in the Chicago area unexpectedly shut down its largest crude oil distillation unit.⁷⁵⁶ Gasoline prices in the Midwest reacted almost immediately. Chicago bulk spot prices for regular gasoline climbed 16.35¢/gal on August 10 (Monday), and rose another 44.72¢/gal on Tuesday.⁷⁵⁷ Retail gasoline prices also reacted to the BP refinery outage in both Chicago and Minnesota before prices retreated as additional gasoline supplies entered the market in subsequent days.⁷⁵⁸
366. PADD II refineries are reliant on Canadian crude oil. Through September 2016, PADD II refineries imported 2,222 kbpd of crude oil, of which only 41 kbpd was from a country other than Canada.⁷⁵⁹ Northern PADD II, including Minnesota, is 100 percent reliant on access to Western Canadian and U.S. domestic crude oil supplies for its refineries.⁷⁶⁰ Pipeline transportation is the predominant means by which crude oil is delivered to the refineries in Minnesota, its neighboring states, and throughout the Midwest and the Midcontinent.⁷⁶¹ Nearly all foreign crude oil is delivered by pipeline to PADD II refineries, which a small volume of rail deliveries being a very recent development.⁷⁶² Current crude oil deliveries to PADD II refineries exceed 3,500 kbpd.⁷⁶³ Rail deliveries

⁷⁵² Ex. EN-15, Sched. 2 at 9 (Earnest Direct).

⁷⁵³ Ex. EN-15, Sched. 2 at 38 (Earnest Direct).

⁷⁵⁴ Ex. EN-15, Sched. 2 at 38 (Earnest Direct).

⁷⁵⁵ Ex. EN-15 at 9 (Earnest Direct).

⁷⁵⁶ Ex. EN-15 at 11 (Earnest Direct).

⁷⁵⁷ Ex. EN-15 at 11 (Earnest Direct).

⁷⁵⁸ Ex. EN-15 at 11 (Earnest Direct).

⁷⁵⁹ Ex. EN-15, Sched. 2 at 38 (Earnest Direct).

⁷⁶⁰ Ex. EN-1 at 3-19 (CN Application).

⁷⁶¹ Ex. EN-15 at 14 (Earnest Direct).

⁷⁶² Ex. EN-15 at 14 (Earnest Direct).

⁷⁶³ Ex. EN-15 at 15 (Earnest Direct).

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have been climbing steadily over the last several years because of the lack of pipeline capacity. Due to the layout of the U.S. railway system, much of the Canadian rail volume can be expected to transit Minnesota.⁷⁶⁴

367. The Minnesota and Midwestern refineries rely exclusively on Canadian and U.S. crude oil supplies.⁷⁶⁵ In fact, Minnesota refineries have not imported crude from any country other than Canada in several years and no longer have a pipeline connection making such imports possible, and the refineries in Wisconsin and North Dakota have never had pipeline access to non-North American crude.⁷⁶⁶ Expanding the view, in 2016 the refineries throughout all of PADD II – all of which can receive crude oil directly or indirectly from the Enbridge Mainline System – collectively received only two percent of their crude oil imports from a country other than Canada.⁷⁶⁷ At the same time, the total refining capacity and total crude oil runs have increased over the past few years.⁷⁶⁸ These increases in refining capacity and total crude oil runs have been made possible by steady growth in Western Canadian crude oil production.⁷⁶⁹
368. The importance of regional petroleum infrastructure, beyond the borders of Minnesota, is further highlighted by the fact that inventories of refined product are maintained on a “just-in-time” basis, meaning that refineries operate “at or near the lower operational inventories for all products.”⁷⁷⁰ Accordingly, the market has some difficulty in adjusting to changes in demand. Limited inventory increases price uncertainty and reduces supply resilience on the market. As a result, the market is not buffered from supply problems caused by refinery issues, such as fires, outages, or routine maintenance.⁷⁷¹ As noted in the 2012 Quad Report, these events cause upward price pressure in all areas of the country, not just regional impacts. Accordingly, to the extent that the Project influences the adequacy and security of the crude oil supply to the PADD II refineries, the broader impact of the L3R Program throughout PADD II does appear to be relevant to any consideration of the merits of the L3R Program.⁷⁷² The L3R Program connects the crude oil resources in Western Canada and, to a degree, North Dakota, to most of the refineries in PADD II.⁷⁷³

⁷⁶⁴ Ex. EN-15 at 15 (Earnest Direct).

⁷⁶⁵ Ex. EN-15 at 13 (Earnest Direct); Ex. SH-2 at 11 (Shippers Rebuttal).

⁷⁶⁶ Ex. EN-15 at 13 (Earnest Direct).

⁷⁶⁷ Ex. EN-15 at 13 (Earnest Direct).

⁷⁶⁸ Ex. EN-15 at 13-14 (Earnest Direct).

⁷⁶⁹ See Ex. EN-15 at 18 (Figures 11 and 12) (Earnest Direct).

⁷⁷⁰ Ex. EN-15 at 12 (Earnest Direct).

⁷⁷¹ Ex. EN-15 at 12 (Earnest Direct).

⁷⁷² Ex. EN-15 at 12 (Earnest Direct).

⁷⁷³ Ex. EN-15 at 12 (Earnest Direct).

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369. The only pipeline by which non-Canadian crude oil imports could be delivered to Minnesota refineries, the Wood River pipeline, was taken out of service in early 2013.⁷⁷⁴ The refineries in Wisconsin and North Dakota have never had pipeline access to non-Canadian imports, so depend entirely on U.S. and Canadian crude oil.⁷⁷⁵ At a broader level, PADD II refineries collectively, all of which can be served directly or indirectly from the Enbridge Mainline System, rely virtually exclusively on U.S. and Canadian crude oil, with Canadian supplies constituting approximately 98 percent of all imports for the first three-quarters of 2016.⁷⁷⁶
370. Strong growth in Canadian and U.S. crude oil production and supply has supported this reliance on secure North American crude oil. For example, Western Canadian crude oil production has nearly doubled between 2005 and 2017.⁷⁷⁷ Pipeline capacity expansion projects, including the Enbridge Mainline Enhancement projects, have helped deliver that increased supply to the market, facilitating refinery capacity increases,⁷⁷⁸ enabling the refineries to meet the needs of Minnesota and the Midwest for transportation fuels and other refined products.
371. If the Project is not approved and existing Line 3 is permanently shut down, refiners in Minnesota and neighboring states would lose access to up to 359 kbpd of volume from the Enbridge Mainline system, immediately impacting the adequacy and reliability of energy supply for Minnesota and neighboring states.⁷⁷⁹ Accordingly, it is important to consider impacts in Minnesota *and* the region.⁷⁸⁰
372. Analysis of the North American crude oil market indicates that denial of the Project, i.e., the No-Action Alternative, will increase apportionment on the Enbridge Mainline System because the Mainline System is already full and in apportionment.⁷⁸¹
373. Any increase in crude oil demand anywhere that Enbridge delivers crude oil – Chicago, Ohio, or any of the southbound pipelines to the Gulf Coast – will increase apportionment.⁷⁸² Higher apportionment means that the Minnesota refineries get their

⁷⁷⁴ Ex. EN-15, Sched. 2 at 38 (Earnest Direct).

⁷⁷⁵ Ex. EN-15, Sched. 2 at 38 (Earnest Direct).

⁷⁷⁶ Ex. EN-15, Sched. 2 at 13 (Earnest Direct).

⁷⁷⁷ See EN-15, Sched. 2 at 45 (Figure 29) (Earnest Direct).

⁷⁷⁸ See Ex. EN-19 at 8 (Glanzer Direct); Ex. EN-15, Sched. 2 at 38-39 (Earnest Direct).

⁷⁷⁹ Ex. EN-38 at 5 (Glanzer Rebuttal).

⁷⁸⁰ St. Paul Pub. Hrg. Tr. Vol. 2A at 118 (Sept. 28, 2017) (Theissen) (“I believe the Commerce Department’s perspective that Minnesota does not need this pipeline is tunnel vision perspective. And the reason I think that is if we made all our decisions based upon what’s only best for Minnesota, we might as well be 50 independent countries instead of one United States. We have, I believe, an opportunity to continue to improve our infrastructure in pipeline safety, and I believe that this project is important to the independence – on the energy independence.”).

⁷⁸¹ Ex. EN-37, Sched. 1 at 55 (Earnest Rebuttal).

⁷⁸² Ex. EN-69 at 1 (Earnest Summary).

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crude oil deliveries cut back more. One of the key benefits of the Project for Minnesota and the other Midwest refineries is that it will reduce or eliminate apportionment on Enbridge, which means that these refineries will get more of the crude oil that they are seeking via pipeline.⁷⁸³

374. For additional findings concerning how the Project addresses apportionment, see Sections II(A) and (B)(1) herein.

2. Effect on the Natural and Socioeconomic Environments Compared to the Effect of Not Building the Project.

375. Minnesota Rules 7853.0130(C)(2) requires the Commission to consider “the effect of the proposed facility, or a suitable modification of it, upon the natural and socioeconomic environments *compared to the effect of not building the facility.*”⁷⁸⁴

376. Some parties suggested that the Commission should deny the CN because the Project is proposed to be built in northern Minnesota, suggesting that natural resources in that part of the State are more important than natural resources in other parts of the State and that these natural resources would be destroyed if the Project is built.⁷⁸⁵

377. However, the record does not demonstrate that the existing pipeline infrastructure has diminished the state’s water quality, tourism, wild rice, or any of the other resources identified as sensitive in northern Minnesota.

378. The record contains extensive evidence that it is safer to move crude oil by pipe than by alternative modes of transportation, such as train or truck.⁷⁸⁶

379. Enbridge has been operating pipelines in northern Minnesota and in a variety of environments throughout North America for more than 65 years. Enbridge recognizes the importance of preserving natural resources and reducing potential risks to humans and the environment.⁷⁸⁷

⁷⁸³ Ex. EN-69 at 1 (Earnest Summary).

⁷⁸⁴ Minn. R. 7853.0130(C)(2) (emphasis added).

⁷⁸⁵ See Ex. FOH-7 at 4 (Smith Direct); Ex. FDL-2 at 9 (Schuldt Direct).

⁷⁸⁶ See Ex. EN-10, Sched. 2 at 55 (Rennicke Direct); Ex. EN-56, Sched. 1 at 2 (Earnest Surrebuttal); Ex. EERA-29 at ES-21 (Table ES-3) (FEIS).

⁷⁸⁷ St. Paul Pub. Hrg. Tr. Vol. 2A at 160 (Sept. 28, 2017) (Michela) (“And with the fact that Enbridge has been operating 65 years in northern Minnesota and maintaining pristine waters, opponents want you to believe that the Line 3 replacement will cause damage to the environment. That is simply hearsay. It is not a fact that it will. Here’s a fact. I’ve lived in northern Minnesota my entire life, and over my entire life, not once when I was on the baseball field, on a hockey rink, on the waters, camping, did I ever hear once somebody tell me that Line 3 is currently ruining their experience. That’s a fact. I have not heard it once.”); St. Paul Pub. Hrg. Tr. Vol. 2B at 196 (Sept. 28, 2017) (O’Connor) (“It gives me great comfort to know that Enbridge has operated seven lines, many for decades, through northern Minnesota. And the rhetoric that to replace Line 3 will ruin the water quality of those

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1) Safety.

a) Pipelines are the Safest Way to Move Crude Oil to Market.

380. Pipelines are the safest mode of transporting crude oil. While there is inherent risk associated with crude oil transportation of any type, the alternate methods of trains and trucks release a “significantly higher percentage of volume transported.”⁷⁸⁸

381. Pipelines do not intersect other modes of transportation. By comparison, roads and railroad tracks have at-grade crossings.⁷⁸⁹ At-grade crossings represent one of the largest safety concerns of train operations.⁷⁹⁰

b) Enbridge is Committed to Safety.

382. Enbridge’s goal is zero safety incidents.⁷⁹¹ The FEIS recognizes that “[s]pill prevention is the most critical component to avoiding impacts from a crude oil release.”⁷⁹²

383. In 2012 and 2013, Enbridge invested a total of \$4.4 billion in programs and initiatives to maintain and further enhance its pipelines and facilities.⁷⁹³ As an example, Enbridge replaced Line 6B in Michigan, and, since 2008, Enbridge has inspected 100 percent of the pipelines on its Liquids Pipelines system that can be inspected using inline inspection tools.⁷⁹⁴

384. To reduce risk to people and pipeline assets, Enbridge has developed a Safety Management System (“SMS”) Framework consistent with American Petroleum Institute (“API”) Recommended Practice (“RP”) 1173.⁷⁹⁵ Enbridge has embraced the SMS

water systems just doesn’t stand up. The fact that all these lines have operated for all these years and have had no long-term negative effects on water resources in Minnesota is the proof I need.”).

⁷⁸⁸ Ex. EERA-29 at 10-142 (FEIS) (stating that percentages of volumes released of volumes transported by rail, truck, and pipelines are 0.309, 0.154, and 0.006, respectively).

⁷⁸⁹ Ex. EN-10, Sched. 2 at 55 (Rennicke Direct); *see also* McGregor Pub. Hrg. Tr. Vol. 4A at 59-60 (Oct. 11, 2017) (Lueck) (“And so I would just very sincerely ask you to look really hard at this because they have absolutely failed in outlining the human public safety danger of increasing crude oil on the rails. We’re always going to transfer some amount of hazardous material by rail, we understand that, we accept that as a society. But for the State of Minnesota and a state agency to get behind actually endangering our school children, our school buildings, our public workers, and our courthouses and city halls and our health professionals in nursing homes and in hospitals, and all the people that live in those small towns is unexcusable.”)

⁷⁹⁰ Ex. EN-10, Sched. 2 at 55 (Rennicke Direct).

⁷⁹¹ Ex. EN-24, Sched. 3 at 1 (Eberth Direct).

⁷⁹² Ex. EERA-29 at 12-41 (FEIS).

⁷⁹³ Ex. EN-24 at 16 (Eberth Direct).

⁷⁹⁴ Ex. EN-24 at 16 (Eberth Direct).

⁷⁹⁵ Ex. EN-24 at 15 (Eberth Direct). The National Transportation Safety Board recommended that the API facilitate development of a SMS standard following the July 2010 incident on the Enbridge Line 6B pipeline near

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Framework and demonstrated its commitment to continuous improvement.⁷⁹⁶ Enbridge also engaged DuPont Sustainable Solutions, a respected operations consulting service, to help make substantial and lasting improvements to all dimensions of its safety systems and performance, including its safety culture.⁷⁹⁷ This work led to markedly improved scores on the Dupont Bradley curve (from 55 in 2011 to 76 in 2016), demonstrating that Enbridge’s safety culture had made substantial progress.⁷⁹⁸

385. As described by the past Assistant Administrator and Chief Safety Officer for PHMSA, Ms. Stacey Gerard, “[i]t is obvious that Enbridge is succeeding in improving its safety culture.”⁷⁹⁹ And Enbridge’s industry-leading Integrity Management (“IM”) program has fared “very well” in PHMSA’s annual comprehensive review of Enbridge’s IM process. As Ms. Gerard testified, “there is compelling evidence that Enbridge has been doing everything its regulator, PHMSA, has been trying to encourage.”⁸⁰⁰

c) The Project Will be Built Utilizing Industry-Leading Safety Standards.

386. Enbridge’s safety and operational reliability work starts by carefully selecting pipeline routes and maintaining rigorous standards for engineering and design, including special design requirements for areas such as road, railroad, and water crossings.⁸⁰¹ The same rigorous approach is applied to other facilities, such as pump stations and terminals.⁸⁰²
387. The Project has been planned with specially designed and engineered materials. Enbridge sets standards for materials procurement, including selection of pipeline materials, corrosion-inhibiting coatings, and cathodic protection.⁸⁰³ These standards are required of each vendor providing equipment for the Project.⁸⁰⁴

Marshall, Michigan. Ex. EN-13 at 8 (Gerard Direct). The resulting RP, API RP 1173 “exceeded the [National Transportation Safety Board’s] recommendation,” which is a “very rare rating. . . .” Ex. EN-13 at 9 (Gerard Direct).

⁷⁹⁶ Ex. EN-13 at 10-12 (Gerard Direct) (detailing Enbridge’s performance in SMS development and implementation under API RP 1173).

⁷⁹⁷ Ex. EN-30 at 30 (Eberth Rebuttal).

⁷⁹⁸ Ex. EN-30 at 30-31 (Eberth Rebuttal).

⁷⁹⁹ Ex. EN-13 at 12 (Gerard Direct).

⁸⁰⁰ Ex. EN-13 at 26 (Gerard Direct).

⁸⁰¹ Ex. EN-24 at 16 (Eberth Direct); Ex. EN-22 at 6 (Simonson Direct); Thief River Pub. Hrg. Tr. Vol. 1B at 36 (Sept. 26, 2017) (Ruskosky) (“As a contractor, I can attest to the fact that Enbridge is best in class when it comes to enforcing these requirements on their projects. And they make that very clear in all of their contracting with their participating members.”).

⁸⁰² Ex. EN-24 at 16 (Eberth Direct).

⁸⁰³ Ex. EN-24 at 16 (Eberth Direct); Ex. EN-22 at 16 (Simonson Direct).

⁸⁰⁴ Ex. EN-22 at 17 (Simonson Direct).

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388. Enbridge utilizes a comprehensive inspection system at the pipe mill to ensure the pipe meets exacting requirements for quality and integrity.⁸⁰⁵ This system ensures the proper chemistry of the steel, that there are no defects in the formed pipe, that every weld is defect free, that pipe can withstand the requisite pressures before the final epoxy coating is applied, and the appropriate application of fusion bonded epoxy.⁸⁰⁶
389. Enbridge implements a quality management system to prevent pipeline integrity issues from developing during construction.⁸⁰⁷ Enbridge will comply with all applicable regulatory and permitting requirements as well as any applicable national technical standards governing the design, construction, and installation of the pipeline.⁸⁰⁸ The pipeline will be inspected by regulatory agencies, including PHMSA, the Minnesota Department of Safety, and the Minnesota Office of Pipeline Safety.⁸⁰⁹
390. Detailed surveys, including topographical, civil, and environmental, were utilized to produce a hydraulic profile of the pipeline and intelligent valve placement (“IVP”) studies to inform placement of block valves along the Preferred Route. Each valve site and pump station will have a permanent access road, and all pumps and valves will be capable of being remotely closed in the event of abnormal operating conditions.⁸¹⁰
391. During construction, qualified Enbridge inspection staff members will visually inspect every weld. Enbridge also hires professional non-destructive inspection firms which perform x-ray or ultrasonic inspections on 100 percent of field welds, which exceeds PHMSA requirements to conduct testing on only 10 percent of each welder’s daily production.⁸¹¹ A protective coating, compatible with the rest of the pipeline, is then applied to each weld to ensure consistent quality and integrity in the protective coating. Once the pipe is lowered into the excavated ditch and backfilled with appropriate material, the sections of the new pipeline are pressure tested with water to ensure integrity and to establish the MOP.⁸¹² Each tested section is then inspected with an inline inspection tool, which detects dents, buckles, or geometric non-conformities if present in the tested pipeline to be addressed by the contractor before being placed into service. A cathodic protection system, which involves applying a small electric current to the pipeline and inducing corrosion of a remote, sacrificial anode while inhibiting corrosion on the steel, is then installed on the pipeline.⁸¹³ Lastly, sectionalized valves are placed

⁸⁰⁵ Ex. EN-22 at 17 (Simonson Direct).

⁸⁰⁶ Ex. EN-22 at 16, 17 (Simonson Direct).

⁸⁰⁷ Ex. EN-45 at 8 (Simonson Rebuttal); *see* Ex. EN-22 at 17-18 (Simonson Direct); Ex. EN-12 at 5 (Kennett Direct).

⁸⁰⁸ Ex. EN-22 at 30 (Simonson Direct).

⁸⁰⁹ Ex. EN-45 at 9 (Simonson Rebuttal).

⁸¹⁰ Ex. EN-74 at 1 (Simonson Summary).

⁸¹¹ Ex. EN-22 at 17 (Simonson Direct).

⁸¹² Ex. EN-22 at 18 (Simonson Direct).

⁸¹³ Ex. EN-22 at 18 (Simonson Direct).

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along the pipeline based on detailed engineering. Each valve has a power supply, as well as communications and pressure-sensing devices. These systems allow the control center to monitor the valve operations in real-time and shut the valves remotely.⁸¹⁴

392. In order to minimize construction impacts at major water crossings, pipeline segments may be installed via horizontal directional drill (“HDD”) or other suitable crossing methods.⁸¹⁵ HDDs are a trenchless construction method that require a lesser area of direct ground disturbance within the waterbody resulting in less environmental impact as opposed to other crossing methods. The HDD method is a well-established construction technique for installing pipelines under large waterbodies.⁸¹⁶ If the HDD method is used to cross waterbodies, Enbridge will follow the Environmental Protection Plan to protect an inadvertent release of drilling mud or to minimize environmental effects resulting from such inadvertent release.⁸¹⁷

d) The Project Will be Operated Safely.

393. Enbridge will also comply with all regulatory and permitting requirements and technical standards in the operation and maintenance of the Line 3 Replacement Pipeline.⁸¹⁸ Enbridge utilizes its Integrity Management Program (the “IMP”) to ensure that its pipelines can be safely operated for their intended purpose.⁸¹⁹
394. The IMP is the suite of programs and practices Enbridge uses to identify, inspect, assess, evaluate, and remediate integrity risks, as well as methods to measure the effectiveness of integrity program performance.⁸²⁰ The federal regulations require pipeline operators to develop integrity management programs for pipeline segments that could affect High Consequence Areas (“HCAs”), but Enbridge applies its program across the entire pipeline system.⁸²¹
395. The IMP focuses on the prevention, monitoring, and mitigation of integrity threats and the verification of the IMP’s effectiveness.⁸²² Enbridge invests significant resources in

⁸¹⁴ Ex. EN-22 at 18 (Simonson Direct).

⁸¹⁵ Ex. EN-22 at 19 (Simonson Direct).

⁸¹⁶ Ex. EN-22 at 19 (Simonson Direct).

⁸¹⁷ Ex. EN-22 at 19 (Simonson Direct).

⁸¹⁸ Ex. EN-22 at 30 (Simonson Direct).

⁸¹⁹ Ex. EN-24 at 16 (Eberth Direct).

⁸²⁰ Ex. EN-12 at 4 (Kennett Direct).

⁸²¹ Ex. EN-12 at 4 (Kennett Direct).

⁸²² Ex. EN-12 at 4 (Kennett Direct).

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- management system and technologies.⁸²³ Enbridge inspects all of its mainline system from the inside out, using the most sophisticated inline inspection tools available.⁸²⁴
396. Hydrostatic strength testing will be conducted on the pipeline before it is placed in service. The purpose of hydrostatic strength testing is to ensure that all anomalies that would be considered to negatively affect the pipeline pressure capacity are removed prior to commissioning.⁸²⁵ In the case of the Project, the test pressures will meet or exceed the required minimum test pressure levels across the entire length of the pipeline and will be at least 141 percent of the planned operating pressure at the design capacity.⁸²⁶
397. The Project will be operated by the Enbridge Control Center (the “Control Center”), which is responsible for the safe and efficient operation of the Enbridge liquid pipeline and terminal system through the U.S. and Canada.⁸²⁷ The Control Center remotely operates 59 distinct pipeline assets, 26 of which are in the U.S., totaling approximately 15,380 miles of pipe.⁸²⁸
398. Control room operations are governed by 49 C.F.R. Part 195.⁸²⁹ Enbridge’s Control Center complies with the regulations and is housed in a state-of-the-art facility with extensive design elements that support the effective execution of Control Center responsibilities by personnel who are directly responsible for the 24/7 operation of the Enbridge system.⁸³⁰
399. All pipelines are remotely operated via highly specialized computer programs operated by highly trained personnel.⁸³¹ The Control Center’s staff includes several layers of personnel, each playing an important, integrated role in the Control Center’s operations.⁸³² The Control Center has a number plans and systems that govern activities and processes critical to maintaining optimal performance, including but not limited to systems covering: (1) Control Room Management, (2) Incident Investigation, (3) Alarm Management, (4) Procedures Quality Management, (5) Training, and (6) Safety Culture

⁸²³ Ex. EN-12 at 6 (Kennett Direct).

⁸²⁴ Ex. EN-12 at 5 (Kennett Direct).

⁸²⁵ Ex. EN-51 at 17 (Mittelstadt Rebuttal).

⁸²⁶ Ex. EN-51 at 17 (Mittelstadt Rebuttal).

⁸²⁷ Ex. EN-16 at 2 (Baumgartner Direct).

⁸²⁸ Ex. EN-16 at 2 (Baumgartner Direct).

⁸²⁹ Ex. EN-16 at 4 (Baumgartner Direct).

⁸³⁰ Ex. EN-16 at 2 (Baumgartner Direct).

⁸³¹ Ex. EN-16 at 3 (Baumgartner Direct).

⁸³² Ex. EN-16 at 3-4 (Baumgartner Direct).

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- Improvement.⁸³³ Enbridge's Control Center focuses on continuous improvement and ensures that best practices are integrated into the work.⁸³⁴
400. Control Center Controllers are required to: (1) follow emergency procedures; (2) operate in a safe manner at all times; and (3) shutdown the system if a leak is suspected and/or cannot be ruled out within 10 minutes.⁸³⁵ Enbridge meets or exceeds all applicable engineering standards and regulatory requirements for leak detection.⁸³⁶
401. The Control Center employs multiple redundant methods designed and optimized to prevent the release of hydrocarbons into the environment and mitigate the magnitude of a release in the unlikely event of a pipeline failure.⁸³⁷ Controllers continuously monitor the pipeline relative to the pipeline's operating parameters,⁸³⁸ Leak Detection Analysts are on duty at all times,⁸³⁹ and Shift Supervisors monitor for third party reports of abnormal conditions.⁸⁴⁰
402. If the Control Center identifies one or two leak triggers (indications of a potential leak), the Leak Detection Analyst and Controller responsible for the pipeline conduct independent reviews to determine the validity of the alarm.⁸⁴¹ They have 10 minutes to analyze the leak.⁸⁴² If they do not conclusively rule out a leak, or if three or more active leak triggers occur, the Controller must immediately initiate a shutdown for the affected segment of the line.⁸⁴³
403. In addition to its primary control center, Enbridge has a fully redundant back-up control center in the Edmonton area that is on a separate electrical grid with redundant networking infrastructure, and emergency back-up power generation.⁸⁴⁴
404. The Control Center has a comprehensive training program for Control Center staff that meets training requirements prescribed in U.S. regulations and industry standards.⁸⁴⁵ The staff involved in emergency response decision-making are required to participate in semi-

⁸³³ Ex. EN-16 at 4 (Baumgartner Direct).

⁸³⁴ Ex. EN-16 at 4 (Baumgartner Direct).

⁸³⁵ Ex. EN-16 at 4 (Baumgartner Direct).

⁸³⁶ Ex. EN-35 at 2 (Philipenko Rebuttal).

⁸³⁷ Ex. EN-16 at 5 (Baumgartner Direct).

⁸³⁸ Ex. EN-16 at 7 (Baumgartner Direct).

⁸³⁹ Ex. EN-35 at 4 (Philipenko Rebuttal).

⁸⁴⁰ Ex. EN-16 at 7-8 (Baumgartner Direct); Ex. EN-35 at 5 (Philipenko Rebuttal).

⁸⁴¹ Ex. EN-35 at 4 (Philipenko Rebuttal).

⁸⁴² Ex. EN-16 at 8 (Baumgartner Direct).

⁸⁴³ Ex. EN-16 at 8 (Baumgartner Direct).

⁸⁴⁴ Ex. EN-81 at 1 (Baumgartner Summary).

⁸⁴⁵ Ex. EN-81 at 2 (Baumgartner Summary).

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annual training sessions and emergency response training. The training is conducted in simulation and team environments which also involves discussing historical industry and company incidents and advanced training topics such as hydraulics and human factor risk.⁸⁴⁶

405. Enbridge has comprehensive cyber security systems and protocols applicable company-wide, including the Control Center, and uses various frameworks to manage its cyber security risks and measure the effectiveness of controls.⁸⁴⁷
406. Transporting diluted bitumen does not pose unique threats to the integrity of the pipeline.⁸⁴⁸ In addition, the National Academy of Sciences study published in 2013 titled “Effects of Diluted Bitumen on Crude Oil Transmission Pipelines,” and commissioned by PHMSA, “[did] not find any causes of pipeline failure unique to the transportation of diluted bitumen” and “[did] not find evidence of chemical or physical properties of diluted bitumen that are outside the range of other crude oils.”⁸⁴⁹ Also, the study found that “[d]iluted bitumen does not have unique or extreme properties that make it more likely than other crude oils to cause internal damage to transmission pipelines from corrosion or erosion.”⁸⁵⁰

**e) Generally, A New Pipeline is a Safer Way to
Move Crude Oil Than an Older Pipeline.**

407. Existing Line 3 was installed in the 1960s.⁸⁵¹
408. New pipelines are less susceptible to threats than vintage pipelines.⁸⁵² Industry-wide, the numbers of releases and the volumes released have trended downward significantly since the 1960s.⁸⁵³ “[O]lder pipelines are more likely to have spills. . . .” Since that time, the materials are substantially improved, construction methodologies are more sound, pipeline operation has improved, pipeline monitoring has improved, leak detection systems are more sophisticated, and emergency response is better.⁸⁵⁴ Nationally, the frequency of crude oil spills has decreased significantly and the volumes have become increasingly lower in volume.⁸⁵⁵ In Minnesota, where pipeline operators have performed

⁸⁴⁶ Ex. EN-81 at 2 (Baumgartner Summary).

⁸⁴⁷ Ex. EN-81 at 2 (Baumgartner Summary).

⁸⁴⁸ Ex. EN-32 at 3 (Kennett Rebuttal).

⁸⁴⁹ Ex. EN-32 at 3 (Kennett Rebuttal).

⁸⁵⁰ Ex. EN-32 at 3 (Kennett Rebuttal).

⁸⁵¹ Ex. EN-24 at 6 (Eberth Direct).

⁸⁵² Ex. EN-12 at 27 (Kennett Direct); Ex. EN-51 at 19 (Mittelstadt Rebuttal).

⁸⁵³ Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 79-80 (Schmidt Etkin).

⁸⁵⁴ Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 81-82 (Schmidt Etkin).

⁸⁵⁵ Ex. EERA-29 at 10-19 (FEIS).

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better than in the rest of the nation, the trend is for even fewer and even smaller spills.⁸⁵⁶ As a result of the improvements in pipeline construction, comparing the risks associated with vintage pipelines to those associated with a pipeline built in 2017 or 2018 is simply not an apples-to-apples comparison.⁸⁵⁷

409. Many members of the public expressed agreement with the proposition that a newer pipeline will be safer than existing Line 3.⁸⁵⁸

**f) Enbridge’s Emergency Response Preparedness
Reduces the Potential Impacts of a Release.**

410. Pipeline safety, including emergency response plans, is regulated by PHMSA.⁸⁵⁹ The Minnesota Office of Pipeline Safety, as a qualified agent of PHMSA, performs inspections on behalf of PHMSA.⁸⁶⁰ Further, MPCA, through its Emergency Management Unit, also has regulatory oversight under Minn. Stat. Ch. 115, which

⁸⁵⁶ Ex. EERA-29 at 10-20 (FEIS); *see also* Ex. EERA-29 at 10-19 (FEIS) (In Minnesota, “[t]he spill volumes have been significantly smaller since 2010.”).

⁸⁵⁷ Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 82-83 (Schmidt Etkin); *see also* Grand Rapids Pub. Hrg. Tr. Vol. 3B at 26 (Oct. 10, 2017) (Kennett) (“[T]here are two pipelines that are Enbridge pipelines that cross into Minnesota that have not leaked along the right-of-way from things like cracking or corrosion. These are Line 65, which goes from Manitoba and comes into Clearbrook; and the other is Line 67, which comes from Alberta and comes down all the way to Superior. Now, what’s unique about these lines is they are newer lines. So Line 65 was built in 2006, and Line 67 was built in 2008. And these lines have more modern materials and construction practices, and so they exhibit excellent properties, and there are no confirmed leaks along the right-of-way on these pipelines.”).

⁸⁵⁸ Thief River Pub. Hrg. Tr. Vol. 1A at 111-112 (Sept. 26, 2017) (Peters) (“I just feel like common sense tells me that if you have a pipeline and it needs to be replaced, it should be replaced as quickly as possible. If Enbridge is willing to put up 7.8 billion, or some number that I read, I just can’t see how they would do that if there’s not a need. There has to be a need for a company to invest that kind of money in replacing that pipeline. From an environmental standpoint, it only makes good, logical sense to me that a new pipeline is much better than continuing to put oil through an aging pipeline.”); Grand Rapids Pub. Hrg. Tr. Vol. 3A at 45-46 (Oct. 10, 2017) (Pierson) (“I heard, I think, the Department of Commerce or something say – make a comment that they weren’t convinced the project was needed. It’s a little scary. Good thing that whoever made that decision or thinks that way is a state employee instead of works for a business. I can’t imagine working for a company and recommending a \$2 billion or whatever project that wasn’t needed. I probably wouldn’t keep my job very long. So I think if Enbridge feels that this project’s needed, it is needed. . . . I did appreciate the maps that the Headwaters people put up here. I really like to see that – all the pristine lakes right through the heart of the existing Line 3. That tells me that Enbridge has run this line for 50-plus years and we still have some of the best waters in the country. Same thing with the wildlife – wild rice lakes right through the heart of the existing route, and they’re still the best lakes around.”); Grand Rapids Pub. Hrg. Tr. Vol. 3A at 62 (Oct. 10, 2017) (Haubrich) (“But logically thinking over this issue is I don’t understand, if your – your concern is clean water and environment, why you wouldn’t want to replace Line 3. To me that’s the logical thing to do with the new technology and skills that we have. And the other is the Department of Commerce’s decision on need. I’m retired, but I have over 40 years working in heavy industry. And believe me, a company does not spend this kind of money without doing thorough research and study of the issue and not coming up that there is no need. That just does not make sense. That is not logical. It leads one to believe that that decision is a political decision.”).

⁸⁵⁹ Ex. EN-7 at 3 (Haskins Direct).

⁸⁶⁰ Ex. EN-7 at 3 (Haskins Direct).

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oversight is intended to prevent unpermitted releases, ensure emergency response and preparedness and planning, and assist in emergency response to support public safety protection and achieve cleanup.⁸⁶¹ Enbridge's emergency response plans meet or exceed all local, state, and federal requirements, including those in 49 C.F.R. Parts 194 and 195, Occupational Safety and Health Administration regulations, U.S. Coast Guard regulations, and national technical standards, such as those promulgated by the American Petroleum Institute.⁸⁶²

411. Enbridge has developed emergency response protocols, including regulated response plans known as the Integrated Contingency Plan (the "ICP"), serves as the emergency response plan for all Enbridge U.S. Liquids Pipelines assets, and the region-specific Field Emergency Response Plan (the "FERP").⁸⁶³ Enbridge's ICP is industry-leading and is to date the only ICP that has been peer-reviewed by PHMSA, the Environmental Protection Agency, and the Bureau of Safety and Environmental Enforcement ("BSEE").⁸⁶⁴ The ICP is an all-hazards approach, and it prepares Enbridge's employees to respond to a variety of threats and any type of oil release in any conditions.⁸⁶⁵
412. Enbridge's emergency response planning takes into account the products that will be moving through the pipeline.⁸⁶⁶ The Project will transport a variety of crude oils, including diluted bitumen. Diluted bitumen does not increase the likelihood of a release compared to other types of crude oil.⁸⁶⁷
413. At least in its initial stages, emergency response activities are the same regardless of the product involved. Enbridge's emergency response is programmatic and predictable, following the Incident Command System, working with the ICP and the appropriate FERP.⁸⁶⁸ As part of the early response activities, the released product is identified.⁸⁶⁹
414. Both light crude oils and diluted bitumens, if released, will initially float.⁸⁷⁰ As a result, both categories of oil are best contained and recovered by traditional methods of booming and skimming, which is the first line of defense to preventing released oil from submerging or sinking.⁸⁷¹

⁸⁶¹ Ex. EN-7 at 3 (Haskins Direct).

⁸⁶² Ex. EN-7 at 6 (Haskins Direct); *see* Ex. EN-7 at 3 (Haskins Direct).

⁸⁶³ Ex. EN-7 at 5 (Haskins Direct); Ex. EN-24, Sched. 3 (Eberth Direct).

⁸⁶⁴ Ex. EN-33 at 17 (Haskins Rebuttal).

⁸⁶⁵ Ex. EN-33 at 17 (Haskins Rebuttal).

⁸⁶⁶ Ex. EN-33 at 7 (Haskins Rebuttal).

⁸⁶⁷ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 32 (Schuldt).

⁸⁶⁸ Ex. EN-33 at 8 (Haskins Rebuttal).

⁸⁶⁹ Ex. EN-33 at 8 (Haskins Rebuttal).

⁸⁷⁰ Ex. EERA-29 at 10-32 (FEIS) ("Both dilbit and light crude oil would be expected to initially float.).

⁸⁷¹ Ex. EN-33 at 9 (Haskins Rebuttal).

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415. Depending on the variables present at the time and location of a release, and the other circumstances surrounding any release, additional tactics may be necessary.⁸⁷² Enbridge’s employment of the ICS facilitates the ability to adjust objectives and address conditions on a continuous basis following a release.⁸⁷³ This includes identifying the potential for released oil to submerge or sink, and then deploying any appropriate measures determined by the Submerged Oil Branch of the ICS, including Enbridge’s Submerged Oil Management Program (the “SOMP”).⁸⁷⁴ Enbridge engaged leading scientists to study the potential for submerged and/or sinking oil specifically as part of this proceeding and that work showed that, at a crossing typical of moving water bodies in Minnesota, released oil, whether it be light crude oil or dilbit, is not expected to submerge or sink to any appreciable degree before Enbridge’s emergency response efforts would recover the released product.⁸⁷⁵
416. Certain parties raised concerns due to Enbridge’s response to a spill of diluted bitumen in Marshall, Michigan. Enbridge’s emergency response to a release of diluted bitumen would be different today than it was at Marshall. Since Marshall, Enbridge has implemented the SOMP, that would be part of a response to a diluted bitumen release. That plan would reduce or prevent some of the longer-term issues that arose at Marshall and would help to accelerate recovery as well.⁸⁷⁶
417. The SOMP was originally developed as part of the Marshall response, which produced valuable lessons for responding to all types of releases, including those involving diluted bitumen.⁸⁷⁷ Enbridge also has submerged oil response equipment located in Submerged Oil Trailers at the PLM Shops. These are filled with emergency response equipment used to identify and tactically respond to submerged oil.⁸⁷⁸ In the unlikely event of a release which raised concerns about submerging and/or sinking oil, Enbridge would institute and follow the SOMP in an effort to limit and/or completely avoid oil from submerging into the water column and/or avoid submerged oil from falling out of the water column and into the sediment.⁸⁷⁹
418. Even with this preparedness, the conditions in the Mississippi River at and downstream of the crossing are such that no appreciable amount of oil, regardless of whether it is

⁸⁷² Ex. EN-33 at 9 (Haskins Rebuttal).

⁸⁷³ Ex. EN-33 at 9 (Haskins Rebuttal).

⁸⁷⁴ Ex. EN-33 at 9-10 (Haskins Rebuttal); Ex. EN-33 at 10 (Haskins Rebuttal).

⁸⁷⁵ Ex. EN-33 at 10 (Haskins Rebuttal); Ex. EN-52 at 25 and Sched. 2 (Horn Rebuttal).

⁸⁷⁶ Ex. EN-85 at 1 (Haskins Summary).

⁸⁷⁷ Ex. EN-33 at 10 (Haskins Rebuttal).

⁸⁷⁸ Ex. EN-33 at 10 (Haskins Rebuttal).

⁸⁷⁹ Ex. EN-33 at 10 (Haskins Rebuttal).

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Bakken crude oil or Cold Lake Winter Blend—will entrain into the water column (a/k/a submerge) and, as a result, no appreciable amount of oil will sink either.⁸⁸⁰

419. The early implementation of submerged oil tactics will greatly limit the amount of oil that sinks to the sediment layer.⁸⁸¹ These tactics capture submerged oil out of the water column before it sinks. This would eliminate or decrease the amount of potential dredging needed for remediation, which would materially reduce the resources and time necessary to remediate a release.⁸⁸² As shown in the plan, some of the specific tactics are the use of turner valley gates or gabion baskets with absorbent poms and/or the addition of X-Tex curtains to the bottom of boom.⁸⁸³
420. Title 49, Part 194, of the U.S. Code of Federal Regulations specifies components of an Emergency Response Plan for oil transport focus.⁸⁸⁴ The regulations require compliance with the National Contingency Plan and the Area Contingency Plans. These plans are the Oil Response Plans for the EPA, the U.S. Coast Guard, and Area Response Teams. These local and national governmental contingency plans address any concerns by the EPA, USCG, and local responders related to product types and regional concerns.⁸⁸⁵ Mr. Kuprewicz testified concerning the differences, from an emergency response perspective, between diluted bitumen and other heavy and light crude oils. Dr. Horn and Dr. Stephenson provide more credible evidence on these differences. The Enbridge ICP was peer reviewed by the USCG, EPA, and the BSEE, along with PHMSA.⁸⁸⁶ This was the first, and to date, the only ICP that was reviewed by PHMSA and the other listed governmental agencies. The ICP is designed to allow Enbridge to respond in an all hazards fashion to any incident.⁸⁸⁷ The policies, procedures, training, and equipment are not focused only on responding to a specific type of oil response on water. The ICP prepares the employees to respond to a variety of events, from fire to earthquake. It also prepares the employees to respond to any type of oil release in any conditions from oil under ice to a response in the heat of summer.⁸⁸⁸ Additionally, Enbridge follows the API 1174 recommended practice for oil pipeline emergency response. This is a national consensus best practice addressing identification and mitigation of risks, implementation of changes from lessons learned, and assists in preparing for a safe, timely, and effective response.⁸⁸⁹

⁸⁸⁰ Ex. EN-33 at 10 (Haskins Rebuttal).

⁸⁸¹ Ex. EN-33 at 11 (Haskins Rebuttal).

⁸⁸² Ex. EN-33 at 11 (Haskins Rebuttal).

⁸⁸³ Ex. EN-33 at 11 (Haskins Rebuttal).

⁸⁸⁴ Ex. EN-33 at 17 (Haskins Rebuttal).

⁸⁸⁵ Ex. EN-33 at 17 (Haskins Rebuttal).

⁸⁸⁶ Ex. EN-33 at 17 (Haskins Rebuttal).

⁸⁸⁷ Ex. EN-33 at 17 (Haskins Rebuttal).

⁸⁸⁸ Ex. EN-33 at 17 (Haskins Rebuttal).

⁸⁸⁹ Ex. EN-33 at 17 (Haskins Rebuttal).

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421. Enbridge’s pipelines have existed in the vicinity of the Preferred Route for more than 65 years. During that time, Enbridge has regularly accessed the rights-of-way for construction, operations, and maintenance.⁸⁹⁰ Emergency responders are able to access all parts of the Enbridge right-of-way using trucks, Utility Terrain Vehicle, and dedicated emergency response vehicles. The same will be true of the Preferred Route.⁸⁹¹

g) Enbridge has the Financial Resources to Respond to a Release.

422. As the Project owner, Enbridge is financially responsible for emergency response.⁸⁹² Enbridge has access to multiple sources of financial resources to fund the response to and remediation of a release. Enbridge is able to draw down cash from operations, issue debt, or acquire commercial paper as a result of its exceptionally strong credit rating.⁸⁹³ Enbridge is also well-capitalized to absorb unforeseen operational costs, maintains adequate insurance for operations, and has exceptional access to public debt markets to fund operational needs, including those stemming from pipeline releases or leaks.⁸⁹⁴

423. Enbridge Energy, Limited Partnership generates approximately US\$600 million in free cash flow, after expenses, annually.⁸⁹⁵ These significant revenues and cash flow would be drawn upon first to meet financial obligations arising from an accidental release from the Project.⁸⁹⁶ The assets and operations of the Applicant also represent a significant component of the cash flows and enterprise value of its publically-traded parent entity, Enbridge Energy Partners (“EEP”). Accordingly, EEP has a compelling financial interest to ensure that the Applicant remains solvent and meets all of its financial commitments.

424. EEP has offered to provide a parental guaranty that, in the event the Applicant is unable to fund the obligations resulting from a release on the Project, EEP will be responsible for such obligations.⁸⁹⁷ As of June 30, 2017 EEP had approximately US\$3.4 billion of committed credit facilities with a net available liquidity of US\$1.5 billion.⁸⁹⁸ EEP’s total

⁸⁹⁰ Ex. EN-33 at 6 (Haskins Rebuttal).

⁸⁹¹ Ex. EN-33 at 6 (Haskins Rebuttal).

⁸⁹² See Oil Pollution Act of 1990 (“OPA90”), 33 U.S.C. §2701 et seq.; see also Ex. EERA-29 at 10-140 – 10-141 (Table 10.6-2) (FEIS).

⁸⁹³ Ex. EN-24, Sched. 3 at 37 (Eberth Direct).

⁸⁹⁴ Ex. EN-24, Sched. 3 at 37 (Eberth Direct).

⁸⁹⁵ Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 59 (Johnston); Evid. Hrg. Tr. Vol. 6A (Nov. 9, 2017) at 54 (Johnston) (“Enbridge Energy Partners generates free cash flow of \$700 million a year”); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 15 (Johnston) (“The assets generate cash flows of 700 million per year”); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 37 (Johnston) (“85 percent of [Enbridge Energy Partners’] business, cash flows, operating activities, are generated from the assets owned by the Applicant”).

⁸⁹⁶ Ex. EN-42 at 4 (Johnston Rebuttal).

⁸⁹⁷ Ex. EN-91 at 1 (Johnston Summary).

⁸⁹⁸ Ex. EN-91 at 1 (Johnston Summary).

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asset value as of June 30, 2017 was approximately US\$15 billion. EEP's revenue for the year ended December 31, 2016 was US\$2.5 billion and net cash provided by operating activities was US\$1.4 billion.⁸⁹⁹ EEP's financial resources are projected to be stable, as the majority of its assets operate under cost of service or take or pay arrangements, and EEP maintains committed credit facilities with a number of banks with maturity dates of up to five years, which are extendible annually. Should the need arise, EEP can draw on its committed lines of credit in a matter of days.⁹⁰⁰

425. The resources of Enbridge Energy, Limited Partnership and EEP have been demonstrated to be adequate. In response to the July 2010 rupture of Enbridge's Line 6B pipeline and subsequent oil release into wetlands and the Kalamazoo River in Marshall, Michigan, Enbridge has, over the subsequent period of time and to date, paid over \$1.2 billion in response, clean-up, and restoration costs as well as fines from state and federal agencies.⁹⁰¹ During the Line 6B incident, Enbridge Energy, Limited Partnership funded the cash requirements of the incident through its operating cash flows supplemented by EEP's committed credit facilities. In September of 2010, EEP was also able to access the capital markets during the spill response to support additional growth capital from its diversified portfolio of assets.⁹⁰²
426. Enbridge also has general liability insurance. This insurance provides Enbridge with an opportunity to potentially recover some of the costs that may be incurred with respect to spill response.⁹⁰³ Insurance is not an operational risk management tool. In other words, insurance doesn't influence what Enbridge does on a day-to-day basis or Enbridge's commitment to continue to target 100 percent safe operations by preventing incidents from occurring. Insurance also does not influence Enbridge's emergency response efforts or the resources used in the unlikely event that there is a release.⁹⁰⁴ Rather, the function of insurance is an after the fact recovery of monies Enbridge spends responding to a release.⁹⁰⁵
427. Enbridge currently maintains US\$940 million in general liability insurance coverage.⁹⁰⁶ This program covers Enbridge's legal liability for claims arising out of its operations and includes pollution liability coverage, again for recovery of monies spent in responding to

⁸⁹⁹ Ex. EN-91 at 1 (Johnston Summary).

⁹⁰⁰ Ex. EN-42 at 4 (Johnston Rebuttal); Ex. EN-91 at 1 (Johnston Summary).

⁹⁰¹ Ex. EERA-29 at 10-139 (FEIS) (*citing* U.S. Securities and Exchange Commission 2014).

⁹⁰² Ex. EN-42 at 5 (Johnston Rebuttal).

⁹⁰³ Ex. EN-43 at 2 (Lim Rebuttal).

⁹⁰⁴ Ex. EN-93 at 1 (Lim Summary).

⁹⁰⁵ Ex. EN-93 at 1 (Lim Summary).

⁹⁰⁶ Ex. EN-93 at 2 (Lim Summary).

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an accidental release, including costs related to clean-up, restoration and damage to natural resources.⁹⁰⁷

428. If Enbridge were unable to respond to a release from the Project, the Oil Spill Liability Trust Fund, which is funded through a surcharge paid for by the oil and gas industry, is also available to provide funds to federal, state and triable governments that respond to a release.⁹⁰⁸ The Oil Spill Liability Trust Fund has a current balance of approximately \$1 billion.⁹⁰⁹
429. During the Line 6B incident that occurred in Marshall, Michigan in 2010, the Applicant funded the cash requirements of the incident through its operating cash flows supplemented by EEP's committed credit facilities. EEP was also able to access the capital markets during the spill response in September of 2010 to support additional growth capital from its diversified portfolio of assets.⁹¹⁰
430. Some parties have argued that, if demand for crude oil declines, declining revenues will make it impossible for Enbridge to adequately fund spill response. Enbridge mitigates this risk by monitoring developments in its supply and demand basins, reviewing third-party long-range forecasts of supply and demand fundamentals and by maintaining strong relationships with key customers of its assets.⁹¹¹ While changes in supply and demand basins do occur, these changes tend to occur over longer periods of time, giving pipeline operators and their customers ample time to adjust tolls and volume expectations.⁹¹² Current long-range outlooks show strong supply and demand fundamentals through the forecast period, indicating that the risk of declining revenues is low for the foreseeable future.⁹¹³

2) Socioeconomic Effects.

431. If the Applicant's Preferred Route is approved, it will be constructed and the Project's economic impacts will be realized. Those impacts are substantial and will be felt particularly strongly in the counties through which the pipeline will pass. Northern Minnesota has many skilled pipeliners who would welcome an opportunity to work close

⁹⁰⁷ Ex. EN-93 at 2 (Lim Summary).

⁹⁰⁸ Ex. EERA-29 at 10-139 (FEIS).

⁹⁰⁹ Ex. EERA-29 at 10-139 (FEIS).

⁹¹⁰ Ex. EN-42 at 5 (Johnston Rebuttal).

⁹¹¹ Ex. EN-42 at 6 (Johnston Rebuttal).

⁹¹² Ex. EN-42 at 6 (Johnston Rebuttal).

⁹¹³ Ex. EN-42 at 6 (Johnston Rebuttal).

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- to home.⁹¹⁴ Pipeline construction jobs on Line 3 would be some of the highest paying jobs that workers can have in this line of work.⁹¹⁵
432. The estimated Project construction cost for the portion located in Minnesota is approximately \$2.1 billion. This private investment in Minnesota is anticipated to be responsible for an estimated 13,604 jobs, \$864,721,326 in labor income, and total economic output of \$2,253,696,670.⁹¹⁶
433. The construction industry has new projects replacing completed projects as a matter of course. As projects are completed, construction workers become available for new projects.⁹¹⁷ Although commenters noted that construction jobs are temporary, witness Barrett testified that the temporary nature of construction jobs is exactly what makes them so important.⁹¹⁸ Barrett testified that every opportunity for construction work that is denied negatively impacts construction workers because they rely on a steady supply of temporary jobs to provide complete incomes for themselves and their families.⁹¹⁹
434. Some parties testified that any jobs will be filled by “job shifting” rather than by new workers. However, even if job shifting does occur and regional wages increase, these increased wages will ultimately lead to increases in consumption which would, in turn, lead to increases in economic activity. Therefore, the jobs-related benefits of a project such as this are real, regardless of current overall unemployment rates.⁹²⁰
435. In addition, Enbridge’s operations in Minnesota contribute more than \$30 million per year in local property taxes, which further fund societal benefits, such as our education system and government services. For example, Enbridge pays 40 percent of the total taxes in Clearwater County, Minnesota.⁹²¹
436. The communities that will be directly impacted by the Project are almost uniformly in support of it, and many have submitted resolutions, letters, and/or comments to the Commission to this effect.⁹²²

⁹¹⁴ Ex. LC-1 at 3 (Whiteford Direct).

⁹¹⁵ Ex. UA-1 at 3 (Barnett Direct).

⁹¹⁶ Ex. EN-11 at 2 (Lichty Direct).

⁹¹⁷ Ex. EN-41 at 6 (Lichty Rebuttal).

⁹¹⁸ Ex. UA-1 at 10-11 (Barnett Direct).

⁹¹⁹ Ex. UA-1 at 11 (Barnett Direct).

⁹²⁰ Ex. EN-41 at 7 (Lichty Rebuttal).

⁹²¹ Ex. EN-30 at 7 (Eberth Rebuttal). Note that the property tax benefits calculated assumed that Enbridge is successful in currently pending property tax disputes with the State of Minnesota. As a result, the estimates are conservative. That is, if Enbridge is not successful in its property tax appeals, the property tax benefits in Minnesota will be higher. *Id.* at 32.

⁹²² See *supra* Section III (Federal, State, and Local Government Participation).

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437. Moreover, denial of the Project may have negative impacts on other industries as a result of increased rail congestion. Minnesota’s rail network is of crucial importance to the state’s economy.⁹²³ The railroads are the primary source of transportation for Minnesota’s major bulk products, including grain and ore, which are the cornerstones of the Minnesota economy.⁹²⁴ Each year, railroads pick up or deliver goods in Minnesota valued at nearly \$21 billion.⁹²⁵
438. Significant rail capacity increases will be required over the next decade – to accommodate both day-to-day and peak volumes, if rail is to effectively support projected growth in grain, chemicals, minerals, and other key commodities vital to Minnesota’s economy, together with planned passenger rail services to serve Minnesota residents.⁹²⁶ The current five percent market share for pipeline is relatively small compared to truck or rail, but without pipelines, there would be another 27.5 average daily trains on Minnesota’s already congested rail network, or 8,250 added trucks every day on Minnesota’s highways.⁹²⁷
439. By the year 2040, MnDOT projects 80 percent growth in freight traffic in Minnesota, to 1.8 billion tons that year.⁹²⁸ And MnDOT projects that pipeline market share in Minnesota will increase from 5 percent in 2012 to 6 percent by 2040, driven by above average growth in commodities typically moved in pipelines.⁹²⁹ Should pipeline capacity be unable to keep pace with projected growth, then traffic would shift to rail – and much of that traffic would move through Minnesota.⁹³⁰
440. The commissioning of the Project will not itself change the supply volume of Western Canadian crude oil.⁹³¹ It will, however, impact the way that oil already going to market will move, primarily by decreasing reliance on rail shipments for those volumes.⁹³² As the Government of Alberta stated, “Independent analysis shows that growth in oil sands production will likely outstrip current pipeline capacity by 2018. As noted by Canada’s National Energy Board, Western Canadian crude oil production is forecasted to grow to approximately 4.67 million bpd by 2030 even in a low-price oil scenario. Current pipeline capacity for Western Canadian crude is approximately 3.9 million bpd, this already includes the existing Line 3 pipeline which operates at 390,000 bpd. Some have

⁹²³ Ex. EN-72 at 1 (Rennicke Summary).

⁹²⁴ Ex. EN-72 at 1 (Rennicke Summary).

⁹²⁵ Ex. EN-72 at 1 (Rennicke Summary).

⁹²⁶ Ex. EN-72 at 1 (Rennicke Summary).

⁹²⁷ Ex. EN-10, Sched. 2 at 18 (Rennicke Direct).

⁹²⁸ Ex. EN-10, Sched. 2 at 21 (Rennicke Direct).

⁹²⁹ Ex. EN-10, Sched. 2 at 21 (Rennicke Direct).

⁹³⁰ Ex. EN-10, Sched. 2 at 21 (Rennicke Direct).

⁹³¹ Ex. EN-15, Sched. 2 at 83 (Earnest Direct); Ex. EN-37, Sched. 1 at 69-70 (Earnest Rebuttal).

⁹³² Ex. EN-15, Sched. 2 at 83 (Earnest Direct).

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suggested lack of pipeline capacity may constrain oil sands production, but Western Canada has more than 1 million bpd in rail transloading capacity. As the price differentials between rail and pipelines have declined in recent years, rail offers more flexible destinations and shorter term contracts than pipelines. Given available heavy oil markets, the location of north-south rail infrastructure, and the transloading infrastructure in place, it appears that without new pipeline capacity, more oil-by-rail would be moving through Minnesota in the future.”⁹³³

441. Rail is the economical choice to move crude oil if pipeline capacity is unavailable.⁹³⁴ Minnesota industry is hurt when rail capacity is consumed by crude oil by rail volumes. Although the Project would not entirely replace rail for the movement of crude oil, it would reduce the use of rail for future crude oil shipments, thus freeing up rail capacity for the movement of other commodities, such as grain and ore, with few or no other transport options, and for passenger rail services.⁹³⁵ Specifically, the Project is projected to reduce crude-by-rail shipments of between 110 kbpd up to about 500 kbpd.⁹³⁶ Further, construction of the Project would mitigate the need for some crude oil to use the railroads, which would, in turn, allow the railroads more flexibility to respond to the transportation demand cycles of other commodities, such as grain and other agricultural products.⁹³⁷ This would enable Minnesota to reduce the risk of economic disruption as a result of rail congestion.⁹³⁸
442. The No Action alternative, on the other hand, will increase the volume of Western Canadian crude oil moving by rail through Minnesota, and railroads will use routes through Minnesota to: (1) move crude oil that would have otherwise been moved via the incremental pipeline capacity offered by the Line 3 Replacement pipeline, and (2) move crude oil generated by growth in crude oil supplied to market that are either (i) not served by pipeline or (ii) that have no available pipeline capacity.⁹³⁹ Because crude-by-rail revenue and net income is high, railroads will tend to displace other traffic in favor of crude.⁹⁴⁰

⁹³³ Comment by Minister of Government of Alberta, Canada (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)).

⁹³⁴ Ex. EN-10, Sched. 2 at 10 (Rennicke Direct).

⁹³⁵ Ex. EN-10, Sched. 2 at 5-6 (Rennicke Direct).

⁹³⁶ Ex. EN-15, Sched. 2 at 12 (Earnest Direct). The potential for the reduced rail volumes to exceed the 370,000 barrel per day increase in nominal capacity offered by the Line 3 Replacement pipeline over existing Line 3 results from the fact that the Line 3 Replacement program would allow 180 kbpd of swing capacity in the Mainline System to be utilized.

⁹³⁷ Ex. EN-10 at 2 (Rennicke Direct).

⁹³⁸ Ex. EN-10 at 2 (Rennicke Direct).

⁹³⁹ Ex. EN-10, Sched. 2 at 6 (Rennicke Direct).

⁹⁴⁰ Ex. EN-40 at 12 (Rennicke Rebuttal).

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443. In addition to having potential for impacting industry, increased crude-by-rail traffic also is not a safer way to move crude oil than pipeline. Rail releases a higher percentage of crude oil transported (0.309 percent) than pipelines do (0.006 percent).⁹⁴¹ The No Action Alternative in this case, which is existing Line 3 supplemented by rail, puts far more acres of HCAs, Wellhead Protection Areas, and other resources at risk than does the Applicant's Preferred Route.⁹⁴²
444. Rail also poses a greater risk to human safety, because railroads have at-grade crossings.⁹⁴³ Further, the rail alternatives/supplement travel through more High Consequence populated areas than the proposed Line 3 Replacement project.⁹⁴⁴ Considering that "[t]he greatest concern about crude-by-rail train accidents is that they may involve fires and explosions,"⁹⁴⁵ passing through populated areas is a threat that should not be overlooked.
445. Minnesota's rail network also crosses through Reservations, while the Applicant's Preferred Route does not. The result is that the No Action Alternative exposes those Reservations to continued risks from existing Line 3 as well as the risk from the incremental volumes that will be shipped by rail.⁹⁴⁶
446. Finally, there is no evidence that construction of the Project will increase any type of crime along the route.⁹⁴⁷

3) Effects on the Natural Environment.

447. The No Action scenario has significant effects on the natural environment, even when compared to the Project. These impacts would arise from the necessary maintenance program that would be conducted on existing Line 3 if the existing pipeline continued in operation, as well as the impacts of alternative transportation methods (which the record shows could be rail, truck, or even barge).⁹⁴⁸

⁹⁴¹ Ex. EERA-29 at 10-142 (FEIS).

⁹⁴² Ex. EERA-29 at 10-144 (Table 10.7-2) (FEIS).

⁹⁴³ Ex. EN-10, Sched. 2 at 55 (Rennicke Direct).

⁹⁴⁴ Ex. EERA-29 at 10-145 (FEIS).

⁹⁴⁵ Ex. EERA-29 at 10-144 (Table 10.7-2) (FEIS).

⁹⁴⁶ See, e.g., Ex. EERA-29 at 10-145 (FEIS) (showing that tens of thousands more acres of Reservation land are proximate to existing Line 3 and the rail shipment supplements, and therefore potentially affected in the event of a release compared to the Applicant's Preferred Route, which does not cross Reservation lands).

⁹⁴⁷ See, e.g., Grand Rapids Pub. Hrg. Tr. Vol. 3A at 65 (Oct. 10, 2017) (George) ("One thing I would add, in regards to crime along – we hear this a lot along the way. That when pipelines come, there's all kinds of crime that come with them. It's just absolutely false. We looked at the stats – we pulled the crime stats in the counties where the Alberta Clipper was built. Crime did not go up at all. Prostitution, drug crimes, not at all. So if you look at the facts, they're pretty clear.").

⁹⁴⁸ Ex. EN-46 at 3-4 (Bergland Rebuttal); Ex. EN-56, Sched. 1 at 2 (Earnest Surrebuttal) ("[I]f Line 3 is not replace or is shut down permanently . . . Flint Hills Resources would likely be compelled to explore other

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448. The existing Line 3 maintenance process would involve a substantial integrity dig, or dig and repair, program. In Minnesota, there is a forecasted need for approximately 6,250 integrity digs over the next 15 years.⁹⁴⁹ This maintenance program will have associated year-after-year landowner and environmental impacts. The analysis indicates that these digs would be required on approximately 858 tracts, or about one-half of all existing Line 3 tracts. Within the Chippewa National Forest (“CNF”) and on the Leech Lake and Fond du Lac Reservations, an estimated 484 digs would be required over the next 15 years.⁹⁵⁰ The digs in the CNF, on Fond du Lac Reservation, and on the Leech Lake Reservation are estimated to impact 13, 7, and 25 acres over the next 15 years, respectively.⁹⁵¹ The digs typically require permits for the excavation area of about 40 feet by 80 feet, and the additional temporary workspace needed may be much larger than that, depending on the circumstances.⁹⁵² Conservatively, although the exact location and extent of excavations cannot be precisely determined, approximately 270,000 acres of land would be directly affected.⁹⁵³
449. In the FEIS, Tables 5.2.4-12 and 5.2.5-26 summarize the construction and operations impacts associated with the Project and continued use of the existing Line 3 on fish and wildlife species and habitat. The FEIS describes several different potential impacts on fish and wildlife, including aquatic and wildlife habitat loss, impacts to trout streams, Minnesota Lakes of Biological Significance, Aquatic Management Areas (“AMAs”), impacts to wildlife conservation areas, disturbance to colonial nesting birds, habitat fragmentation, and injury or mortality of aquatic and wildlife species. Impacts to these resources are dependent upon many factors, including location and distribution of species at the time of construction or maintenance activities, and habitat composition and quality, and therefore, the FEIS accurately describes the impacts to these resources from both the Preferred Route and the continued use of Line 3 as ranging from no impact, short-term to long-term, and negligible, minor, and major. Based on Table 5.2.5-26 of the FEIS, implementation of the ongoing Line 3 maintenance program over the next 15 years would have the potential to impact more outstanding and high categories of Minnesota Sites of Biodiversity Significance, more ESA-listed insects, and Minnesota bird, insect, and plant species of special concern. The continued use of existing Line 3 would have permanent and major impacts on 594 acres of forested vegetation, which also serves as wildlife habitat. An estimated 145 digs would be required within the CNF over the next 15 years which, according to their website, is home to “more lakes and wetlands than any other National Forest.”⁹⁵⁴ Thirty-six digs would be required within AMAs associated with the

alternatives for meeting its crude oil needs, including the possibility of receiving crude by rail, river vessel, or perhaps other pipeline projects.”).

⁹⁴⁹ Ex. EN-12 at 24 (Kennett Direct).

⁹⁵⁰ Ex. EN-46 at 7 (Bergland Rebuttal).

⁹⁵¹ Ex. EN-46 at 11 (Bergland Rebuttal).

⁹⁵² Ex. EN-6, at 15-16 (McKay Direct).

⁹⁵³ Ex. EN-46 at 5 (Bergland Rebuttal).

⁹⁵⁴ CNF, <https://www.fs.usda.gov/chippewa>.

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Clearwater River (18 digs), Necktie River (9 digs), and Little Otter Creek (5 digs), whereas the Preferred Route would cross only one AMA at LaSalle Creek. Maintenance digs would also be required at a fish management area (“FMA”) associated with the Big/Little Midge Lake (four digs); the Preferred Route would not impact an FMA. Similarly, the existing Line 3 crosses six trout streams, and maintenance digs are required at two of these crossings within the next 15 years.⁹⁵⁵

450. Table 10.7-3 of the FEIS concludes that there are more HCA unusually sensitive ecological areas, aquatic management areas, lakes of biological significance, muskie lakes, sensitive lakeshore areas, and waterfowl production areas along the existing Line 3 as compared to the Project.⁹⁵⁶ When considered together, the Biological AOIs along the Project and the continued use of existing Line 3 are similar (102,426.2 acres for the Project as compared to 99,970 acres for existing Line 3).⁹⁵⁷ In conclusion, both the Project and continued use of the existing Line 3 would damage fish and wildlife habitat. Impacts for both scenarios would be reduced and mitigated through the implementation of the mitigation measures as outlined in the FEIS. Furthermore, as stated on page 5-283, “[a]voidance and impact minimization measures that would influence the duration and magnitude of impacts include Applicant-proposed measures, measures proposed by the MDNR, and measures that would be included in state and federal permits. All stream crossings and measurable disturbance to wildlife (e.g., beaver dams, colonial nesting waterbirds, raptor nests) or aquatic species (e.g., fish, mussels) would be reviewed and approved by the authorizing agency prior to construction and may include requirements for further surveys or additional mitigation.”⁹⁵⁸
451. The construction impacts of the Project on wild rice are similar in magnitude as the ongoing maintenance program for the existing Line 3. Impacts for both scenarios can be appropriately mitigated, as outlined in the FEIS. Table 10.7-3 of the FEIS concludes that there are more wild rice lakes and harvested wild rice lakes within 2,500 feet of either side of the centerline of existing Line 3, as compared to the Project.⁹⁵⁹
452. With respect to GHG emissions, as discussed in more detail below, there is no evidence that the Project will contribute in any meaningful way to climate change, even when compared to No Action. Rather, the emissions comparison must be between shipping the 370 kbpd of restored capacity by pipeline or by rail, which has significantly higher emissions than a pipeline.⁹⁶⁰

⁹⁵⁵ Ex. EN-46 at 10 (Bergland Rebuttal).

⁹⁵⁶ Ex. EN-46 at 10 (Bergland Rebuttal).

⁹⁵⁷ Ex. EERA-29 at 10-144 (Table 10.7-2) (FEIS).

⁹⁵⁸ Ex. EERA-29 at 5-283 (FEIS); Ex. EN-46 at 11 (Bergland Rebuttal).

⁹⁵⁹ Ex. EERA-29 at 10-147 (Table 10.7-3) (FEIS); *see also* Ex. EN-46 at 9 (Bergland Rebuttal).

⁹⁶⁰ Ex. EN-57 at 3 (Glanzer Surrebuttal).

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453. The risks associated with accidental releases are very low probability risks and best dealt with through mitigation efforts.⁹⁶¹ While some parties assert that spills are inevitable and will cause great harm to resources in northern Minnesota, these parties have provided neither statistical nor anecdotal evidence to support these claims. Enbridge’s pipelines have been present in northern Minnesota, traversing watersheds and ecosystems that were considered “high quality” before the pipelines were installed, and they continue to be designated “high quality” after decades of operation.⁹⁶²
454. Pipeline releases are statistically unlikely events. Large releases are even more unlikely. The likelihood of a rupture at any particular location is on the order of a one-in-a-million chance of failure in a given year.⁹⁶³ There is no more than a 1/240 chance in any given year that the Line 3 Replacement pipeline will have a rupture in Minnesota.⁹⁶⁴ And it is impossible to predict when a release will occur or the circumstances that will be present at the time and location of a release. As a result, it is not possible to predict the impacts of a release. But what can be predicted is the fact that existing Line 3, whose known integrity concerns are a driver of the replacement project, is more susceptible to more threats than the Line 3 Replacement pipeline would be.⁹⁶⁵
455. In the unlikely event of a crude oil release, there may be adverse effects, but scientific studies and observations demonstrate that environments and their essential functions recover.⁹⁶⁶ The timeframe for the recovery of a particular abiotic or biotic parameter depends on a variety of factors, and the efficacy of emergency response containment and cleanup measures can substantially reduce the geographic extent, magnitude and duration of adverse effects, and can promote recovery following a release.⁹⁶⁷ Promulgated regulations mandate remediation efforts continue until cleanup standards, which are protective of human health and the environment, are met.⁹⁶⁸
456. Approximately 98 percent of the lakes in the watersheds intersected by the Project have no hydrologic connection to the Project.⁹⁶⁹ Specifically, in the 15 watersheds that the pipeline will cross in Minnesota, the PWI database lists a total of 7,937 lakes, and that, of those 170 lakes: 7,722 have no hydrologic connection to the pipeline; 215 have hydrologic connections to the pipeline. Of the 215 lakes with hydrologic connections to the Project, 89 are connected to the Project via a wetland or topography, 36 are the first

⁹⁶¹ Ex. EN-75, at 1 (Bergland Summary).

⁹⁶² Ex. EN-46 at 27-28 (Bergland Rebuttal).

⁹⁶³ Ex. EN-80 at 1 (Mittelstadt Summary).

⁹⁶⁴ Ex. EN-51 at 14 (Mittelstadt Rebuttal).

⁹⁶⁵ See Ex. EN-32 at 5 (Kennett Rebuttal).

⁹⁶⁶ Ex. EN-90 at 2 (Tillquist Summary).

⁹⁶⁷ Ex. EN-90 at 2 (Tillquist Summary).

⁹⁶⁸ Ex. EN-90 at 2 (Tillquist Summary).

⁹⁶⁹ Ex. EN-17, Sched. 2 at 8 (Wuolo Direct).

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lake downstream of the Project, and two would be crossed by the Project.⁹⁷⁰ These crossings are located at an unnamed lake and Hay Creek.⁹⁷¹

457. An accidental crude oil release from the pipeline could only potentially affect a lake that is hydrologically connected to the pipeline and near enough downstream that a release from the pipeline could feasibly reach the lake.⁹⁷² Crude oil accidentally released from the pipeline cannot affect lakes that are upstream from the pipeline, or that are separated from the pipeline by watershed divides.⁹⁷³ Lakes that are hydrologically connected to the pipeline via a wetland or topography also have the potential to be affected.⁹⁷⁴ However, crude oil typically moves more slowly via wetland or topography than in a stream, which increases the likelihood that release response activities would contain the oil prior to it reaching a lake.⁹⁷⁵
458. A crude oil release could potentially affect groundwater if oil soaked into the soil and moved downward through the soil to the water table.⁹⁷⁶ However, groundwater moves very slowly; even in very permeable deposits, such as sand or gravel, groundwater typically moves less than one foot per day, which enables natural attenuation to limit the maximum movement of a plume of dissolved crude oil byproducts to a few hundred feet.⁹⁷⁷ Given the relatively slow pace at which hydrocarbons move through groundwater, Enbridge testified that its emergency response actions would prevent accidentally released hydrocarbons from reaching any drinking water sources along the Preferred Route.⁹⁷⁸

a) Climate Change.

459. Various commenters and parties have expressed concerns about the Project's impact on climate change.⁹⁷⁹ The record does not support a conclusion that the Project will contribute to climate change.
460. There is no evidence that the Project will result in increased production and/or consumption of crude oil. Rather, the record demonstrates that the Project will simply change the means by which crude oil is transported. Pipelines are a less GHG-intensive

⁹⁷⁰ Ex. EN-17, Sched. 2 at 2 (Wuolo Direct).

⁹⁷¹ Ex. EN-17, Sched. 2 at 2 (Wuolo Direct).

⁹⁷² Ex. EN-17 at 4 (Wuolo Direct).

⁹⁷³ Ex. EN-17 at 4 (Wuolo Direct).

⁹⁷⁴ Ex. EN-17 at 6 (Wuolo Direct).

⁹⁷⁵ Ex. EN-17 at 6 (Wuolo Direct).

⁹⁷⁶ Ex. EN-17 at 7 (Wuolo Direct).

⁹⁷⁷ Ex. EN-17 at 7 (Wuolo Direct).

⁹⁷⁸ Ex. EN-49 at 2 (Wuolo Rebuttal).

⁹⁷⁹ See, e.g., Ex. YC-2 at 6 (Scott Direct); Ex. YC-14 at 2 (Abraham Direct).

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transportation method than alternatives. Absent evidence of an incremental increase in production and/or consumption of crude oil as a result of the Project, there would be no corresponding increase in GHG emissions.⁹⁸⁰

461. The Shippers provided testimony explaining the thoroughness with which shippers consider an IRS before deciding to accept increased tolls.⁹⁸¹ Shippers' increasing need to use alternative, less efficient modes of transportation like rail demonstrates that the pace of pipeline construction has not kept up with demand. Oil rail movements to PADD II have increased dramatically beginning in the fall of 2015 to June 2017.⁹⁸²
462. Pipeline expansions projects, like the Line 67 phased expansions, are full because there was a need and commercial support for those projects prior to construction.⁹⁸³ Expressed demand from shippers is essential before a pipeline is constructed, because no pipeline company would bear the financial risk associated with building a pipeline without having some certainty that it can recover its costs of building the project through tolls. Shippers testified that they would not support new facilities being added to rate base, which increases tolls, unless such additions can be agreed-to by shippers and supported on the basis of reasonable assurance that they will be highly utilized.⁹⁸⁴
463. Western Canadian crude oil producers have access to transportation capacity to other markets. Thus, if the Project is not approved as applied for, it would have nominal impact, if any, on Western Canadian crude oil production. If the Project is not approved as applied for it would, however, restrict the availability of Western Canadian crude oil to Midwest, including Minnesota's, crude oil refineries.⁹⁸⁵
464. The FEIS states at page 5-451, "if the heavy crude transported on the Applicant's proposed Project displaces other heavy Canadian crude (market-wide supply and demand are unaffected by the Project), no change in upstream and downstream emissions would occur." Mr. Glanzer testified that the Project has been designed to improve the overall electrical efficiency of the Enbridge Mainline System.⁹⁸⁶ At 760 kbpd, the Project will save 108 GWh of energy and reduce CO2 emissions by 74,000 metric tons as compared to using a 34-inch pipeline. By constructing the Project using 36- rather than 34-inch pipe, the Project itself will be more energy efficient.⁹⁸⁷ By operating the Project in mixed service, Enbridge is better able to rebalance its entire Mainline System, creating energy efficiency throughout the system. Accordingly, Enbridge is undertaking efforts to reduce

⁹⁸⁰ Ex. EN-47 at 8 (Kinder Rebuttal).

⁹⁸¹ Ex. SH-2 at 8 (Shippers Rebuttal).

⁹⁸² Ex. SH-2 at 8 (Shippers Rebuttal).

⁹⁸³ Ex. SH-2 at 9 (Shippers Rebuttal).

⁹⁸⁴ Ex. SH-2 at 9 (Shippers Rebuttal).

⁹⁸⁵ Ex. SH-1 at 8 (Shippers Direct).

⁹⁸⁶ Ex. EN-19 at 16 (Glanzer Direct).

⁹⁸⁷ Ex. EN-19 at 16 (Glanzer Direct).

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potential GHG emissions from its operations and to improve the overall performance of its liquids pipeline system.⁹⁸⁸

465. Enbridge provided testimony concerning its policies and programs to manage climate risks and respond to new business opportunities emerging from the transition to a lower-carbon future. This includes publicly tracking and reporting on efforts to reduce energy use and GHG emissions, setting second-generation goals for carbon reduction and energy efficiency across all different business segments, building out its portfolio of investments in renewable energy and natural gas projects, working with governments, businesses, environmental organizations and communities on new climate solutions, and helping natural gas customers reduce their energy use through demand-side management programs.⁹⁸⁹
466. Enbridge has also implemented its EcoFootprint Program, which is a partnership between Enbridge and the Minnesota Association of Resource Conservation and Development Councils to award grant funds to help protect and restore the natural environment.⁹⁹⁰ The program includes investing in projects that address environmental values and priorities that are important to the communities in which Enbridge operates. To date, the program has awarded \$1,890,677 in total grants to communities in North Dakota, Minnesota, and Wisconsin along Enbridge's Preferred Route.⁹⁹¹
467. The FEIS included an analysis of the lifecycle GHG emissions of the Project and CN alternatives. The analysis was presented in Table 5.2.7-21, which is included below. No action alternatives SA-04 and rail both result in significantly higher social cost of carbon estimates than the Project.⁹⁹²

⁹⁸⁸ Ex. EN-30 at 23-24 (Eberth Rebuttal).

⁹⁸⁹ Ex. EN-30 at 23-24 (Eberth Rebuttal).

⁹⁹⁰ Ex. EN-30 at 25 (Eberth Rebuttal).

⁹⁹¹ Ex. EN-30 at 25 (Eberth Rebuttal).

⁹⁹² See Ex. EERA-29 at 5-465 (Table 5.2.7-21) (FEIS).

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Table 5.2.7-21. Operations Emissions and Social Cost of Carbon for the Applicant’s Proposed Project and Certificate of Need Alternatives

Certificate of Need Alternative	Direct Emissions (tons per year)							Indirect Emissions (tons per year)	30-Year SCC for Direct and Indirect GHG Emissions ^a	Loss of Carbon Sequestration (tons per year)
	VOCs	NOx	CO	SO ₂	PM-10	PM-2.5	GHGs	GHGs		GHGs
Applicant’s proposed project	21.0	0.004	0.03	0.002	0.1	0.01	375.9	452,496.6	\$673,365,150	1,262.3
Continued use of existing Line 3 ^b	--	--	--	--	--	--	--	--	--	--
System alternative SA-04 ^c	74.5	0.4	0.1	0.03	0.02	0.02	850.3	946,670.5	\$1,408,845,737	74.3
Rail alternative ^d	556.8	15,111.5	1,487.0	179.9	373.5	359.9	568,472.8	--	\$845,248,443	--
Truck alternative ^d	1,825.6	5,647.3	8,987.0	17.1	30,509.8	7,558.1	1,506,291.3	--	\$2,239,688,011	--
Continued use of existing Line 3 with rail ^d	278.4	7,555.8	743.5	90.0	186.7	179.9	284,236.4	--	\$422,624,221	--
Continued use of existing Line 3 with truck ^d	912.8	2,823.6	4,493.5	8.5	15,254.9	3,799.1	753,145.6	--	\$1,119,833,958	--

^a Social cost of carbon is quantified in 2007 dollars.

^b Air emissions associated with integrity digs for continued use of existing Line 3 have not been quantified.

^c Air emissions from vehicles and unpaved roads for SA-04 have not been quantified.

^d Air emissions for operation of storage and offloading facilities that would be required for transportation via rail or truck have not been determined.

CO = carbon monoxide, GHGs = greenhouse gases, NOx = nitrogen oxide, PM-10 = suspended particulate matter less than or equal to 10 microns in diameter, PM-2.5 = fine PM less than or equal to 2.5 microns in diameter, SCC = social cost of carbon, SO₂ = sulfur dioxide, VOCs = volatile organic compounds

“--” = Emissions not estimated.

468. With respect to the Project, Table 5.2.7-12 of the FEIS presented three potential scenarios for the average life-cycle GHG emissions for various crude oils and estimated that lifecycle GHG emissions could range from 80.5 to 273.5 million tons CO_{2e}.⁹⁹³
469. The Project could result in replacing existing sources of oil currently being extracted and transported to refineries – this is referred to as “displacement” of those existing sources. Since the Project is replacing existing Line 3, all potential scenarios for assessing life-cycle GHG emissions, at a minimum, should deduct the GHG emissions associated with the existing Line 3 operations. In addition, the life-cycle GHG analysis should include the scenario where the Project would result in 100 percent displacement of existing sources.⁹⁹⁴ This would mean that there are no additional GHG emissions associated with the Project.⁹⁹⁵
470. In addition, Scenario 2 assumes that there will be no displacement for the Project (i.e., that the Project will transport 760 kbpd). However, the Project replaces the existing Line 3 pipeline, which transports 390 kbpd and will be taken out of service after the Project is operational. Accordingly, the displacement of existing Line 3 at 390 kbpd of Western

⁹⁹³ Ex. EERA-29 at 5-452 (Table 5.2.7-12) (FEIS).

⁹⁹⁴ Ex. EN-47 at 3 (Kinder Rebuttal).

⁹⁹⁵ Ex. EN-47 at 4 (Kinder Rebuttal); Ex. EERA-29 at 5-451 (FEIS) (“If the heavy crude transported on the Applicant’s proposed Project displaces other heavy Canadian crude (market-wide supply and demand are unaffected by the Project), no change in upstream and downstream emissions would occur.”).

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Canadian Sedimentary Basin (“WCSB”) crude should be incorporated in the evaluation for all of the scenarios.⁹⁹⁶

471. Further, the FEIS’s analysis overstates potential emissions because it does not account for recent changes to the electrical generation sector.⁹⁹⁷ Electrical generation is moving away from dependence on coal-fired plants, with natural gas and renewable energy making up an increasingly significant percentage of many utilities’ (including Minnesota utilities’) generation portfolios. According to the U.S. Energy Information Administration (“EIA”), Minnesota coal-fired power production decreased from 44 percent in 2015 to 39 percent in 2016.⁹⁹⁸
472. A more recent data source is available and could have been utilized for this analysis. Specifically, using the U.S. Environmental Protection Agency’s (“EPA”) Standards of Performance for Greenhouse Gas Emissions from Electric Utility Generating Units, 40 C.F.R. Part 60 Subpart TTTT, the FEIS’s cited emission factors could be revised from 1,894 and 1,836 lb CO₂e per MWh to 1,000 lb CO₂ per MWh.⁹⁹⁹ Use of the NSPS TTTT standard is considered conservative because new natural gas-fired combustion turbines are required to meet a limit of approximately 800 lb CO₂/MWh. Using the NSPS TTTT standard value of 1,000 lb CO₂/MWh results in the reduction of the maximum indirect GHG emissions from 452,497 tons of CO₂e per year to less than 222,000.¹⁰⁰⁰ Using this standard also reduces the 30-year SCC for indirect GHG emissions by at least 49 percent from the FEIS’s SCC estimate. This standard does not account for the additional reduction in GHG emissions that would result from the renewable portion of the generation portfolio in Minnesota.¹⁰⁰¹
473. The table below provides annual life-cycle emissions for the Project under four different scenarios:¹⁰⁰²

⁹⁹⁶ Ex. EN-47 at 4 (Kinder Rebuttal).

⁹⁹⁷ Ex. EN-47 at 5 (Kinder Rebuttal).

⁹⁹⁸ Ex. EN-47 at 5 (Kinder Rebuttal).

⁹⁹⁹ Ex. EN-47 at 6 (Kinder Rebuttal).

¹⁰⁰⁰ Ex. EN-47 at 6 (Kinder Rebuttal).

¹⁰⁰¹ Ex. EN-47 at 6 (Kinder Rebuttal).

¹⁰⁰² Ex. EN-47 at 6-7 (Kinder Rebuttal).

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Scenario	Description	Annual Life-Cycle GHG Emission (million tons CO _{2e})	30-Year SCC for Incremental Life-Cycle GHG Emissions (billion 2007 dollars)
1	Existing Line 3 Light WCSB crude bpd	81	0
2	Line 3 Replacement Heavy WCSB crude 760,000 bpd with displacement of 390,000 bpd Light WCSB crude from Existing Line 3	98 to 113	146 to 168
3	Line 3 Replacement of 760,000 bpd Heavy WCBS crude with displacement of Existing Line 3 390,000 bpd Light WCSB and 370,000 bpd US Light Tight Oil	22 to 37	33 to 54
4	Line 3 Replacement of 760,000 bpd Heavy WCBS crude with displacement of Existing Crude Oil Sources ¹⁰⁰³	0	0

474. Canadian oil sands development is subject to extensive environmental and regulatory review. Strict regulations govern resource conservation, environmental assessment and protection, water quality and quantity, sustainable development, and GHG emissions.¹⁰⁰⁴ Governments also require comprehensive environmental monitoring and reporting throughout the lifecycle of an oil sands project. Last year, governments in Canada adopted the Pan-Canadian Framework on Clean Growth and Climate Change, an ambitious and achievable plan to meet or exceed Canada’s international climate change targets.¹⁰⁰⁵ The Framework outlines how Canada’s governments will work collaboratively to put a price on carbon pollution and take other, complementary actions to emit fewer greenhouse gases. The Pan-Canadian Framework will apply a carbon levy to fossil fuels, starting at \$10 per tonne in 2018 and increasing to \$50 per tonne by 2022.¹⁰⁰⁶ The plan will help the oil and gas industry to continue and lower its energy intensity, and reduce its emissions by utilizing cutting-edge technologies. An output-based pricing system for industrial facilities that emit above 50,000 tonnes of carbon

¹⁰⁰³ See Ex. EERA-29 at 5-451 (FEIS) (“If the heavy crude transported on the Applicant’s proposed Project displaces other heavy Canadian crude (market-wide supply and demand are unaffected by the Project), no change in upstream and downstream emissions would occur.”).

¹⁰⁰⁴ Comment by Consulate General of Canada (Nov. 21, 2017) (Batch 17) (eDocket No. [201711-137577-01](#)).

¹⁰⁰⁵ Comment by Consulate General of Canada (Nov. 21, 2017) (Batch 17) (eDocket No. [201711-137577-01](#)).

¹⁰⁰⁶ Comment by Consulate General of Canada (Nov. 21, 2017) (Batch 17) (eDocket No. [201711-137577-01](#)).

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dioxide equivalent would ensure broad coverage for industrial activity associated with crude oil production in Canada.¹⁰⁰⁷ The government has also committed to reduce methane emissions from the oil and gas sector by 40-45% from 2012 levels by 2025.¹⁰⁰⁸

475. Alberta will become the first oil-producing jurisdiction in the world to legislate both a carbon price and an emission ceiling. The Government of Alberta has committed to capping emissions from oil sands production at 100 megatonnes of carbon dioxide per year by 2030.¹⁰⁰⁹ This will limit future potential upstream GHG emissions resulting from oil sands production and ultimately spur innovation. As more production comes online, new and existing projects would use best practices and new extraction and upgrading technologies to stay within the emissions cap. The Alberta Climate Leadership Plan is also implementing a new carbon price (starting at \$20 per tonne of GHG in 2017) on greenhouse gas emissions, ending pollution from coal-generated electricity by 2030, developing more renewable energy and reducing methane emissions.¹⁰¹⁰ These initiatives will help continue to reduce the environmental footprint associated with oil sands production. The Government of Canada approved the Line 3 Replacement project because it fits within its climate plan. Canada believes that pipeline projects do not affect the emissions projections that underpin the plan to meet or exceed Canada's 2030 target of a 30% reduction below 2005 levels of emissions.¹⁰¹¹
476. As emissions are not linked directly to a particular project or set of projects, a pipeline has no direct links to upstream emissions. In addition, the oil sands emissions cap has ensured Alberta has added another level of separation delinking the development of upstream resources to pipelines.¹⁰¹²

3. Induced Future Developments.

477. As discussed in Sections II(A), (B)(1), and (C) herein, the Project will benefit refineries in Minnesota and the region, helping to ensure that they have sufficient supplies of crude oil to meet consumer demand for transportation fuels and other petroleum products.

¹⁰⁰⁷ Comment by Consulate General of Canada (Nov. 21, 2017) (Batch 17) (eDocket No. 201711-137577-01).

¹⁰⁰⁸ Comment by Consulate General of Canada (Nov. 21, 2017) (Batch 17) (eDocket No. 201711-137577-01).

¹⁰⁰⁹ Comment by Minister of Government of Alberta, Canada (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁰¹⁰ Comment by Minister of Government of Alberta, Canada (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁰¹¹ Comment by Consulate General of Canada (Nov. 21, 2017) (Batch 17) (eDocket No. 201711-137577-01); *see also* Comment by Minister of Government of Alberta, Canada (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁰¹² Comment by Minister of Government of Alberta, Canada (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

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478. By increasing the adequacy, reliability, and efficiency of energy supply, while simultaneously increasing the safety of the transportation of that supply, the Project provides substantial socioeconomic benefits to Minnesota and the region. The Project will create thousands of jobs and will provide over \$2 billion in economic benefit to the state, significantly contributing to family incomes.¹⁰¹³ In addition, Enbridge's operations in Minnesota contribute more than \$30 million per year in local property taxes, which further fund societal benefits, such as our education system and government services.¹⁰¹⁴ For example, Enbridge pays 40 percent of the total taxes in Clearwater County, Minnesota.¹⁰¹⁵
479. The Project will benefit Minnesota and the other Midwest refineries by reducing or eliminating apportionment on Enbridge, which means that these refineries will get more of the crude oil that they are seeking via pipeline.¹⁰¹⁶ The alleviation in apportionment provided by the Project will have the following benefits: 1) increases the adequacy of crude oil supply by pipeline for Minnesota and Midwestern refineries; 2) improves the reliability of crude oil supply for Minnesota and other Midwestern refineries; 3) helps ensure that the Minnesota refineries remain competitive; and 4) for the Midwestern refineries with more limited alternative transportation options, potentially enables them to avoid crude oil run cuts that will reduce the local supply of refined product and, therefore, reduce the adequacy of the local supply of refined products.¹⁰¹⁷

4. Socially Beneficial Uses of the Output of the Facility.

480. The record is replete with evidence of the beneficial uses of crude oil. For example, the Bemidji Regional Airport Authority,¹⁰¹⁸ Clearwater County Land and Forestry Department,¹⁰¹⁹ Consumer Energy Alliance,¹⁰²⁰ Duluth Seaway Port Authority,¹⁰²¹ Minnesota Chamber of Commerce,¹⁰²² Cohasset City Council,¹⁰²³ Cloquet Economic

¹⁰¹³ Ex. EN-30 at 7 (Eberth Rebuttal).

¹⁰¹⁴ Ex. EN-30 at 7 (Eberth Rebuttal).

¹⁰¹⁵ Ex. EN-30 at 7 (Eberth Rebuttal).

¹⁰¹⁶ Ex. EN-69 at 1 (Earnest Summary).

¹⁰¹⁷ Ex. EN-37, Sched. 1 at 17 (Earnest Rebuttal).

¹⁰¹⁸ Comment by Bemidji Regional Airport Authority (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

¹⁰¹⁹ Comment by Clearwater County Land and Forestry Department (Nov. 7, 2017) (Batch 10) (eDocket No. 201711-137191-01).

¹⁰²⁰ Comment by Consumer Energy Alliance (Nov. 28, 2017) (Batch 25) (eDocket No. 201711-137704-02).

¹⁰²¹ Comment by Duluth Seaway Port Authority (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

¹⁰²² Comment by Minnesota Chamber of Commerce (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁰²³ Comment by Cohasset City Council (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

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Development Authority,¹⁰²⁴ and Jobs for Minnesotans¹⁰²⁵ submitted comments regarding the Project's ability to serve a demand for fuel. Similarly, Delta Air Lines, Inc. noted the important role the Enbridge Mainline System (and the Project) play in providing its airline with fuel.¹⁰²⁶

481. In addition, crude oil can be refined into a wide array of other products, ranging from asphalt to medical supplies, prosthetics and implants, PVC pipe, laminated windshields, nylon airbags, polyester seatbelts, car seats, bicycle frames, and many more products.¹⁰²⁷
482. The record as a whole establishes that the Project can meet state and regional energy needs in a manner compatible with the natural and socioeconomic environments. The record specifically establishes that the Project provides greater socioeconomic benefits and is expected to impose fewer impacts on the natural environment than the crude oil transportation alternatives that are likely to be used if the CN is not granted. Thus, Enbridge has met Minn. R. 7853.0130(C) for the granting of a CN.

D. The Project will Comply with Relevant Policies, Rules, and Regulations of Other State and Federal Agencies and Local Governments.

483. The final criterion used by the Commission in determining need states that a CN will be granted if:
- it has not been demonstrated on the record that the design, construction, or operation of the proposed facility will fail to comply with those relevant policies, rules, and regulations of other state and federal agencies and local governments.¹⁰²⁸
484. Project design, construction, and operation will comply with all applicable policies, rules, and regulations.¹⁰²⁹ Enbridge's decision to replace the existing Line 3 is consistent with federal policy and its obligations under the Consent Decree.¹⁰³⁰ Other jurisdictions have already approved the Project, recognizing the benefits of replacement when compared to the continued operation of the existing Line 3.¹⁰³¹

¹⁰²⁴ Comment by Cloquet Economic Development Authority (Nov. 7, 2017) (Batch 10) (eDocket. No. [201711-137191-01](#)).

¹⁰²⁵ Comment by Jobs for Minnesotans (Nov. 28, 2017) (Batch 25) (eDocket No. [201711-137704-02](#)).

¹⁰²⁶ Comment by Delta Air Lines, Inc. (Oct. 24, 2017) (Batch 7) (eDocket No. [201710-136772-02](#)).

¹⁰²⁷ Ex. EN-1 at 4-1 (CN Application).

¹⁰²⁸ Minn. R. 7853.0130(D).

¹⁰²⁹ Ex. EN-22 at 30 (Simonson Direct).

¹⁰³⁰ Ex. EN-13 at 20-22 (Gerard Direct); Ex. EN-30 at 16-17 (Eberth Rebuttal).

¹⁰³¹ Ex. EN-24 at 8-9 (Eberth Direct).

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485. With respect to design, the Project has been designed following applicable regulations and industry standards. Specifically, the Project will be built with pipe that is almost two times the wall thickness of the existing Line 3 and with steel with a yield strength approximately 35 percent greater than the existing Line 3.¹⁰³² Enbridge has also engaged in extensive analysis regarding placement of mainline valves (which are designed to isolate sections of the pipeline for operational and maintenance purposes or in the event of a release), which is consistent with applicable regulations and considers a variety of criteria, including but not limited to elevation profile and location of HCAs.¹⁰³³
486. Similarly, Enbridge has complied with all applicable regulations regarding the Project's routing. For example, Enbridge has engaged in extensive environmental and archaeological surveys to identify resources within the Preferred Route and then develop avoidance and/or mitigation strategies for those resources, as appropriate.¹⁰³⁴ Enbridge's plan to deactivate the existing Line 3 in place once the Project is operational is consistent with industry standard and all applicable federal regulations.¹⁰³⁵
487. With respect to construction, Enbridge will comply with all applicable permit requirements, its own mitigation plans, and any other environmental regulations. No party has presented any evidence that Enbridge's mitigation plans do not comply with applicable law, and there is extensive evidence that they do.¹⁰³⁶ In addition, Enbridge has a quality management system in place to prevent pipeline integrity issues from developing during construction.¹⁰³⁷ from the Project will be inspected by regulatory agencies overseeing pipeline construction, including PHMSA, MDPS, and MnOPS.¹⁰³⁸
488. With respect to operation, the Project will have a cathodic protection system in place prior to being in service.¹⁰³⁹ In addition, Enbridge applies its IMP system-wide, exceeding applicable regulations.¹⁰⁴⁰ The IMP planning for the entire Lakehead system and the Line 3 Replacement goes beyond existing requirements.¹⁰⁴¹ For example, in the area of consideration of locations for valve placement, Enbridge has a valve placement approach that is extremely detailed.¹⁰⁴² It involves rigorous consequence assessment and

¹⁰³² Ex. EN-74 at 1 (Simonson Summary); Ex. EN-22 at 7 (Simonson Direct); Ex. EN-45 at 20 (Simonson Rebuttal).

¹⁰³³ Ex. EN-22 at 9-10 (Simonson Direct).

¹⁰³⁴ Ex. EN-8 at 9-10 (Bergman Direct).

¹⁰³⁵ Ex. EN-74 at 2 (Simonson Summary).

¹⁰³⁶ Ex. EN-8 at 16 (Bergman Direct) (describing the UDP's compliance with Minnesota law).

¹⁰³⁷ Ex. EN-45 at 8 (Simonson Rebuttal).

¹⁰³⁸ Ex. EN-45 at 9 (Simonson Rebuttal).

¹⁰³⁹ Ex. EN-45 at 6 (Simonson Rebuttal).

¹⁰⁴⁰ Ex. EN-79 at 2 (Gerard Summary).

¹⁰⁴¹ Ex. EN-36 at 5 (Gerard Rebuttal).

¹⁰⁴² Ex. EN-36 at 5 (Gerard Rebuttal).

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evaluation of all aspects of the location profile and surroundings to determine the best location along the pipeline corridor to reduce the potential release volume in the unlikely event of a pipeline release.¹⁰⁴³ The strategy extends beyond the protection of high consequence areas (“HCAs”) to other water bodies, other infrastructure, and environmental important areas beyond those identified in regulatory requirements.¹⁰⁴⁴ PHMSA and its expert third-party consultants have found this planning acceptable.¹⁰⁴⁵

489. The record further establishes that, in the unlikely event of an accidental release, Enbridge is prepared to respond quickly and effectively; Enbridge’s emergency response plans have been developed in conjunction with applicable agencies and has been reviewed by PHMSA.¹⁰⁴⁶ Similarly, Enbridge’s training on and testing of its response plans far exceed the requirements, and provide a high level of confidence that the written plan will be effectively implemented.¹⁰⁴⁷
490. In addition, Enbridge’s decision to replace the existing Line 3 pipeline is consistent with federal regulations and guidance. Pipeline operators are responsible for determining when to replace a pipeline.¹⁰⁴⁸ While PHMSA may require certain actions if it believes they are necessary for a proposed pipeline IM plan to meet federal requirements, the pipeline operator must determine the specific integrity measures to employ to ensure the continued safe operation of its system, which may include pipeline replacement.¹⁰⁴⁹ In USDOT’s April 2011 Call to Action, USDOT challenged pipeline operators to step up and repair, rehabilitate, or replace high-risk pipelines.¹⁰⁵⁰
491. A recent PHMSA advisory bulletin, ADB 2016-4, reminds operators of these expectations.¹⁰⁵¹ This bulletin particularly focused on addressing the challenges posed by ineffective coating on pipes and the corrosion under insulated coatings similar to what Enbridge has experienced systemically on Line 3.¹⁰⁵² The Advisory speaks to the importance of more advanced data analysis, more frequent reassessment, better coordination of data, more stringent repair criteria applied, more effective leak detection, and more focused valve spacing.¹⁰⁵³ Enbridge was already taking these actions in

¹⁰⁴³ Ex. EN-36 at 5-6 (Gerard Rebuttal).

¹⁰⁴⁴ Ex. EN-36 at 6 (Gerard Rebuttal).

¹⁰⁴⁵ Ex. EN-36 at 6 (Gerard Rebuttal).

¹⁰⁴⁶ Ex. EN-7 at 3-4 (Haskins Direct).

¹⁰⁴⁷ Ex. EN-36 at 2 (Gerard Rebuttal).

¹⁰⁴⁸ Ex. EN-13 at 18 (Gerard Direct).

¹⁰⁴⁹ Ex. EN-13 at 18 (Gerard Direct).

¹⁰⁵⁰ Ex. EN-13 at 19 (Gerard Direct).

¹⁰⁵¹ Ex. EN-13 at 19 (Gerard Direct).

¹⁰⁵² Ex. EN-13 at 19 (Gerard Direct).

¹⁰⁵³ Ex. EN-13 at 19 (Gerard Direct).

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- advance of the release of the advisory.¹⁰⁵⁴ The advisory asks operators to consider three options: replacement, repairs, and taking other precautions.¹⁰⁵⁵
492. In its 2017 budget, PHMSA cites as the top risk factor for pipeline accidents and failures those aging pipelines with old materials that have degraded over time and require additional monitoring, rehabilitation, repair, or replacement.¹⁰⁵⁶
493. PHMSA recently funded a pipeline repair/replace project by Kiefner and Associates, Inc.¹⁰⁵⁷ The objective of the project was to develop a standardized process for pipeline operators to use in making repair/replace decisions for pre-regulation pipelines (installed before 1970) so that replacement occurs before pipeline integrity and safety are compromised.¹⁰⁵⁸ Replacement may be the best choice when addressing the threat may be technically feasible, but the cost is more than replacement.¹⁰⁵⁹ An increasing frequency of leak or failure suggests the repair process is not adequate.¹⁰⁶⁰ If the rate of deterioration is not reduced with pressure reduction and corrosion protection enhancements for external corrosion, including selective seam or weld corrosion, the likelihood of failure from time-dependent threats would be a driver too significant to overlook.¹⁰⁶¹
494. Enbridge’s analysis and its decision to seek approval to replace the existing Line 3 has been very consistent with the Kiefner guideline.¹⁰⁶² As discussed in the Certificate of Need application, there are a number of factors that align with the Kiefner guideline.¹⁰⁶³
495. Finally, Enbridge will obtain all required permits and/or approvals for the Project and will comply with the conditions of each permit. Various parties have asserted that tribal approvals may be required for the Preferred Route and/or that energy infrastructure projects are prohibited in northern Minnesota as a result of usufructuary rights.¹⁰⁶⁴

¹⁰⁵⁴ Ex. EN-13 at 19 (Gerard Direct).

¹⁰⁵⁵ Ex. EN-13 at 19 (Gerard Direct).

¹⁰⁵⁶ Ex. EN-13 at 20 (Gerard Direct).

¹⁰⁵⁷ Ex. EN-13 at 20 (Gerard Direct).

¹⁰⁵⁸ Ex. EN-13 at 20 (Gerard Direct).

¹⁰⁵⁹ Ex. EN-13 at 21 (Gerard Direct).

¹⁰⁶⁰ Ex. EN-13 at 21 (Gerard Direct).

¹⁰⁶¹ Ex. EN-13 at 21 (Gerard Direct).

¹⁰⁶² Ex. EN-13 at 22 (Gerard Direct).

¹⁰⁶³ See Ex. EN-1 at § 1.5 (CN Application); see also Ex. EN-13 at 22 (Gerard Direct).

¹⁰⁶⁴ See White Earth Petition to Intervene at 3 (Jan. 19, 2016) (eDocket No. [20161-117391-01](#)); White Earth Reply Br. (Feb. 11, 2016) (eDocket No. [20162-118186-01](#)); Ex. P-192 (Resolution of the White Earth Council of Elders); Comment by White Earth Band of Ojibwe at 2-3 (July 20, 2017) (eDocket No. [20177-134089-08](#)); Comment by White Earth at 2-3 (July 10, 2017) (eDocket No. [20177-133678-02](#)); HTE Reply Br. at 5 (Oct. 10, 2016) (eDocket No. [201610-125548-01](#)); HTE Petition to Intervene at 5-6 (Sept. 19, 2016) (eDocket No. [20169-124977-02](#)).

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However, these arguments are not consistent with existing and well-established federal law. Enbridge does not anticipate that any tribal approvals will be required for the Project as proposed, given that the Preferred Route does not cross “Indian country,” as that phrase is defined under federal law,¹⁰⁶⁵ and it is well established federal law that, outside of these areas, tribes lack regulatory jurisdiction over non-members.¹⁰⁶⁶ Nonetheless, Enbridge remains committed to coordinating with all stakeholders to continue to minimize Project impacts.¹⁰⁶⁷

E. CN Conditions.

1. Pipe Diameter.

496. DOC-DER Witness Ms. O’Connell recommends, that, should the Commission approve a CN for the Project, that it “require Enbridge to install no more than a 34-inch pipeline to replace the existing 34-inch pipeline.”¹⁰⁶⁸ Ms. O’Connell testified that her intent was to ensure that, if Enbridge was calling the pipe a “replacement”, then it needed to be like-for-like. She stated, “if Enbridge is calling this a replacement, then we can’t be building a larger pipe, it needs to be a replacement.”¹⁰⁶⁹ However, upon further questioning, Ms. O’Connell stated she was not suggesting that the pipe had to be built with the same pipe wall thickness, grade of steel, coating or welding process as the original Line 3.¹⁰⁷⁰ She was further unable to describe the relationship between pipe diameter, steel strength and pumping horsepower as they relate to the capacity of a pipeline, and DOC-DER did not conduct any engineering analysis in support of this recommendation.¹⁰⁷¹
497. Mr. John Glanzer testified that changing the outer diameter of the Project from 36-inch to 34-inch would not impact the capacity of the Project.¹⁰⁷² Either a 34-inch or 36-inch replacement would be engineered with an annual capacity of 760 kbpd, with a design capacity of 844 kbpd which is consistent with the previous operation of Line 3. In

¹⁰⁶⁵ See 18 U.S.C. § 1151 (defining “Indian country” are reservation land, dependent Indian communities, and allotments “the Indian titles to which have not been extinguished”).

¹⁰⁶⁶ “Indian country” does not include ceded territories. See 18 U.S.C. § 1151; see also *Yankton Sioux Tribe v. Gaffey*, 188 F.3d 1010, 1017 (8th Cir. 1999) (“[B]ut if there is no reservation, the State has primary jurisdiction over all land except allotments which continue to be held in trust.”); *Plains Commerce Bank v. Long Family Land & Cattle Co.*, 554 U.S. 316, 330 (2008) (“[E]fforts by a tribe to regulate nonmembers . . . are presumptively invalid”) (citing *Montana v. U.S.*, 450 U.S. 544 (1981)).

¹⁰⁶⁷ For example, to the extent that resources protected by federal law are identified in the TCR Survey, which has now been suspended for the winter, Enbridge would of course comply with any USACE requirements regarding those resources, as USACE is the federal agency responsible for complying with Section 106 for the Project. See Ex. EN-8 at 15 (Bergman Direct).

¹⁰⁶⁸ Ex. DER-6 at 76 (O’Connell Surrebuttal).

¹⁰⁶⁹ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 96-97 (O’Connell).

¹⁰⁷⁰ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 97 (O’Connell).

¹⁰⁷¹ Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 98-99 (O’Connell).

¹⁰⁷² Ex. EN-38 at 17 (Glanzer Rebuttal).

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addition, the Wisconsin portion of Line 3 will be replaced with a 36-inch outer diameter pipe, and the Canadian portion of the replacement will also utilize 36-inch pipe, except for a short, approximately 14 mile segment, at the border crossing.¹⁰⁷³

498. Aside from Ms. O’Connell’s assertion that the replacement should be “like-for-like” as to pipe diameter alone, there is no further support for this condition. The Commission’s Final Scoping Decision Document concluded that “alternative diameters of pipeline will not be assessed as part of the EIS, as the diameter will not substantially influence environmental impacts of Project construction, operation or maintenance.”¹⁰⁷⁴ From a likelihood of a release standpoint, the reduction of pipe diameter from 36-inch to 34-inch will not have a significant effect on reduction of incident rates.¹⁰⁷⁵ Therefore, there is no justification from an environmental impact or risk standpoint to require the pipeline to be built with a 34-inch outer diameter pipeline.
499. Such a condition would, however, significantly increase the energy used by the Project and the resulting GHG emissions. Replacing Line 3 with 36-inch diameter pipe will provide power savings at all flow rates as compared to replacing Line 3 with a 34-inch pipeline.¹⁰⁷⁶ A 36-inch pipeline is more efficient than a 34-inch pipeline at the same flow rate because the greater internal area of the 36-inch pipeline means that the fluid moves slower than in the 34-inch pipeline. For the same type of fluid, a fluid moving more slowly will experience less friction and so will require less pressure to pump and therefore less power.¹⁰⁷⁷ At 760 kbpd, the Project will save 108 GWh of energy and 74,000 metric tons of CO₂ within Minnesota as compared to the power required to move the same volume on a 34-inch pipeline.¹⁰⁷⁸
500. In addition, requiring the pipeline to be built at 34-inches would result in less efficient construction and maintenance of the pipeline. A 36-inch pipeline and associated fittings are a standard industry size, whereas 34-inch pipe and fittings are generally non-standard.¹⁰⁷⁹ Pipeline construction equipment is more readily available for standard sizes. For example, line-up clamps and automatic welding bands are more common in 36-inch. The decision to replace with a 36-inch diameter pipeline makes pipe, pipefitting, valves, and maintenance equipment more readily available.¹⁰⁸⁰
501. In summary, replacing the existing Line 3 with a 36-inch pipeline reduces energy use and GHG emissions as compared to a 34-inch pipe, and it creates greater efficiencies from a

¹⁰⁷³ Ex. EN-38 at 17 (Glanzer Rebuttal).

¹⁰⁷⁴ Ex. EERA-15 at 15 (FSDD).

¹⁰⁷⁵ Ex. EN-51 at 15 (Mittelstadt Rebuttal).

¹⁰⁷⁶ Ex. EN-22 at 20 (Simonson Direct).

¹⁰⁷⁷ Ex. EN-22 at 20 (Simonson Direct).

¹⁰⁷⁸ Ex. EN-19 at 16 (Glanzer Direct); Ex. EN-38 at 18 (Glanzer Rebuttal).

¹⁰⁷⁹ Ex. EN-22 at 4 (Simonson Direct).

¹⁰⁸⁰ Ex. EN-22 at 4 (Simonson Direct).

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construction and maintenance standpoint by utilizing standard equipment and parts. There is no capacity, environmental impact or risk justification for a condition requiring the replacement to be built with a 34-inch pipeline.¹⁰⁸¹

502. Also, replacing Line 3 with 36-inch diameter pipe will offer power savings at all flow rates as compared to replacing Line 3 with a 34-inch pipeline. At 760 kbpd the Project will save 108 gigawatt hours (“GWh”) of energy as compared to the power required to move the same volume on a 34-inch pipeline.¹⁰⁸² Saving GWh equates to an annual reduction of over 74,000 metric tons of CO2 emissions within Minnesota. A 36-inch pipeline is more efficient than a 34-inch pipeline at the same flow rate because the greater internal area of the 36-inch pipeline means that the fluid moves slower than in the 34-inch pipeline. For the same type of fluid, a fluid moving more slowly will experience less friction and so will require less pressure to pump and therefore less power.¹⁰⁸³

2. Parental Guaranty.

503. DOC-DER Witness David Dybdahl recommended that the Commission condition approval of a CN for the Project on “Enbridge Incorporated agree[ing] to indemnify and hold harmless [t]he State of Minnesota for pollution losses arising from the Line 3 pipeline.”¹⁰⁸⁴ In support of his recommendation, Mr. Dybdahl states that “[i]t would be better for [t]he State of Minnesota to have the indemnity for Line 3 coming from Enbridge Incorporated” based on the cash and cash equivalents held by Enbridge, Inc.¹⁰⁸⁵ However, the record demonstrates that the financial resources of Enbridge Energy, Limited Partnership and its U.S. based parent Enbridge Energy Partners, L.P. are more than adequate to respond in the unlikely event of an accidental release on the Project.¹⁰⁸⁶ Therefore, there is no record support to require indemnification from Enbridge, Inc.
504. Enbridge Energy, Limited Partnership generates approximately US\$600 million in free cash flow, after expenses, annually.¹⁰⁸⁷ These significant revenues and cash flow would be drawn upon first to meet financial obligations arising from an accidental release from the Project.¹⁰⁸⁸

¹⁰⁸¹ See Ex. EN-22 at 4, 20 (Simonson Direct).

¹⁰⁸² Ex. EN-22 at 20 (Simonson Direct).

¹⁰⁸³ Ex. EN-22 at 20 (Simonson Direct).

¹⁰⁸⁴ Ex. DER-5 at 4 (Dybdahl Direct).

¹⁰⁸⁵ Ex. DER-5 at 30 (Dybdahl Direct).

¹⁰⁸⁶ Ex. DER-5 at 4 (Dybdahl Direct).

¹⁰⁸⁷ Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 59 (Johnston); see also Evid. Hrg. Tr. Vol. 6A (Nov. 9, 2017) at 54 (Johnston) (“Enbridge Energy Partners generates free cash flow of \$700 million a year”); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 15 (Johnston) (“The assets generate cash flows of 700 million per year”); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 37 (Johnston) (“85 percent of [Enbridge Energy Partners’] business, cash flows, operating activities, are generated from the assets owned by the Applicant”).

¹⁰⁸⁸ Ex. EN-42 at 4 (Johnston Rebuttal).

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505. To the extent additional resources are necessary to respond to a release, Enbridge Energy Partners, L.P., the Applicant’s publicly-traded parent company, has agreed to provide a parental guaranty.¹⁰⁸⁹ The Applicant has offered to enter into a parental guaranty in a form similar to that approved by the Commission in the Sandpiper CN proceeding.¹⁰⁹⁰
506. The combined financial resources of the Applicant and EEP have been demonstrated to be adequate in responding to even the largest of inland oil releases. In response to the July 2010 rupture of Enbridge’s Line 6B pipeline and subsequent oil release into wetlands and the Kalamazoo River in Marshall, Michigan, Enbridge has paid over \$1.2 billion in response, clean-up, and restoration costs as well as fines from state and federal agencies.¹⁰⁹¹ During the Line 6B incident, Enbridge Energy, Limited Partnership funded the cash requirements of the incident through its operating cash flows supplemented by EEP’s committed credit facilities.¹⁰⁹²
507. As to the risk of declining revenues, Enbridge mitigates this risk by monitoring developments in its supply and demand basins, reviewing third-party long-range forecasts of supply and demand fundamentals and by maintaining strong relationships with key customers of its assets.¹⁰⁹³ While changes in supply and demand basins do occur, these changes tend to occur over longer periods of time, giving pipeline operators and their customers ample time to adjust tolls and volume expectations. Current long-range outlook show strong supply and demand fundamentals through the forecast period, indicating that the risk of declining revenues is low for the foreseeable future. Finally, the multi-pipeline nature of the Lakehead System is expected to allow for the staged and orderly reduction of operations over time, if crude oil demand declines.¹⁰⁹⁴
508. The record conclusively demonstrates that the Applicant, along with EEP, have the financial resources to respond to an accidental release from the Project; and, therefore, a condition to require a parental guaranty from Enbridge, Inc. is unsupported.

3. Decommissioning Trust Fund.

509. DOC-DER Witness Ms. O’Connell recommends that the Commission condition any approval of a CN on a requirement that Enbridge establish a decommissioning trust fund to set aside to pay for the costs of decommissioning the Project when it reaches the end of its economic usefulness.¹⁰⁹⁵ Ms. O’Connell acknowledges that Enbridge is currently

¹⁰⁸⁹ Ex. EN-42 at 5 (Johnston Rebuttal).

¹⁰⁹⁰ Evid. Hrg. Tr. Vol. 10B (Nov. 16, 2017) at 118-119 (Eberth); Ex. EN-98 (Parental Guaranty).

¹⁰⁹¹ Ex. EERA-29 at 10-139 (FEIS) (*citing* U.S. Securities and Exchange Commission 2014).

¹⁰⁹² Ex. EN-42 at 5 (Johnston Rebuttal).

¹⁰⁹³ Ex. EN-42 at 6 (Johnston Rebuttal).

¹⁰⁹⁴ Ex. EN-42 at 6 (Johnston Rebuttal).

¹⁰⁹⁵ Ex. DER-1 at 116 (O’Connell Direct).

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financially viable, and it and its predecessor entities have operated for decades.¹⁰⁹⁶ She also testified that the federal, not state, law sets the requirements for pipeline companies to decommission and monitor pipelines when they are removed from service.¹⁰⁹⁷ Finally, she testified that the Commission does not regulate Enbridge's rates nor can it make a determination regarding legitimate costs of service for an interstate pipeline company.¹⁰⁹⁸

510. Based on its extensive experience in the crude oil transportation industry, Enbridge expects that it will own assets and investments that will generate sufficient cash flow to fund the abandonment activities necessary to safely deactivate the Line 3 Replacement Project in Minnesota at the end of its useful life.¹⁰⁹⁹ Therefore, there is no basis in this record or support in law for a condition singling out Enbridge and this Project for the establishment of a decommissioning trust fund. There is extensive evidence in this record that Enbridge is fully capable of funding decommissioning activities out of its operational budget and that it is committed to safely decommissioning its assets.¹¹⁰⁰ The Permanent Deactivation Plan in this record provides further evidence on this point.¹¹⁰¹

4. Insurance.

511. Enbridge currently maintains US\$940 million in general liability insurance coverage.¹¹⁰² This program covers Enbridge for its legal liability for claims arising out of its operations and includes pollution liability coverage, again for recovery of monies spent in responding to an accidental release, including costs related to clean-up, restoration and damage to natural resources.¹¹⁰³ The Applicant is covered by Enbridge's consolidated insurance programs. The current \$940 million GL insurance program is an enterprise wide program and by extension covers the Applicant's pipeline and terminaling operations, which includes/will include both deactivated Line 3 and the Project.¹¹⁰⁴
512. Enbridge witness Selina Lim testified that this general liability insurance program is maintained as a financial tool to lessen the impacts to Enbridge's balance sheet in the unlikely event of a release by affording Enbridge with an opportunity to potentially recover some of the monies needed to be spent in responding to a release.¹¹⁰⁵

¹⁰⁹⁶ Ex. DER-1 at 117 (O'Connell Direct).

¹⁰⁹⁷ Ex. DER-1 at 117 (O'Connell Direct).

¹⁰⁹⁸ Ex. DER-1 at 116 (O'Connell Direct).

¹⁰⁹⁹ Ex. EN-42 at 9 (Johnston Rebuttal).

¹¹⁰⁰ Ex. EN-42 at 9 (Johnston Rebuttal); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 61-63 (Johnston).

¹¹⁰¹ See Ex. EN-22, Sched. 6 (Simonson Direct); Ex. EERA-29, Appendix B (FEIS).

¹¹⁰² Ex. EN-93 at 2 (Lim Summary).

¹¹⁰³ Ex. EN-93 at 2 (Lim Summary).

¹¹⁰⁴ Ex. EN-43 at 9 (Lim Rebuttal).

¹¹⁰⁵ Ex. EN- 43 at 2 (Lim Rebuttal).

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513. In his direct testimony, and without reviewing Enbridge’s current insurance policies,¹¹⁰⁶ DOC-DER Witness Mr. Dybdahl made the following insurance-related recommendations:
- That Enbridge procures and maintains liability insurance, including Environmental Impairment Liability (“EIL”) insurance covering the Line 3 pipeline;
 - The State of Minnesota should be named as an Additional Insured under both the General Liability (“GL”) insurance, and the recommended Environmental Impairment Liability insurance policies;
 - Enbridge should maintain at least \$100,000,000 of GL insurance dedicated to Line 3. This GL coverage should include “time element” pollution or “sudden and accidental” exceptions to the pollution exclusion. The policy should include an automatic reinstatement of limits option or a \$200,000,000 policy aggregate. The required amounts of insurance should increase by \$10,000,000 every five years during the operation of Line 3;
 - In light of the recent \$85,000,000 adverse arbitration decision on the coverage for pipeline spills under the GL insurance purchased by Enbridge for the Line 6B spill, Enbridge should purchase \$100,000,000 of EIL insurance to specifically insure the proposed Line 3 under a dedicated limit of liability. This policy should include one automatic reinstatement of limits or a policy aggregate of \$200,000,000. This amount of insurance should increase \$10,000,000 every five years over the operation life of Line 3; and,
 - The insurance specifications for the recommended GL insurance and EIL insurance appear in Appendix A.¹¹⁰⁷
514. Enbridge agreed that once the Project is permitted, it would add the State of Minnesota as an additional insured under its GL insurance program.¹¹⁰⁸ Beyond that, there is no legal or factual support for any of the insurance-related recommendations made by Mr. Dybdahl.
515. Mr. Dybdahl is an insurance broker that specializes in the sale of an insurance product called EIL insurance.¹¹⁰⁹ He also formed and runs an organization designed to increase the use of EIL policies.¹¹¹⁰ Mr. Dybdahl testified that the EIL insurance market currently

¹¹⁰⁶ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 73 (Dybdahl).

¹¹⁰⁷ Ex. DER-5 at 4 (Dybdahl Direct).

¹¹⁰⁸ Ex. EN-43 at 13 (Lim Rebuttal).

¹¹⁰⁹ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 63 (Dybdahl).

¹¹¹⁰ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 64-65 (Dybdahl).

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resembles a “reverse game of musical chairs”, meaning that there are more companies selling EIL policies than customers to buy those policies.¹¹¹¹ The EIL marketplace has suffered from the sudden and recent exit of AIG, the first and at one point largest provider of EIL coverage.¹¹¹² The EIL market is also suffering from increasing claims costs and dropping premiums.¹¹¹³ Mr. Dybdahl acknowledged that the EIL insurance recommendations he made would require Enbridge to purchase at least half of the EIL insurance currently available in the marketplace; a requirement even he acknowledged is onerous and perhaps unachievable.¹¹¹⁴

516. EIL insurance functions similar to general liability insurance in that it is an indemnification policy.¹¹¹⁵ This means that the insurer pays claims only after the insured has paid for the covered damages.¹¹¹⁶ This differs from, for example, automobile insurance, where the insurance company may pay a claim directly. In other words, if Enbridge were to acquire EIL coverage, Enbridge’s financial resources would still be required to fund response and cleanup activities first, before a claim could be submitted to insurance.¹¹¹⁷ This represents no change from the way Enbridge’s general liability policy works.
517. EIL insurance policies are still subject to litigation, and there is no assurance that all costs related to an accidental release of crude oil will be covered by the EIL insurer.¹¹¹⁸ There are no standard definitions for terms such as “cleanup costs” or “restoration costs” in the EIL industry.¹¹¹⁹ Accordingly, each policy must be separately negotiated and could be litigated.¹¹²⁰ While large pipeline and other energy companies are infrequent purchasers of EIL insurance,¹¹²¹ there is broad experience within the general liability insurance marketplace covering these types of incidents. Specifically, Enbridge has maintained general liability insurance for its assets for decades.¹¹²² It employs the services of Marsh, a global leader and one of the largest insurance brokers in the U.S., to provide specialized expert advisory services in this area.¹¹²³ Enbridge, along with Marsh, negotiate the terms of Enbridge’s GL policy annually and know what language and coverage is necessary for

¹¹¹¹ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 65-66 (Dybdahl).

¹¹¹² Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 67 (Dybdahl).

¹¹¹³ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 66, 68 (Dybdahl).

¹¹¹⁴ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 166-167 (Dybdahl).

¹¹¹⁵ Ex. EN-43, at 8 (Lim Rebuttal).

¹¹¹⁶ Ex. EN-43, at 2 (Lim Rebuttal).

¹¹¹⁷ Ex. EN-43, at 8 (Lim Rebuttal).

¹¹¹⁸ Ex. EN-43, at 10 (Lim Rebuttal).

¹¹¹⁹ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 78 (Dybdahl).

¹¹²⁰ Ex. EN-43 at 11 (Lim Rebuttal).

¹¹²¹ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 70 (Dybdahl).

¹¹²² Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 183-184 (Lim).

¹¹²³ Ex. EN-43 at 4 (Lim Rebuttal).

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Enbridge's assets.¹¹²⁴ In 2015, when describing Enbridge's general liability insurance program, Mr. Dybdahl, admitted to Dane County, Wisconsin officials that "...the policy that they had in place actually works."¹¹²⁵

518. The language litigated in Enbridge's GL policies involved in the Line 6B arbitration proceeding is no longer present in Enbridge's current policies, and the insurer involved in the dispute no longer provides Enbridge with coverage. Enbridge, in consultation with Marsh, has specifically-designed and customized wordings. This customization means Mr. Dybdahl's broad generalizations do not apply to Enbridge.¹¹²⁶
519. The EIL marketplace is insufficient to support the size of the policy limits Mr. Dybdahl recommends. Mr. Dybdahl has recommended Enbridge acquire \$100 million in EIL coverage, increasing by \$10 million every five years the Project is operational.¹¹²⁷ He recommends that this policy be dedicated to the Project in Minnesota.¹¹²⁸ In 2015, Mr. Dybdahl estimated that the entire available EIL market available to pipeline companies was likely \$100 million, and he noted that there is no assurance such coverage would be available year-to-year.¹¹²⁹ While he suggests in his direct testimony that there is presently approximately \$200 million in available coverage,¹¹³⁰ Enbridge's insurance expert, Ms. Selina Lim, testified that Marsh was able to verify only between \$50 - \$100 million in available coverage.¹¹³¹ In contrast, Enbridge has been able to purchase increasing amounts of general liability insurance. Enbridge's strong commitment to its operational risk management has allowed it to purchase a \$940 million general liability insurance program, with over 40 companies participating in 2017.¹¹³²
520. Record evidence suggests that Mr. Dybdahl's recommendation to require Line 3 Replacement to have its own dedicated \$100 million of GL coverage would effectively reduce the amount of GL insurance capacity available to Enbridge to procure for its other existing pipelines and facilities in Minnesota and other states. For instance, Enbridge would then likely only be able to procure a potential \$840 million for those other operations. Dedicated GL coverage for each and every one of Enbridge's systems would result in significantly lower coverage for each system and it is unachievable. In contrast,

¹¹²⁴ Ex. EN-43 at 12 (Lim Rebuttal).

¹¹²⁵ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 89 (Dybdahl).

¹¹²⁶ Ex. EN-43 at 12 (Lim Rebuttal).

¹¹²⁷ Ex. DER-5 at 4 (Dybdahl Direct).

¹¹²⁸ Ex. DER-5 at 4 (Dybdahl Direct).

¹¹²⁹ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 89 (Dybdahl).

¹¹³⁰ Ex. DER-5 at 6 (Dybdahl Direct).

¹¹³¹ Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 186 (Lim).

¹¹³² Ex. EN-93 at 2 (Lim Summary); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 147 (Lim).

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Enbridge's current GL program of \$940 million is available for a pipeline release event, including one from the Project.¹¹³³

521. While Mr. Dybdahl's recommendations on this issue shifted throughout the proceeding,¹¹³⁴ it appears he recommends that Enbridge acquire at least \$100 million of general liability insurance on a non-dedicated basis, an amount Enbridge's current policy already far exceeds, as well as an additional \$100 million in EIL coverage on a dedicated basis and that the general liability policy have one automatic reinstatement of limits provision dedicated to the Project.¹¹³⁵ As Ms. Lim testified, if Enbridge is required to dedicate coverage to any one asset, it will in all likelihood reduce the amount of insurance available in Enbridge's aggregate general liability insurance program.¹¹³⁶ Insurers will limit the exposure they have to coverage for any one company, meaning that if they provide dedicated coverage to the Project, they will not also participate in the larger tower, lowering the available insurance in that marketplace. As Mr. Dybdahl and Ms. Lim agree, four of the five insurers Mr. Dybdahl believe would provide EIL coverage to an asset like the Project are already participating in Enbridge's general liability insurance program.¹¹³⁷ Removing them from the larger general liability program makes less insurance available to other Enbridge assets, including Lines 1, 2, 4, 13 and 67 and the Clearbrook Terminal in Minnesota.¹¹³⁸ Mr. Dybdahl, while on the one hand disagreeing on this issue, also acknowledged the anti-stacking issue¹¹³⁹ and amended his recommendation to suggest that reinstatement of limits was acceptable in lieu of dedicated general liability coverage¹¹⁴⁰ and that the condition could include some sort of implied or express acknowledgement that any required insurance must be commercially available in the marketplace.¹¹⁴¹ This does not fully address the issue, however, as any requirement to purchase a particular insurance product on a dedicated basis for the Project will impact the aggregate general liability insurance available in the marketplace.¹¹⁴²
522. Mr. Dybdahl's testimony lacked merit and credibility, as he had not reviewed the specific language of Enbridge's insurance policies, and, therefore, could not provide an

¹¹³³ Ex. EN-93 at 2 (Lim Summary).

¹¹³⁴ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 167-168 (Dybdahl).

¹¹³⁵ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 168 (Dybdahl).

¹¹³⁶ Ex. EN-93 at 2 (Lim Summary).

¹¹³⁷ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 164 (Dybdahl).

¹¹³⁸ Ex. EN-43 at 9 (Lim Rebuttal); Evid. Hrg. Tr. Vol. 6B (Nov. 9, 2017) at 186 (Lim); Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 155 (Dybdahl).

¹¹³⁹ Ex. EN-93 at 2 (Lim Summary).

¹¹³⁹ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 83 (Dybdahl).

¹¹⁴⁰ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 104 (Dybdahl).

¹¹⁴¹ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 170 (Dybdahl).

¹¹⁴² See Ex. EN-43 at 9 (Lim Rebuttal).

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independent assessment of any perceived deficiencies in those policies.¹¹⁴³ Moreover, Enbridge has a proven track record of responding with its own financial resources to events on its System.¹¹⁴⁴ Enbridge employs experienced professionals that specialize in the complex insurance programs acquired by Enbridge, and the marketplace has continued to respond to provide the coverage Enbridge seeks to protect its balance sheet.¹¹⁴⁵ There is no justification for including operational conditions that could jeopardize the insurance coverage Enbridge acquires for all of its assets, both in and outside Minnesota, or otherwise create barriers within that marketplace.¹¹⁴⁶ As such, the record does not support imposing the conditions recommended by Mr. Dybdahl.

5. Removal.

523. Enbridge plans to deactivate the existing Line 3 pipeline in place once the Project is operational. Deactivation in-place is industry standard, and it avoids significant human and environmental impacts, as discussed below. Where existing pipe is exposed, Enbridge has agreed to remove that pipe.¹¹⁴⁷
524. The total cost to remove the existing Line 3 from Enbridge's Minnesota right-of-way is estimated to be \$1,277,831,896.¹¹⁴⁸ The cost per foot of removal is \$855.17. This estimate assumes access to federal and tribal lands will be granted; rivers, road, and railroad crossings grouted in place; and mats would be used for the entire workspace and crossings locations.¹¹⁴⁹ This estimate does not include costs related to: purging, cleaning, and isolating the pipeline from the active system; pipe and equipment disposal; operational impacts (including any related outages on the Enbridge Mainline System); or inspection and operational services.¹¹⁵⁰

1) Industry Standard – Deactivation in Place.

525. The industry standard for deactivating pipelines is to leave them in place. Enbridge has over 425 miles of deactivated pipeline within its current system in North America. In Minnesota, Enbridge has approximately 17 miles of pipeline that have been deactivated

¹¹⁴³ Evid. Hrg. Tr. Vol. 8B (Nov. 14, 2017) at 73 (Dybdahl).

¹¹⁴⁴ See Ex. EN-93 at 1 (Lim Summary).

¹¹⁴⁵ See Ex. EN-43 at 2 (Lim Rebuttal).

¹¹⁴⁶ See Ex. EN-43 at 12 (Lim Rebuttal).

¹¹⁴⁷ Evid. Hrg. Tr. Vol. 8A (Nov. 14, 2017) at 45-46 (Eberth).

¹¹⁴⁸ Ex. EN-22 at 29 (Simonson Direct).

¹¹⁴⁹ Ex. EN-22 at 29 (Simonson Direct).

¹¹⁵⁰ Ex. EN-22 at 29 (Simonson Direct); see also Evid. Hrg. Tr. Vol. 7B (Nov. 13, 2017) at 139-140 (Eberth); Evid. Hrg. Tr. Vol. 8A (Nov. 14, 2017) at 45-46 (Eberth).

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- in place. This deactivated pipe does not, and has not, posed a threat to the general public, landowners, or the environment.¹¹⁵¹
526. Enbridge continuously monitors the corridor. Existing Line 3, as deactivated, will still be located in a corridor with 5-7 other active lines.¹¹⁵² Enbridge maintains access to this corridor for safe and reliable operations of the lines. Monitoring will take place in various ways. The primary method of monitoring will come from aerial patrolling bi-weekly as this is a PHMSA requirement.¹¹⁵³ If any removal of pipe is justified based on safety for the environment, general public, land use, and the existing Enbridge pipelines, Enbridge will work with MDNR and USACE, amongst many other entities, to permit such work.¹¹⁵⁴
527. 49 C.F.R. Parts 195.59 and 195.402 govern actions a pipeline operator must take when it no longer plans to operate a pipeline. These regulations are enforced by PHMSA. In August 2016, PHMSA issued an Advisory Bulletin further clarifying the regulatory requirements that may apply based on the operational status of a pipeline and identifying regulatory requirements that pipeline operators must follow for the abandonment of pipelines.¹¹⁵⁵
528. Enbridge will be executing a comprehensive Deactivation Plan for the existing Line 3 once the replacement pipeline and associated facilities are in operation. Enbridge's proposed deactivation plan limits the potential effects on people and the environment. The potential effects of deactivation in place identified include: (1) potential contamination; (2) water conduit effects; (3) ground subsidence; and (4) pipe buoyancy. Enbridge's deactivation plan addresses each of these potential concerns.¹¹⁵⁶
529. First, Enbridge will be purging existing Line 3 as part of the deactivation plan. Enbridge will then implement a cleaning program to effectively remove all hydrocarbons from the line.¹¹⁵⁷ As a result, there will be no product that could be released from the deactivated line.¹¹⁵⁸ As to potential existing contamination, there is no evidence that removing Line 3 would lead to the discovery of previously-unidentified contamination from the line. Moreover, Enbridge would continue to monitor the right-of-way and any contamination that were found would be addressed under MPCA clean-up guidance.¹¹⁵⁹

¹¹⁵¹ Ex. EN-74 at 2 (Simonson Summary).

¹¹⁵² Ex. EN-45 at 28 (Simonson Rebuttal).

¹¹⁵³ Ex. EN-45 at 28 (Simonson Rebuttal).

¹¹⁵⁴ Ex. EN-45 at 28-29 (Simonson Rebuttal).

¹¹⁵⁵ Ex. EN-22 at 21-22 (Simonson Direct).

¹¹⁵⁶ See Ex. EN-74 at 2 (Simonson Summary).

¹¹⁵⁷ Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct).

¹¹⁵⁸ Ex. EN-45 at 36 (Simonson Rebuttal).

¹¹⁵⁹ Ex. EN-45 at 36-37 (Simonson Rebuttal).

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530. Second, as to potential water conduit effects, Enbridge will be segmenting deactivated existing Line 3 at strategic locations along the pipeline to avoid any material water conduit effects. These locations include at the pump stations/terminals, at 40 valve locations, and at other locations where public or environmental safety from water conduit effects is a concern.¹¹⁶⁰ As a result, it will not be possible for water to move a material distance through the deactivated line.¹¹⁶¹
531. Third, Enbridge has studied potential ground subsidence concerns. Enbridge will continue to apply cathodic protection to the line.¹¹⁶² The structural integrity of the line is expected to remain intact for hundreds of years.¹¹⁶³ Over that period, as corrosion creates holes in the walls of the pipe, the pipe would very slowly fill with soil, minimizing any potential subsidence concerns associated with a potential collapse.¹¹⁶⁴ At road or railroad crossings, Enbridge will work with the authorities to best address potential concerns, including potentially filling the line with grout at crossings.¹¹⁶⁵ Finally, because existing Line 3 is in the middle of an active corridor, Enbridge’s right-of-way monitoring and maintenance activities are well-suited to identify and address any subsidence concerns that could arise in the future.¹¹⁶⁶
532. Fourth, as to pipe buoyancy, Enbridge engaged a third party to study this issue.¹¹⁶⁷ That study determined there were approximately 40 miles where a deactivated Line 3 has buoyancy potential. Enbridge will employ buoyancy mitigation to limit these impacts and, in any event, has agreed to remove segments of Line 3 that are or become exposed.¹¹⁶⁸

2) Environmental Impacts of Removal.

533. Enbridge’s plans to deactivate Line 3 would result in total construction impacts of approximately 13 acres of land (not including ATWS or access roads).¹¹⁶⁹ In contrast, full removal of the approximately 282-mile Line 3 would result in construction impacts to approximately 5,785 acres of land (not including ATWS, access roads, or other project

¹¹⁶⁰ Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct).

¹¹⁶¹ Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct); *see* Evid. Hrg. Tr. Vol. 12A (Nov. 20, 2017) at 90 (O’Connell) (acknowledging that water will not be able to flow through Line 3 after it is segmented as part of the deactivation plan).

¹¹⁶² Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct).

¹¹⁶³ Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct).

¹¹⁶⁴ Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct).

¹¹⁶⁵ Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct).

¹¹⁶⁶ Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct).

¹¹⁶⁷ Ex. EN-45 at 28 (Simonson Rebuttal).

¹¹⁶⁸ Ex. EN-45 at 28-29 (Simonson Rebuttal); Ex. EN-22, Sched. 6 at 7 (Table 1-1) (Simonson Direct); Evid. Hrg. Tr. Vol. 8A (Nov. 14, 2017) at 45-46 (Eberth).

¹¹⁶⁹ Ex. EN-46 at 23 (Bergland Rebuttal).

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areas).¹¹⁷⁰ Therefore, removal of Line 3 would result in approximately 5,772 more acres disturbed during construction. The amount of ATWS and access roads needed for full removal would be far greater than the amount needed for the deactivation plan. For comparison, the total disturbance estimated for the Project for the 340 miles in Minnesota is approximately 5,617 acres (see Table 5.2.3-8 of the FEIS), which includes impacts associated with ATWS, access roads and associated facilities.¹¹⁷¹ Enbridge could construct an entirely new pipeline in fewer acres than it would take to remove Line 3. For the Project, Enbridge is able to decrease the total construction workspace to 95-foot wide in wetlands and 120-foot wide in uplands. For the complete Line 3 removal, the workspace would need to be 110 feet wider in wetlands (essentially a doubling of wetland impacts) and 30 feet wider in uplands. These increases in workspace would result in a very real increase in impacts to all of the features contained within the Line 3 removal workspace.¹¹⁷² Removal would actually be a more impactful project, from a construction effects perspective, than installing the Project.¹¹⁷³

534. Enbridge’s plans to deactivate Line 3 would result in no crossings of NHD waterbodies. In contrast, 158 NHD waterbodies are crossed by the existing Line 3 pipeline. Removal of Line 3 would result in significantly more impacts to waterbodies than Enbridge’s proposal to deactivate Line 3 in place.¹¹⁷⁴
535. Enbridge’s plans to deactivate Line 3 would result in impacts to less than 1 acre of emergent (“PEM”) and scrub-shrub (“PSS”) NWI wetland.¹¹⁷⁵ No forested wetlands would be impacted by the deactivation of Line 3. In contrast, full removal of Line 3 would result in impacts to 1,261 acres of NWI wetland, of which 403 acres are forested, 257 acres are PEM, 563 acres are PSS, and 38 acres are other (e.g., freshwater pond, riverine). Removal of Line 3 would result in significantly more acres of impact to wetlands than Enbridge’s proposal to decommission Line 3 in place.¹¹⁷⁶
536. Line 3 crosses 17 cities and is within 750 feet of 386 homes.¹¹⁷⁷ These cities and homeowners would see impacts from the removal of Line 3 that could otherwise be largely avoided by decommissioning Line 3 and leaving it in place. Removal of Line 3 also would involve work within the St. Regis Superfund site near Cass Lake, as well as the CNF, and Leech Lake and Fond du Lac Reservations. Removal of Line 3 would take an extended period of time at wetland and waterbody crossings because Enbridge would

¹¹⁷⁰ Ex. EN-46 at 23 (Bergland Rebuttal).

¹¹⁷¹ Ex. EN-46 at 23 (Bergland Rebuttal).

¹¹⁷² Ex. EN-46 at 23-24 (Bergland Rebuttal).

¹¹⁷³ Ex. EN-46 at 23 (Bergland Rebuttal).

¹¹⁷⁴ Ex. EN-46 at 24 (Bergland Rebuttal).

¹¹⁷⁵ Ex. EN-46 at 24 (Bergland Rebuttal).

¹¹⁷⁶ Ex. EN-46 at 24 (Bergland Rebuttal).

¹¹⁷⁷ Ex. EN-46 at 24 (Bergland Rebuttal).

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- need to use specialized construction techniques within a limited workspace.¹¹⁷⁸ Typically, Enbridge minimizes impacts to waterbodies by requiring in-stream construction activities to be completed per the guidelines established in Section 2.1 of the EPP. Removal, especially with active pipelines on either side, would likely increase the length of time needed to complete in-stream activities.¹¹⁷⁹
537. Unlike the installation of a new pipeline (i.e., a pipeline installed as the outside pipe in a multi-pipe corridor), where pipeline construction contractors can work over areas without active pipes underneath, the removal of a pipeline within a multi-pipe corridor necessitates the placement of timber mats over the active pipelines to ensure safe distribution of weight created by heavy construction equipment.¹¹⁸⁰ Construction equipment then uses these mats as a working and travelling surface when excavating and removing the abandoned pipe. Enbridge estimates approximately 900,000 mats would be required to safely remove Line 3 from the ground. This is more than three times the number of mats estimated to be needed to construct the Project. Securing this number of mats at one time may not be feasible.¹¹⁸¹
538. Installation of sheet piling may be required in areas where pipelines are in close proximity to other infrastructure or where there are slope stability concerns due to either differences in ground elevation, wet soils, saturated wetlands, or depth of cover.¹¹⁸² Enbridge estimates that removal of Line 3 would require over 235,000 tons of steel to sheet pile both sides of the pipe located in saturated wetlands along the right-of-way. For comparison, approximately 202,000 tons of steel will be used to build the new pipeline for the Project. In other words, more steel would be required for the sheet piling needed to remove existing Line 3 than is required to make the new 36-inch replacement pipeline.¹¹⁸³
539. Fill will be hauled onsite and placed in the trench to fill in the space left when the pipe is removed. Enbridge estimates that approximately 360,000 cubic yards of fill material would be needed, resulting in over 55,000 one-way dump truck trips.¹¹⁸⁴
540. The construction footprint necessary to remove existing Line 3 would be much larger than the footprint to install a new line primarily because Line 3 is located in the middle of six other active lines, and a new line would be installed on the outside of existing corridors.¹¹⁸⁵ This width will vary depending upon the relative position of Line 3 within

¹¹⁷⁸ Ex. EN-46 at 24 (Bergland Rebuttal).

¹¹⁷⁹ Ex. EN-46 at 24-25 (Bergland Rebuttal).

¹¹⁸⁰ Ex. EN-22 at 25 (Simonson Direct).

¹¹⁸¹ Ex. EN-22 at 25 (Simonson Direct).

¹¹⁸² Ex. EN-22 at 25 (Simonson Direct).

¹¹⁸³ Ex. EN-22 at 25 (Simonson Direct).

¹¹⁸⁴ Ex. EN-22 at 26 (Simonson Direct).

¹¹⁸⁵ Ex. EN-22 at 27 (Simonson Direct).

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the existing pipeline corridor. The widest area would consider a scenario where conditions dictated placing sheet piling on the outside of Line 3 and where access limitations dictated working over the highest number of adjacent pipelines. This scenario would yield a disturbed width of approximately 205 feet.¹¹⁸⁶ If sheet piling is not required, and access accommodates working on the side with the minimum number of adjacent pipelines, the disturbed width would be approximately 150 feet. Since nearly 75 percent of the mileage of Line 3 in Minnesota has Line 3 as the third pipeline in the corridor, Enbridge assumes that conditions will allow for access over the pipelines in positions 1 and 2.¹¹⁸⁷ Accordingly, Enbridge estimates that the average disturbed width will be closer to 150 feet. Assuming the entire length of the removal, and a 150-foot footprint, the total area of disturbance is approximated at 5,600 acres. Additionally, a significant amount of Additional Temporary Workspace will be needed to accommodate the crossing of existing operating lines and for staging of matting, sheet piling, dewatering equipment, trucks for pipe removal, and fill trucks.¹¹⁸⁸

541. Some witnesses expressed concern about the potential for a deactivated pipeline to act as a water conduit. This concern is not supported by the record. Existing Line 3 has been in operation for over 50 years and there are currently no known locations of the outside of the pipe acting as a water conduit transferring or draining water from one location to another.¹¹⁸⁹ Changing the operational status from active to deactivated does not change how the water currently interacts with the exterior of the pipe. For this reason, additional trench breakers beyond what are currently installed on existing Line 3 are not necessary for the permanent deactivation of existing Line 3.¹¹⁹⁰
542. A third-party engineering firm completed a review of the potential for the pipeline to act as a water conduit.¹¹⁹¹ Beyond natural topography, the closure of the mainline valves also acts as preventative measures for the pipeline to act as a water conduit. Following this initial review, two additional locations were recommended to act as environmental segmentation points.¹¹⁹² These segmentation locations will protect streams from becoming hydrologically connected to other streams via the deactivated pipeline. Additionally, the pipeline is being purged and cleaned of any residual product, eliminating the risk at these stream crossings for potential contamination via the deactivated pipeline.¹¹⁹³

¹¹⁸⁶ Ex. EN-22 at 27 (Simonson Direct).

¹¹⁸⁷ Ex. EN-22 at 27 (Simonson Direct).

¹¹⁸⁸ Ex. EN-22 at 27 (Simonson Direct).

¹¹⁸⁹ Ex. EN-45 at 26 (Simonson Rebuttal).

¹¹⁹⁰ Ex. EN-45 at 26 (Simonson Rebuttal).

¹¹⁹¹ Ex. EN-45 at 27 (Simonson Rebuttal).

¹¹⁹² Ex. EN-45 at 27 (Simonson Rebuttal).

¹¹⁹³ Ex. EN-45 at 27-28 (Simonson Rebuttal).

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543. None of these increased impacts caused by full removal are necessary, and requiring full removal would be unsound from an environmental perspective.

3) Safety Issues Associated with Removal.

544. Existing Line 3 currently operates as the third pipeline in a multi-pipeline corridor and is operating relatively close to one or more pipelines throughout the 282 miles in Minnesota. Full removal of Line 3 poses inherent risks to other high pressure Enbridge pipelines and other energy infrastructure due to heavy equipment and limited workspace, environmental impacts associated with removal, land use impacts due to the effective of soil removal, and public safety concerns.¹¹⁹⁴
545. The total removal of existing Line 3 may not be practically possible. Existing Line 3 is in the middle of a congested utility corridor.¹¹⁹⁵ Enbridge’s own active pipelines are in close proximity to existing Line 3. Some of these lines are at shallow depths and the workspace along much of the corridor neither even nor stable.¹¹⁹⁶ Extensive matting and sheet piling would be utilized, but may not be adequate. As Mr. Barry Simonson testified, “matting and working over the top of [the active] lines would [] be extremely difficult, if not impossible.”¹¹⁹⁷
546. Existing Line 3 is placed in the middle of a congested utility corridor. Besides the other active lines surrounding existing Line 3, there are other utilities and constraints in close proximity to existing Line 3.¹¹⁹⁸ In some cases overhead power lines run parallel to existing Line 3 at very close distances. For example, in some locations, the overhang of these wires are approximately six feet from center of existing Line 3.¹¹⁹⁹
547. In addition to power lines being extremely close to existing Line 3, other constraints include the depths of cover of Lines 1 and 2 that typically run on the north side of existing Line 3.¹²⁰⁰ Lines 1 and 2 parallel existing Line 3 the closest in much of the corridor. These lines were installed prior to the minimum depth of cover standard that was established under 49 C.F.R. 195.248 and were laid at shallow depths along the right-of-way. Working over shallow lines significantly increases the chances of integrity issues with these lines.¹²⁰¹ This is due to minimal soil cover to distribute the weight of equipment or matting. Matting over these shallow lines places the mats directly on top of these lines, creating pinch points at the edge of the mats. The stability of the mats to hold

¹¹⁹⁴ Ex. EN-74 at 2-3 (Simonson Summary).

¹¹⁹⁵ Ex. EN-45 at 31 (Simonson Rebuttal).

¹¹⁹⁶ Ex. EN-45 at 32 (Simonson Rebuttal).

¹¹⁹⁷ Ex. EN-45 at 32 (Simonson Rebuttal).

¹¹⁹⁸ Ex. EN-45 at 32 (Simonson Rebuttal).

¹¹⁹⁹ Ex. EN-45 at 31 (Simonson Rebuttal).

¹²⁰⁰ Ex. EN-45 at 32 (Simonson Rebuttal).

¹²⁰¹ Ex. EN-45 at 32 (Simonson Rebuttal).

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the equipment is transferred down into the very pipes they are trying to protect. In addition to the minimal soil cover, along much of the corridor, the current active lines, including existing Line 3, are mounded with soil.¹²⁰² This makes for a very uneven, unstable working surface over the top and in between the active lines. Due to this constraint, matting and working over the top of these lines would in return be extremely difficult, if not impossible. Finally, as stated above, existing Line 3 crosses countless utilities, roadways, and railways, as well as parallels many roadways and railways that pose additional concern when considering removal.¹²⁰³

548. Even if complete removal were possible, and all available safety measures were applied, there are serious effects that will occur, and potential risks that will be introduced or heightened by such a removal, including:

- Operating line(s) are struck during removal resulting in a release;
- Soil becomes unstable during excavation of existing Line 3 causing the nearby operating lines to move. This may create additional stress to the nearby operating lines which increases the risk of future releases;
- Sheet piling installation damages operating line(s) causing operating line damage and / or release;
- Additional stress to operating pipelines may result while working above buried pipelines increasing the risk of future releases;
- New ditches are created in wetlands due to the void left by the removed pipe which changes water paths;
- Existing wetlands that were a result of the original construction may be altered / impacted / eliminated if the existing Line 3 is removed;
- Increased risk to public safety due to increased construction traffic;
- Natural habitat of threatened or endangered species is temporarily impacted (migratory birds, long eared bat, fish habitat);
- Natural habitat of threatened or endangered species is permanently impacted (migratory birds, long eared bat, fish habitat);
- Damage/disturbance to environmentally sensitive areas (parks, wetlands, natural areas, species at risk habitat);

¹²⁰² Ex. EN-45 at 32 (Simonson Rebuttal).

¹²⁰³ Ex. EN-45 at 32 (Simonson Rebuttal).

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- Damage/disturbance to water crossings (streams, rivers, lakes, canals);
Damage/disturbance to non-agricultural lands;
- Damage/disturbance to forested lands;
- Damage/disturbance to existing developed lands (commercial, industrial, residential);
- Damage/disturbance to non-cultivated lands (native prairie, range land);
- Damage/disturbance to roads and railways;
- Damage/disturbance to other crossings (such as overhead powerlines, natural gas lines, fiber optic cable, buried electrical lines, water lines, and sewer lines) are struck by construction equipment; and
- Damage/disturbance to cultivated lands (including those that are irrigated).¹²⁰⁴

549. These risks are tangible and, despite the best efforts of construction crews, accidents can happen when working in close proximity to active pipelines.¹²⁰⁵ Ordering removal of existing Line 3 is not supported by this record.

4) Land Rights.

550. Existing Line 3 is in place by virtue of several sources of land rights. On private lands, Enbridge's typical rights are voluntarily-acquired, permanent easements. Enbridge has the right to deactivate existing Line 3 in place on these parcels. As a result, ordering that existing Line 3 be removed in its entirety would disregard the fact that Enbridge has rights. At a minimum, even if some owners dispute Enbridge's right to deactivate existing Line 3 in place, the Commission is not the proper forum for resolution of those disputes.

551. Enbridge also has rights through public lands, including a National Forest, through Reservations and lands owned by tribes or tribal members, and under roads and railroads. Enbridge's rights through these lands are typically licenses and/or permits. While the record does not contain an analysis of every owner's land rights vis a vis the pipeline after it is deactivated, the licenses and/or permits in place may have reserved the rights for those owners to make decisions about the ultimate fate of the pipeline after it is deactivated. None of these owners have taken the position in this proceeding that blanket removal is appropriate.

¹²⁰⁴ Ex. EN-45 at 32-33 (Simonson Rebuttal).

¹²⁰⁵ See, e.g., Evid. Hrg. Tr. Vol. 8A (Nov. 14, 2017) at 44-45 (Eberth).

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552. Under Minnesota law, Enbridge has not abandoned its easement rights. As a result, an order requiring Enbridge to remove existing Line 3, despite its easement rights, would be inconsistent with Minnesota law and would constitute an unlawful taking of Enbridge's property rights.¹²⁰⁶

6. Renewable Energy Offsets.

553. DOC-DER witness Ms. O'Connell recommends that, if the Commission issues a CN for the Project, it condition such approval on a requirement that Enbridge offset any increases in its electricity use related to the Project with renewable energy, to mirror the requirements the Commission Ordered in its August 18, 2017 *Order Clarifying Neutral Footprint Objectives and Requiring Compliance Filing* in Docket No. PL9/CN-13-153 as follows:

1. To fulfill its kWh-for-a-kWh requirement, Enbridge Energy, Limited Partnership shall acquire renewable energy as defined in Minnesota Statutes section 216B.2422, subdivision 1 1(c), to offset all the incremental increase in nonrenewable energy consumed by the Phase 2 project since the project became operational.

2. Beginning no later than October 1, 2017, Enbridge shall make annual filings regarding its compliance with its neutral footprint objectives. Regarding Enbridge's kWh-for-a-kWh requirement, these filings shall include a calculation of (a) the incremental increase in Enbridge's energy consumption due to the Phase 2 project and (b) the share of that energy that comes from nonrenewable sources.

3. By November 1, 2020, and annually thereafter, Enbridge shall document—in a manner that precludes double-counting—that it has complied with the kWh-for-a-kWh requirement. Enbridge may rely on renewable energy credits from its own generators, or from a third party offering verifiable renewable energy credits. Verification shall be from the Minnesota Renewable Energy Trading System or another entity the Commission determines to be substantially equivalent to M-RETS.¹²⁰⁷

554. Ms. O'Connell further testifies:

a commitment to build Line 3 would likely result in a net increase in GHG emissions, compared to not building the facility, due to two factors: 1) increased throughput of crude oil through the state

¹²⁰⁶ See *Lindberg v. Fasching*, 667 N.W.2d 481, 487 (Minn. Ct. App. 2003); *Richards Asphalt Co. v. Bunge Corp.*, 399 N.W.2d 188, 192 (Minn. Ct. App. 1987).

¹²⁰⁷ Ex. DER-6 at 13-14 (O'Connell Surrebuttal).

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overall and 2) ability of the existing 390,000 bpd to ship heavy crude rather than solely light crude. Shipments of heavy crude require more electricity from utilities in Minnesota than shipments of light crude, thus increasing Enbridge’s electricity use. Further, Enbridge indicates that the Company no longer offers its “neutral footprint,” which Enbridge indicated in the past would offset each kWh increase in electricity use with an increase in electricity produced by renewable power.¹²⁰⁸

555. The Commission recently rejected DOC-DER’s attempt to impose a similar condition to the MPL Reliability Project.¹²⁰⁹ DOC-DER has offered no explanation as to why such a condition should be imposed only on Enbridge. There is none.
556. Enbridge previously implemented the Neutral Footprint Program, which was based on a voluntary commitment to help reduce the environmental impact of its liquids pipeline expansion projects within five years of their occurrence by meeting certain goals for replacing trees, conserving land, and generating kilowatt hours of green energy.¹²¹⁰ While Enbridge found value in the program, Mr. Eberth testified that it did not always result in direct benefits to the local communities surrounding its pipeline projects.¹²¹¹
557. Enbridge concluded its Neutral Footprint Program in 2015 and shifted the focus of its environmental initiatives to innovation and partnerships on GHG reduction, water protection, and support for locally based environmental improvements in operating communities across all of its business segments – i.e., liquid pipelines; natural gas transmission, processing, and distribution; and power and renewables generation.¹²¹² As a result, in 2015, Enbridge introduced the EcoFootprint Program, which is a partnership between Enbridge and the Minnesota Association of Resource Conservation and Development Councils to award grant funds to help protect and restore the natural environment. The program includes investing in projects that address environmental values and priorities that are important to the communities in which it operates.¹²¹³
558. To date, Enbridge’s EcoFootprint Program has awarded \$1,890,677 in total grants to communities in North Dakota, Minnesota, and Wisconsin along Enbridge’s Preferred Route. Eligible organizations include nonprofit 501(c)3 organizations, Native American tribes, state government agencies, local governments and post-secondary academic

¹²⁰⁸ Ex. DER-1 at 85 (O’Connell Direct).

¹²⁰⁹ *In the Matter of Application of Minnesota Pipe Line Company, LLC for a Certificate of Need for the Minnesota Pipe Line Reliability Project to Increase Pumping Capacity on the Line 4 Crude Oil Pipeline in Hubbard, Wadena, Morrison, Meeker, McLeod, and Scott Counties*, MPUC Docket No. PL-5/CN-14-320, Order Granting Certificate of Need at 11-12 (Aug. 31, 2015).

¹²¹⁰ Ex. EN-30 at 25-26 (Eberth Rebuttal).

¹²¹¹ Ex. EN-30 at 25-26 (Eberth Rebuttal).

¹²¹² Ex. EN-30 at 25 (Eberth Rebuttal).

¹²¹³ Ex. EN-30 at 25 (Eberth Rebuttal).

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institutions.¹²¹⁴ Schedule 3 to Mr. Eberth’s rebuttal testimony contains a list of the 2015 – 2017 EcoFootprint Program grant recipients. Preference is given to projects that demonstrate one or more of the following priorities:¹²¹⁵

- Improve and/or protect surface water and/or groundwater quality in watersheds crossed by the project;
- Advance research and science related to threatened and endangered species and/or declining populations;
- Foster environmental postsecondary education and stewardship; Improve research related to the transportation of crude oil as it relates to the environment; and
- Focus on environmental areas most relevant to local communities.

559. Mr. Eberth testified that Enbridge plans to continue the EcoFootprint Program.¹²¹⁶
560. Enbridge will purchase electricity used to power the Project from Minnesota electric utilities already subject to the Minnesota Renewable Energy Standard (“RES”) found in Minn. Stat. § 216B.1691 and where Enbridge’s demand side management efforts result in fewer overall GHG emissions on Enbridge’s Mainline System on a per barrel basis.¹²¹⁷
561. The RES requires Minnesota utilities to acquire a percentage of all electricity sold at retail from renewable resources.¹²¹⁸ By 2025, 25 percent of all electricity sold at retail must be sourced from renewable resources. According to the DOC-DER’s January 15, 2017 Minnesota Renewable Energy Standard: Utility Compliance report to the Minnesota Legislature, each of the Minnesota electric utilities that Enbridge will purchase electricity from for the Project is in compliance with the RES through at least 2025. Accordingly, 25 percent of the electricity purchased by Enbridge from Minnesota utilities will already be renewable.¹²¹⁹
562. Purchasing additional Renewable Energy Credits to further offset the Project’s energy use would come at a cost to Enbridge.¹²²⁰

¹²¹⁴ Ex. EN-30 at 25 (Eberth Rebuttal).

¹²¹⁵ Ex. EN-30 at 25-26 (Eberth Rebuttal).

¹²¹⁶ See Ex. EN-30 at 26 (Eberth Rebuttal).

¹²¹⁷ See Ex. EN-30 at 26 (Eberth Rebuttal).

¹²¹⁸ See Ex. EN-30 at 26 (Eberth Rebuttal).

¹²¹⁹ See Ex. EN-30 at 26 (Eberth Rebuttal).

¹²²⁰ See Ex. EN-31 at 26 (Eberth Nonpublic Rebuttal); Ex. EN-30 at 26 (Eberth Rebuttal).

PIPELINE ROUTING PERMIT

I. PIPELINE ROUTING PERMIT CRITERIA.

563. Minn. Stat. § 216G.02, subd. 2, prohibits construction of a pipeline without an RP issued by the Commission, unless a specific exemption from the Commission’s routing authority applies.¹²²¹ A pipeline requiring an RP may only be constructed on a route designated by the Commission.¹²²²
564. Minn. R. 7852.1900, subp. 3, sets forth the criteria that the Commission will consider when selecting a pipeline route and determining whether to issue an RP.¹²²³ This rule states that the Commission must consider the impact of the proposed pipeline on the following:
- A. human settlement, existence and density of populated areas, existing and planned future land use, and management plans;
 - B. the natural environment, public and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands;
 - C. lands of historical, archaeological, and cultural significance;
 - D. economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations;
 - E. pipeline cost and accessibility;
 - F. use of existing rights-of-way and right-of-way sharing or paralleling;
 - G. natural resources and features;
 - H. the extent to which human or environmental effects are subject to mitigation by regulatory control and by application of the permit conditions contained in part 7852.3400 for pipeline right-of-way preparation, construction, cleanup, and restoration practices;

¹²²¹ Minn. Stat. § 216G.02, subd. 2.

¹²²² Minn. Stat. § 216G.02, subd. 2.

¹²²³ Minn. R. 7852.1900, subp. 3.

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I. cumulative potential effects of related or anticipated future pipeline construction; and

J. the relevant applicable policies, rules, and regulations of other state and federal agencies, and local government land use laws including ordinances adopted under Minnesota Statutes, section 299J.05, relating to the location, design, construction, or operation of the proposed pipeline and associated facilities.¹²²⁴

565. The Commission must consider the characteristics and potential impacts of each proposal so that it may select a route that minimizes impacts to human settlements and the environment.¹²²⁵

II. STAKEHOLDER OUTREACH & DEVELOPMENT OF THE PREFERRED ROUTE.

566. The Project routing process started in 2014.¹²²⁶ Enbridge analyzed potential routes in compliance with the Pipeline Routing Permit requirements under Minnesota Statutes Chapter 216G and Minnesota Rules Chapter 7852.¹²²⁷ As part of this analysis, Enbridge testified that it balanced different interests and environmental concerns, such as the impacts on land use, terrain and geology, soils, vegetation, wildlife, fisheries, groundwater resources, surface water resources, wetlands, roads, forest lands, cultural resources and federal, state or county recreational areas, as well as socioeconomic impacts.¹²²⁸ Enbridge considered a number of route alternatives when it developed the Application.¹²²⁹

567. Existing Line 3 is located in the Enbridge Mainline Corridor. Because of development in and around that corridor, safety concerns related to construction in a pipeline-congested corridor, and feedback from the Leech Lake Band indicating that the Band would not approve the Project across its reservation, Enbridge developed a route that deviates from the Enbridge Mainline Corridor in Clearbrook and instead follows the Minnesota Pipe Line Company (“MPL”) crude oil pipelines south to about Park Rapids, before turning east and following high voltage transmission lines and road rights of way for much of the route before joining back up with the Enbridge Mainline Corridor in Carlton County (the “Preferred Route”).¹²³⁰

¹²²⁴ Minn. R. 7852.1900, subp. 3.

¹²²⁵ Minn. R. 7852.1900, subp. 2.

¹²²⁶ Ex. EN-24 at 7-8 (Eberth Direct).

¹²²⁷ Ex. EN-24 at 22 (Eberth Direct).

¹²²⁸ Ex. EN-24 at 22 (Eberth Direct).

¹²²⁹ Ex. EN-24 at 24 (Eberth Direct).

¹²³⁰ Ex. EN-24 at 23-24 (Eberth Direct).

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568. Leech Lake Band has repeatedly expressed its position to the state agencies regarding the pipelines and the right-of-way over the reservation and any in-trench replacement.¹²³¹ In 2013, Leech Lake Band stated that North Dakota Pipeline Company did not have legal or regulatory approval to expand the Enbridge Mainline System through the Leech Lake Indian Reservation (“Reservation”), and requested that the Commission insist on an alternative route around the Reservation.¹²³² Leech Lake Band’s objection to constructing the Project through the Reservation has been consistent throughout the permitting process.¹²³³ Leech Lake Band has stated that it would not allow any replacement of Line 3 whether in trench or alongside the current Line 3.¹²³⁴ In a Resolution, dated November 27, 2017, Leech Lake Band reiterated its refusal to approve a route across the Reservation and resolved to “use all means at its disposal to ensure that the Line 3 proposed route does not cross through the Leech Lake Indian Reservation.”¹²³⁵
569. The existing Enbridge Mainline System from Clearbrook to Superior is heavily congested with significant obstacles to construction and operation. In addition to Enbridge’s six pipelines in the right-of-way, US Hwy 2, a rail corridor, and the newly constructed CapX Bemidji to Grand Rapids 230 kV transmission all lie adjacent to the existing pipelines.¹²³⁶
570. The significant congestion along the Mainline Corridor would require several unique pipeline installations that can be avoided by utilizing the Preferred Route. Examples of unique pipeline installations along the Enbridge Mainline System that occurred due to the congestion and complexity of the right-of-way include:
- Two pipelines which cross Cass Lake;
 - Two pipelines installed down the center of a road (Railroad Avenue) in the town of Cass Lake, MN;
 - Routing immediately adjacent to a superfund site with four pipelines near Cass Lake, MN;
 - Four pipelines in an active gravel mining operation in Grand Rapids, MN;
 - Two pipelines through the college yard and grounds in Grand Rapids, MN; and,

¹²³¹ Evid. Hrg. Tr. Vol. 10A (Nov. 16, 2017) at 74 (Brown).

¹²³² Ex. EN-24, Sched. 6 at 1-2 (Eberth Direct).

¹²³³ See Evid. Hrg. Tr. Vol. 10A (Nov. 16, 2017) at 142 (Brown) (“Enbridge will not get a permit from Leech Lake to access our property.”).

¹²³⁴ Ex. LL-4 (Official Statement of Leech Lake Band, dated November 14, 2017); see also (Evid. Hrg. Tr. Vol. 10A (Nov. 16, 2017) at 67-68 (Brown) (“we are opposed and will not allow any replacement in place alongside of it.”).

¹²³⁵ Ex. LL-10 at 1 (Leech Lake Tribal Council Resolution No. LD2018-073, dated November 27, 2017).

¹²³⁶ Ex. EN-24 at 25 (Eberth Direct).

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- A general increase in the population density along the corridor (e.g., the corridor crosses the grounds of the Bemidji High School and residential developments in Bemidji, Cohasset, and Grand Rapids).¹²³⁷
571. Construction along the Northern Route would require further expansion of the utility corridor through the Chippewa National Forest (“CNF”).¹²³⁸
572. Installing another pipeline in these areas creates additional constructability issues and impacts to the public and the environment.¹²³⁹
573. Enbridge also analyzed in-trench replacement in Section 6.6.1 of the Route Permit Application and further examined it in the context of RA-07. In-trench replacement raises significant safety risks, as it requires construction over active pipelines, requires greater area of disturbance than construction on the outer edge of an existing pipeline right-of-way, and still has the potential to impact Leech Lake Band, CNF, the Superfund site and all of the population centers discussed for the Northern Route.¹²⁴⁰ In addition, in-trench replacement will require that existing Line 3 be removed from service for approximately 16 months.¹²⁴¹ The Enbridge Mainline System is full today and does not have existing capacity to move the existing Line 3 volumes if it were shut down for this period.¹²⁴² Accordingly, in-trench replacement would negatively impact the reliability of crude oil transportation to refineries in Minnesota and its neighboring states.¹²⁴³
574. In addition, Enbridge solicited feedback from landowners, agencies, and local government officials through early coordination letters and open houses.¹²⁴⁴ Once an initial route was identified, extensive civil and environmental field surveys were conducted (with landowner permission) to assist in the refinement of the Preferred Route.¹²⁴⁵ Finally, through consultation with landowners, communities, environmental agencies, and other stakeholders, a Preferred Route was developed.¹²⁴⁶
575. Mr. Eberth testified that, once it became apparent that Enbridge would need to develop a route that avoided the increasing populations, the Leech Lake Band Reservation, and forest land within the Chippewa National Forest, Enbridge looked for other existing

¹²³⁷ Ex. EN-24 at 25-26 (Eberth Direct).

¹²³⁸ Ex. EN-24 at 25-26 (Eberth Direct).

¹²³⁹ Ex. EN-24 at 25-26 (Eberth Direct).

¹²⁴⁰ Ex. EN-24 at 26 (Eberth Direct); Ex. EN-22, Sched. 7 at 36-37 (Simonson Direct).

¹²⁴¹ Ex. EN-22, Sched. 7 at 38 (Simonson Direct); Ex. EN-24 at 27 (Eberth Direct).

¹²⁴² Evid. Hrg. Tr. Vol. 7B (Nov. 13, 2017) at 57 (Eberth).

¹²⁴³ Ex. EN-24 at 26-27 (Eberth Direct).

¹²⁴⁴ Ex. EN-24 at 23 (Eberth Direct).

¹²⁴⁵ Ex. EN-24 at 23 (Eberth Direct).

¹²⁴⁶ Ex. EN-24 at 23 (Eberth Direct).

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utility corridors that provided an efficient means of connecting the pipeline between Clearbrook, Minnesota, and Superior, Wisconsin. The Minnesota Pipe Line Company right-of-way south of Clearbrook, coupled with electric rights-of-ways, provided opportunities for co-location with existing linear features including utility infrastructure and road right-of-way for approximately 75 percent of the Preferred Route.¹²⁴⁷

576. The Preferred Route avoids routing through areas of significant population density.¹²⁴⁸ Through minor reroutes along the Preferred Route, it further avoids or minimizes potential impacts to people and the environment.¹²⁴⁹ It also addresses concerns of landowners living along the route.¹²⁵⁰
577. The Applicant's Preferred Route took into account many factors such as: co-location with existing energy infrastructure, environmental sensitivities (rivers, waterbodies, environmental/cultural surveys, state agency input), landowner consultation, and constructability. The result is a Preferred Route that is over 80 percent co-located with existing energy infrastructure, approximately 95 percent of easements in place with directly affected landowners, and over 60 route changes made taking into account stakeholder input.¹²⁵¹
578. Enbridge has refined the route and workspace over the years based on surveys and input from stakeholders like MDNR, Kennecott, and White Earth Band. Enbridge has gathered environmental survey data across the entire Preferred Route and has consulted with regulatory agencies regarding resources of importance. These efforts have informed a detailed alignment that avoids, minimizes, or mitigates impacts to especially sensitive areas and is responsive to the state of Minnesota's criteria for routing pipelines.¹²⁵²
579. Enbridge made many smaller modifications to the pipeline route, workspace, and construction method to avoid the locations of special status species and other sensitive sites. Where avoidance is not practical or would cause a greater environmental impact, Enbridge is working with applicable agencies to mitigate the impacts from project construction.¹²⁵³

¹²⁴⁷ Ex. EN-24 at 26 (Eberth Direct).

¹²⁴⁸ Ex. EN-24 at 27 (Eberth Direct).

¹²⁴⁹ Ex. EN-24 at 27 (Eberth Direct).

¹²⁵⁰ Ex. EN-6 at 12 (McKay Direct).

¹²⁵¹ Ex. EN-74 at 1-2 (Simonson Summary).

¹²⁵² Ex. EN-46 at 28 (Bergland Rebuttal).

¹²⁵³ Ex. EN-46 at 28-29 (Bergland Rebuttal).

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580. Detailed mitigation plans have been developed to address issues such as wetlands and waterbody crossings, impacts to agriculture, and unanticipated discoveries of cultural resources, further minimizing impacts of the Project.¹²⁵⁴
581. Enbridge has made the following larger route modifications that are reflected in the Preferred Route:¹²⁵⁵
- Through discussions with the MDNR, Enbridge identified old forest resources in the Hill River State Forest, which resulted in route modifications to avoid impact to those features.
 - Enbridge has held numerous discussions and field visits to address MDNR concerns with crossing the Spire Valley AMA. Enbridge identified a new route to the south of the AMA that avoids the AMA entirely.
 - In consultation with the MDNR, Enbridge was notified that properties within the Crow Wing Chain WMA were gifted to the MDNR by the Nature Conservancy and were reserved with deed restrictions. Enbridge modified the Preferred Route to entirely avoid the WMA.
 - Enbridge worked with Kennecott Exploration Company and the MDNR to avoid state mineral lease areas, which also resulted in avoidance of the Salo Marsh WMA.
 - Based on comments from White Earth Band, Enbridge proposed route segment alternative RSA-05 to avoid a hydrologic connection to Lower Rice Lake. RSA-05 also would avoid impacts to the Mud Lake basin, which contains wild rice, approximately 540 feet from the Preferred Route construction workspace.
582. As a result of the public and stakeholder input in the Commission’s permit proceedings, Enbridge made over 50 changes to the proposed centerline of its Preferred Route and incorporated 23 proposed route alternatives.¹²⁵⁶
583. Enbridge testified that it understands that the Native American communities in the upper Midwest region are important stakeholders for a number of existing and proposed Enbridge pipelines in the region, including the Project.¹²⁵⁷ Enbridge has a dedicated and cross-functional Tribal engagement team that is focused on supporting Enbridge’s relationships for both existing and proposed pipelines like the Project. In Wisconsin, the

¹²⁵⁴ See Ex. EERA-29, Appendix E (FEIS); Ex. EERA-29, Appendix F (FEIS); Ex. EERA-29, Appendix O (FEIS).

¹²⁵⁵ Ex. EN-46 at 28-29 (Bergland Rebuttal).

¹²⁵⁶ Ex. EN-24 at 23 (Eberth Direct); see also Ex. EN-24, Sched. 5 (Eberth Direct).

¹²⁵⁷ Ex. EN-30 at 20 (Eberth Rebuttal).

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team has been engaged in conversations with Tribes regarding ongoing operational matters relating to Line 5, Line 6A, and Line 14.¹²⁵⁸ Enbridge recently reached a major milestone relationship agreement with the Lac Courte Oreilles Band of Lake Superior Ojibwe that provides them with significant economic benefits, recognizes their sovereignty by paying taxes to their government, and forms a strong foundation for a trust-based relationship going forward.¹²⁵⁹ In 2017, and independent of any formal state or federal permitting processes, Enbridge has had more than 100 contacts with Minnesota Tribal governments, officials, and representatives regarding the Project. These contacts range from email exchanges and telephone conversations to formal meetings with Reservation Business Committees and Tribal Councils.¹²⁶⁰

584. Enbridge continues working with White Earth Band to address their concerns over the protection of wild rice resources and has introduced a route segment alternative (RSA-05) that avoids Upper and Lower Rice Lakes utilized by tribal members.¹²⁶¹ Enbridge is actively working with the Leech Lake Band Resource Management Department on the deactivation of the existing Line 3. As part of the USACE permitting process, Enbridge has contracted directly with the Fond du Lac Band’s Resource Management Department for a Tribal Cultural Resource Investigation, which is currently in progress. This investigation is a collaborative effort, including the USACE, Enbridge, and numerous Tribes, with Enbridge providing financial and logistical support for this effort.¹²⁶² Overall, approximately 30-40 individuals will be employed as a result of this effort. Enbridge continues to meet with tribal Emergency Management staff from all of the tribal intervening parties, addressing concerns over pipeline spills and response. Enbridge recently performed a DOJ-required emergency response functional exercise on Cass Lake with the full participation of all local jurisdictions, including approximately two dozen Leech Lake Band staff members, as well as observers from other regional tribal governments.¹²⁶³
585. The Board Chair of Osage Nation Energy Services, LLC, a company wholly owned by the Osage Nation, sent a comment letter to DOC this summer stating, “In our experience, Enbridge was very successful in involving the local community and the Osage Nation to ensure the pipeline construction project was conducted responsibly and in a way that contributed to the local community” and further listed many of the ways the pipeline project benefitted their Nation.¹²⁶⁴

¹²⁵⁸ Ex. EN-30 at 20 (Eberth Rebuttal).

¹²⁵⁹ Ex. EN-30 at 20 (Eberth Rebuttal).

¹²⁶⁰ Ex. EN-30 at 20 (Eberth Rebuttal).

¹²⁶¹ Ex. EN-30 at 21 (Eberth Rebuttal).

¹²⁶² Ex. EN-30 at 21 (Eberth Rebuttal).

¹²⁶³ Ex. EN-30 at 21 (Eberth Rebuttal).

¹²⁶⁴ Ex. EN-30 at 21-22 (Eberth Rebuttal).

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586. In Minnesota, Enbridge is providing economic opportunities, such as procurement of goods and services, training, and employment opportunities. By way of example, between 2009 and 2016 Enbridge provided over \$430 million in contracting opportunities to native-owned businesses in Canada, including approximately \$80 million in 2016 and is taking the same approach in Minnesota.¹²⁶⁵ In Canada, Enbridge has invested more than \$40 million in capacity funding, community sustainability funding, and other committed economic opportunities with Canadian Indigenous communities impacted by the L3R Program. In addition, Enbridge has invested nearly \$8 million in tribal community projects, including environmental and sustainable energy initiatives in response to concerns and interests expressed by tribal communities. Enbridge would expect to see an increase in the economic benefits for Native American communities if the Project is constructed in Minnesota.¹²⁶⁶
587. Enbridge has a contract clause that requires contractors to engage with the Tribal Employment Rights Ordinance (“TERO”) if the Project is within tribal lands.¹²⁶⁷ Enbridge works closely with TERO officers to identify training opportunities. Enbridge has also formed partnerships with unions to deliver training specifically for tribal members. For example, the Heavy Equipment Operators (Local 49ers) held a six-week training course in June 2017 at their Hinckley training center for tribal members from Ojibwe Bands in Minnesota.¹²⁶⁸
588. Enbridge has two employees in its supply chain management department that are on the Tribal Engagement Team, and they are focused on identifying and helping native-owned companies get hired directly by Enbridge or hired as a sub-contractor.¹²⁶⁹ Enbridge has a database of native-owned or tribal-owned companies that it uses in its contracting process. Enbridge established a program called the Socio Economic Requirements of Contractors that requires all contractors to prepare a Socio Economic Plan for every project. The Socio Economic Plan requires contractors to develop plans for subcontracting native-owned companies and Native Americans as employees. The Socio Economic Plan is evaluated in the Request for Proposal process, and scores are included in the decision-making processes.¹²⁷⁰ Once a contract is signed, a company’s Socio Economic Plan is part of the contract, and its terms are binding. Contractors must also produce monthly or quarterly reports on their spending with native-owned companies and on the wages earned by Native Americans. As an example, for the Line 3 Replacement work in Wisconsin, a Native American-owned 8(a) company performed the trench

¹²⁶⁵ Ex. EN-30 at 22 (Eberth Rebuttal).

¹²⁶⁶ Ex. EN-30 at 22 (Eberth Rebuttal).

¹²⁶⁷ Ex. EN-30 at 22 (Eberth Rebuttal).

¹²⁶⁸ Ex. EN-30 at 22-23 (Eberth Rebuttal).

¹²⁶⁹ Ex. EN-30 at 23 (Eberth Rebuttal).

¹²⁷⁰ Ex. EN-30 at 23 (Eberth Rebuttal).

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breaker installations, the Fond du Lac Band provided the cultural resource monitors, and gravel was procured from a local Native American-owned business.¹²⁷¹

589. Overall, the route selection process includes more than 10,000 hours of extensive review to optimize the route, which includes environmental wetland waterbody surveys, cultural surveys, threatened and endangered species surveys, consultation with landowners and other stakeholders, review of existing utility rights-of-way, identification of High Consequence Areas, and field constructability reviews performed by experienced engineers and construction managers.¹²⁷²

III. APPLICATION OF PIPELINE ROUTING PERMIT CRITERIA.

590. In accordance with Minn. R. 7852.1400, the Commission selected route alternatives (“RAs”) and RSAs identified during scoping for further consideration in this process. Specifically, the following RAs were selected for further consideration: RA-03AM; RA-06; RA-07; and RA-08. Twenty-four RSAs were also selected for further consideration. RSAs are generally shorter route deviations. Overall, as described in more detail below, the record demonstrates that the Preferred Route, with the incorporation of RSA-05, best balances the Commission’s routing criteria.
591. Enbridge prepared an Alternatives Analysis Report that reflects its analysis of the impacts of each alternative following the criteria of Minn. R. 7852.1900. Enbridge’s Alternatives Analysis Report includes a succinct description of each alternative, highlights the quantitative impact differences between each alternative and the Preferred Route and summarizes qualitative characteristics that led to Enbridge’s conclusions regarding the merits of each alternative.¹²⁷³
592. In addition, this record contains extensive environmental analysis of each alternative as reflected in the FEIS.¹²⁷⁴ The FEIS does not include any conclusions as to the relative merits of each alternative, but rather provides the data and discussion of each of the routing criteria in 7852.1900 to ensure that the ALJ and Commission take a “hard look” at the potential human and environmental impacts of the project and alternatives and consider potential mitigation measures for addressing such impacts.
593. Enbridge’s Alternative Analysis Report provides a comprehensive and credible evaluation of the alternatives.¹²⁷⁵ No other party provided substantive testimony as to the merits of any RA or RSA based on the Route Permit criteria. On the last day of the public comment period, the MPCA and MDNR provided comments addressing the RAs,

¹²⁷¹ Ex. EN-30 at 23 (Eberth Rebuttal).

¹²⁷² Ex. EN-45 at 10 (Simonson Rebuttal).

¹²⁷³ See Ex. EN-22, Sched. 7 (Simonson Direct).

¹²⁷⁴ See Ex. EERA-29 at Ch. 4 and 12 (FEIS).

¹²⁷⁵ See Ex. EN-22 at 29 (Simonson Direct); Ex. EN-22, Sched. 7 (Simonson Direct).

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and the MDNR further commented on several RSAs.¹²⁷⁶ Each of these resource agencies drew upon information in the FEIS to highlight certain potential impacts to resources of interest to these agencies. MDNR acknowledged that the Commission must consider additional resources beyond those discussed by MPCA or MDNR.¹²⁷⁷

594. Under Enbridge’s supervision, an environmental team composed of resource specialists with expertise in large, linear energy projects conducted both desktop and field-level environmental analyses.¹²⁷⁸ Field efforts documented resources located within the Project’s environmental survey area and allowed Enbridge to develop avoidance and impact minimization strategies to ensure that the Project was appropriately sited. Desktop review efforts identified other resources that were presented in environmental documents to address the Applications’ requirements; support various federal, state, and local environmental permit applications; and inform consultations with agencies. Enbridge and its consultants also have engaged in discussions with various federal, state, and local environmental agencies since the Project’s inception.¹²⁷⁹ These discussions served to inform the scope of the environmental surveys, provided routing guidance, and assisted Enbridge in the development of construction strategies to mitigate possible environmental impacts. Some of the state and federal agencies that Enbridge has worked with on the Project include USACE, U.S. Fish and Wildlife Services (“USFWS”), MPCA, MDNR, Minnesota Department of Agriculture (“MDA”), Minnesota Department of Health, Minnesota Board of Water and Soil Resources/Local Government Units, Mississippi Headwaters Board, and the Middle Snake Tamarac, Two Rivers, Red Lake, and Wild Rice Watershed Districts. It should be noted that Enbridge and its consultants engaged in many discussions with federal, state, and local environmental agencies regarding the Sandpiper Pipeline Project prior to the existence of this Project.¹²⁸⁰ Once the two Projects were active contemporaneously, many communications referenced both projects where they were collocated south and east of Clearbrook, and information received during the Sandpiper Pipeline Project effort was applied to this Project where appropriate. The results of these discussions have been used to further inform development and permitting for this Project.¹²⁸¹
595. Enbridge has conducted the following environmental surveys related to the Project: Wetland Surveys; Waterbody Surveys, including Rosgen Geomorphic Stream Surveys; Early and Late Season Protected Flora Surveys; Northern Long-Eared Bat Acoustic, Mist-Net and Telemetry Surveys; Bald Eagle Nest Aerial and Field Verification Surveys; Osprey Nest Aerial and Field Verification Surveys; Grassland Habitat Assessment and

¹²⁷⁶ Comment by MDNR (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)); Comment by MPCA (Nov. 22, 2017) (eDocket No. [201711-137629-01](#)).

¹²⁷⁷ Comment by MDNR at 1 (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)).

¹²⁷⁸ Ex. EN-9 at 5 (Bergland Direct).

¹²⁷⁹ Ex. EN-9 at 5 (Bergland Direct).

¹²⁸⁰ Ex. EN-9 at 5 (Bergland Direct).

¹²⁸¹ Ex. EN-9 at 5 (Bergland Direct).

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Dakota Skipper/Poweshiek Skipperling Individual Surveys; Protected Mussel Surveys; Archaeological and Historic Structures Surveys, including Phase I Cultural Resource Reconnaissance Surveys and Phase II Cultural Resource Intensive Surveys; and Noxious and Invasive Plant Surveys.¹²⁸² Detailed environmental surveys were conducted by qualified staff in their respective fields along the Project’s Preferred Route over four field seasons (2013-2016). Surveys completed as part of the Sandpiper Pipeline Project have been applied to this Project, where appropriate. Enbridge and its consultants have used the information gained during field surveys to refine the Preferred Route appropriately and design construction and mitigation measures to reduce impacts to sensitive resources.¹²⁸³

596. Enbridge has spent tens of thousands of hours developing and evaluating the Preferred Route. It balances Minnesota’s routing criteria and maximizes the use of existing infrastructure through the existing connections at Clearbrook and Superior. It avoids routing through areas of significant population density. Through minor reroutes along the Preferred Route, it further avoids or minimizes potential impacts to people and the environment. It also addresses concerns of landowners living along the route.¹²⁸⁴

A. Human Settlement.

597. Minn. R. 7852.1900, subp. 3(A), requires that when reviewing a pipeline route application, the Commission shall consider the impact of the pipeline on “human settlement, existence and density of populated areas, existing and planned future land use, and management plans.”¹²⁸⁵
598. The Preferred Route avoids and/or mitigates impacts to human settlement, populated areas, existing and planned future land uses, and management plans. In general, the Preferred Route traverses through rural areas and avoids population centers.¹²⁸⁶ RA-03AM, RA-06, RA-07, and RA-08 would each have more impacts.
599. RA-03AM would require easements on 1,094 new parcels. There are 397 more houses within the 750-foot-wide route width and “[n]umerous homes, garages, and commercial properties would need to be removed to construct RA-03AM-L3.”¹²⁸⁷ In addition, RA-03AM crosses nine cities, including Staples, Little Falls, Milaca, Mora, and Hinckley.¹²⁸⁸ RA-03AM would be installed between public venues and businesses in congested and

¹²⁸² Ex. EN-9 at 5-6 (Bergland Direct).

¹²⁸³ Ex. EN-9 at 5-6 (Bergland Direct).

¹²⁸⁴ Ex. EN-24 at 27 (Eberth Direct).

¹²⁸⁵ Minn. R. 7852.1900, subp. 3(A).

¹²⁸⁶ Ex. EN-4 at 7-22 (R Application).

¹²⁸⁷ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

¹²⁸⁸ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

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- developed areas with constricted workspaces.¹²⁸⁹ For example, it would require closure of a substantial portion of the golf course at the Grand Casino in Hinckley.¹²⁹⁰ Three airports, a school, two cemeteries, and 13 additional structures are also in the RA-03AM route width.¹²⁹¹
600. RA-06 would require new easements for 953 parcels.¹²⁹² It would also impact more residences, and therefore more people, than the Preferred Route.¹²⁹³ In addition, RA-06 crosses directly through the City of Keewatin and the active Keetac Taconite Mine.¹²⁹⁴ Further, there is a lack of existing electrical infrastructure and housing along RA-06, so both would have to be developed in connection with this Route.¹²⁹⁵
601. RA-07 crosses 12 more cities than the Preferred Route, including crossings in Bemidji, Cass Lake, Ball Club, and Grand Rapids.¹²⁹⁶ Many of these cities have been built up around the existing Enbridge Mainline corridor, putting structures in close proximity to the right-of-way.¹²⁹⁷ It also crosses the Leech Lake and Fond du Lac Reservations and the St. Regis Paper Company Superfund Site. Because RA-07 involves complete removal of existing Line 3 before the Line 3 Replacement pipeline could be installed, the impacts to landowners, including limited or no crossing of the workspace in certain areas, would be longer in duration.¹²⁹⁸ This would cause increased damages for landowners, including farmers.¹²⁹⁹ In addition, the extended construction operation will result in more road use and increased traffic-related disturbances and risks. Finally, there are 158 more HCAs within RA-07.¹³⁰⁰
602. RA-08 would require new easements for 964 parcels¹³⁰¹ and crosses nine more cities than the Preferred Route, including Bemidji, Ball Club, and Grand Rapids.¹³⁰² It also crosses the Leech Lake and Fond du Lac Reservations. There 83 more houses within the 750-foot-wide route width than the Preferred Route, and it would also be within 750 feet of

¹²⁸⁹ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

¹²⁹⁰ Ex. EN-22, Sched. 7 at 24 (Simonson Direct).

¹²⁹¹ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

¹²⁹² Ex. EN-22, Sched. 7 at 30 (Simonson Direct).

¹²⁹³ Ex. EN-22, Sched. 7 at 30 (Simonson Direct).

¹²⁹⁴ Ex. EN-22, Sched. 7 at 29-30 (Simonson Direct).

¹²⁹⁵ Ex. EN-22, Sched. 7 at 31 (Simonson Direct).

¹²⁹⁶ Ex. EN-22, Sched. 7 at 37 (Simonson Direct).

¹²⁹⁷ Ex. EN-22, Sched. 7 at 39 (Simonson Direct).

¹²⁹⁸ Ex. EN-22, Sched. 7 at 38 (Simonson Direct).

¹²⁹⁹ Ex. EN-22, Sched. 7 at 38 (Simonson Direct).

¹³⁰⁰ Ex. EN-22, Sched. 7 at 37 (Simonson Direct).

¹³⁰¹ Ex. EN-22, Sched. 7 at 44 (Simonson Direct).

¹³⁰² Ex. EN-22, Sched. 7 at 43 (Simonson Direct).

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five additional structures, a school, a church, and one more cemetery than the Preferred Route.¹³⁰³ And, there are 141 more HCAs within the RA-08 route width than the Preferred Route.¹³⁰⁴

A. Natural Environment.

603. Minn. R. 7582.1900, subp. 3(B), requires that when reviewing a pipeline route application, the Commission shall consider the impact of the pipeline on “the natural environment, public lands, and designated lands, including but not limited to natural areas, wildlife habitat, water, and recreational lands.”¹³⁰⁵
604. Similarly, Minn. R. 7852.1900, subp. 3(G), requires that when reviewing a pipeline route application, the Commission shall consider the impact of the pipeline on “natural resources and features.”¹³⁰⁶
605. Construction of the Line 3 Replacement Pipeline along the Preferred Route, or any alternative, will have impacts on the natural environment.¹³⁰⁷ As described above, so would the No Action Alternative. None of the RAs will have significantly less impacts than the Preferred Route. Indeed, the Preferred Route often fares better in terms of potential impacts on the natural environment than the Route Alternatives do.
606. Mr. Wayne Dupuis provided testimony concerning habitat along the Preferred Route south and east of the Fond du Lac Reservation.¹³⁰⁸ There is already petroleum transportation infrastructure (as well as natural gas infrastructure) in the area south, and east, of the Fond du Lac Reservation.¹³⁰⁹ Notably, the Magellan Midstream Partners refined petroleum products pipeline travels from the Twin Cities to Duluth generally adjacent to Interstate 35 (see DOC-EERA’s description of RA-03AM on page 6-128 of the FEIS), all south and east of the Fond du Lac Reservation. The pipeline appears to pass through the far southeastern boundary of the Fond Du Lac Reservation. The easement for this pipeline was recorded in 1957. All of these features have coexisted with the habitat discussed by Mr. Dupuis.¹³¹⁰

¹³⁰³ Ex. EN-22, Sched. 7 at 44 (Simonson Direct).

¹³⁰⁴ Ex. EN-22, Sched. 7 at 44 (Simonson Direct).

¹³⁰⁵ Minn. R. 7852.1900, subp. 3(B).

¹³⁰⁶ Minn. R. 7852.1900, subp. 3(G).

¹³⁰⁷ Minn. R. 7853.1900, subp. 3.B requires the Commission to consider impacts on the natural environment, and other factors. Subpart 3.G of the same rule requires the Commission to consider impacts on “natural resources and features.” For ease of review, the discussion of these criteria has been combined in this section.

¹³⁰⁸ See Ex. FDL-1 (Dupuis Direct).

¹³⁰⁹ Ex. EN-46 at 26-27 (Bergland Rebuttal).

¹³¹⁰ Ex. EN-46 at 26-27 (Bergland Rebuttal).

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607. Ms. Nancy Schuldt testified that the Preferred Route traverses watersheds that are completely “intact” (untouched, especially by anything that harms or diminishes) and “pristine” (not spoiled, corrupted, or polluted).¹³¹¹ But the Project will be collocated with existing infrastructure for over 81 percent of its length, all within northern Minnesota, which indicates human disturbance.¹³¹² Even areas where the Preferred Route are not collocated are in and among lands already occupied by farms and businesses, cabins, pastures and barns, highways and roads, railroads, county and state land managed for timber resources, peat farms, communication towers, gas stations, towns, casinos and hotels, and other human developments. The idea that the Preferred Route passes through areas akin to a wilderness area – where development is prohibited and human activities are generally absent – is not accurate.¹³¹³
608. There are numerous crude oil pipelines sited in the “high quality” areas of northern Minnesota.¹³¹⁴ Some of the pipelines have been present for almost 70 years, and the watersheds and ecosystems in which they exist remain “high quality,” in Ms. Schuldt’s terms. The first pipeline in the Enbridge Mainline system was first installed in the late 1940s; today, there are six Enbridge crude oil pipelines from Clearbrook into Superior.¹³¹⁵ The Minnesota Pipe Line system contains four crude oil pipelines between Clearbrook and the Twin Cities, the first of which was installed in the 1950s. The presence of these pipelines counters Ms. Schuldt’s testimony – as general matter, the existence of these pipelines has not contributed to the degradation of what both the public and the state resource agencies view as “high quality” areas.¹³¹⁶
609. Ms. Schuldt’s also testified that the Project pipeline could act as a physical barrier disrupting hydrologic regimes.¹³¹⁷ While it is true that some pipelines constructed in the 1960s and 1970s did create hydrologic barriers, modern regulations and the pipeline construction techniques to be used on the Project, along with the required monitoring of depth of cover, will prevent the Project from creating hydrologic barriers.¹³¹⁸ Current federal PHMSA regulations require that the Project be installed with a minimum of four feet depth of cover. As described in the rebuttal testimony of Mr. Barry Simonson (pages 31 – 32), pipeline placed within saturated soils will have buoyancy control, utilizing materials and methods such as concrete coatings and concrete weights to prevent upward movement of the pipeline.¹³¹⁹ The Line 67 (Alberta Clipper) and Line 13 (Southern

¹³¹¹ Ex. FDL-2 at 9 (Schuldt Direct).

¹³¹² Ex. EN-46 at 27 (Bergland Rebuttal).

¹³¹³ Ex. EN-46 at 27 (Bergland Rebuttal).

¹³¹⁴ Ex. EN-46 at 27 (Bergland Rebuttal).

¹³¹⁵ Ex. EN-46 at 27 (Bergland Rebuttal).

¹³¹⁶ Ex. EN-46 at 28 (Bergland Rebuttal).

¹³¹⁷ Ex. FDL-3 at 6 (Schuldt Rebuttal).

¹³¹⁸ Ex. EN 60 at 1 (Lee Surrebuttal).

¹³¹⁹ Ex. EN 60 at 1-2 (Lee Surrebuttal); Ex. EN-45 at 31-32 (Simonson Rebuttal).

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Access) pipelines were constructed under similar conditions using these methods and the results there are illustrative in showing that the Project will not act as a hydrologic barrier, as results of recent monitoring of the current depth of cover for those lines show that depth of cover has not changed since installation in fall 2009/winter 2010.¹³²⁰ Likewise, the Project is not expected to have material changes in its depth of cover after construction.¹³²¹

610. Pipeline construction has very little potential for groundwater impacts.¹³²²
611. While potential impacts on the natural environment from a release during pipeline operations should be considered in selecting a Route Alternative,¹³²³ they are not, however, the primary consideration.¹³²⁴ As a result, where parties base their cases on the unsupported proposition that the Line 3 Replacement pipeline will inevitably have leaks that will cause major impacts to resources all along the Preferred Route, they overstate their positions and misrepresent the facts.
612. Large releases are unlikely events. Importantly, it is impossible to predict where a release could occur and what the circumstances at the time and location of a release will be. As a result, it is therefore impossible to predict what a release's effects will be. Moreover, the natural environment does recover from releases.¹³²⁵ Chapter 6 of the FEIS goes through the potential effects on various resources in detail. For each resource, the FEIS describes potential mitigation measures to avoid or lessen potential impacts. While Chapter 6 reflects differences among the Preferred Route and Route Alternatives for the wide variety of resources present along each of the routes, it also, generally speaking, describes that the potential scope and duration of impacts amongst the alternatives is fairly similar. As a result, the record does not support the idea that any of the Route Alternatives provides, on balance, significant benefits over the Preferred Route from an environmental perspective. Indeed, the opposite is often true, as set forth in the following paragraphs.
613. RA-03AM is approximately 54 miles longer than the Preferred Route.¹³²⁶ As a result, its construction would involve more environmental disturbance—approximately 54 miles' worth—than the Preferred Route. Moreover, the FEIS shows that compared to the Preferred Route, RA-03AM would cross 56 more waterbodies¹³²⁷ and 23 more PWI

¹³²⁰ Ex. EN 60 at 1-2 (Lee Surrebuttal).

¹³²¹ Ex. EN 60 at 1-2 (Lee Surrebuttal).

¹³²² Ex. EN-59 at 3 (Wuolo Surrebuttal).

¹³²³ Ex. EN-46 at 2-3 (Bergland Rebuttal).

¹³²⁴ Ex. EN-46 at 2-3 (Bergland Rebuttal).

¹³²⁵ Ex. EN-55 at 5 (Tillquist Rebuttal).

¹³²⁶ Ex. EERA-29 at 6-2 (Table 6.1-1) (FEIS).

¹³²⁷ Ex. EERA-29 at 6-321 – 6-322 (Table 6.3.1.4-3) (FEIS).

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- streams,¹³²⁸ as well as more high vulnerability aquifers, drinking water supply management areas, trout streams, and wild rice waterbodies.¹³²⁹ RA-03AM is also unique amongst the Route Alternatives because it is the only one that crosses karst topography—2,917 acres.¹³³⁰ RA-03AM would require an additional pump station and would have more GHGs and take more power than the Preferred Route.¹³³¹
614. RA-07 crosses the Leech Lake and Fond du Lac Reservations and CNF. RA-07 also would present unique risks to the natural environment because of the increased likelihood of a release from active pipelines during or because of construction. Further, RA-07 would impose greater impacts on wetlands and waterbodies.¹³³² Moreover, the FEIS shows that, in the unlikely event of a release, there are more HCA unusually sensitive ecological areas, aquatic management areas, lakes of biological significance, muskie lakes, sensitive lakeshore areas, and waterfowl production areas within the FEIS-defined AOI for RA-07 than for the Preferred Route.¹³³³
615. RA-08 also crosses the Reservations and the Chippewa National Forest.¹³³⁴ RA-08 is also along an alternative that has already been studied in the U.S. Department of State’s 2009 Final Environmental Impact Statement for the Line 67 Project. In that FEIS, the U.S. Department of State concluded that there were concerns about this route, including those raised by the Chippewa National Forest and Leech Lake Band. The Chippewa National Forest indicated in that process that the route would result in substantially greater impact on its Experimental Forest, and the Leech Lake Band opposed the route because of increased impacts to sensitive forestland and wetland resources.¹³³⁵ And, indeed, RA-08 construction and operations would impact more acres of forested and scrub/shrub wetland characteristics and functions, than the Preferred Route.¹³³⁶
616. Consideration of the impacts of an accidental release of crude oil must be viewed in light of the facts. First, the likelihood of any accidental release affecting a wild rice water body is very low.¹³³⁷ Over the life of the operation of the pipelines along the Enbridge Mainline Corridor, there has not been a release that affected wild rice waters. Second, in the unlikely event that an accidental release occurs that does affect a wild rice water

¹³²⁸ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

¹³²⁹ Ex. EN-22, Sched. 7 at 23 (Simonson Direct); Ex. EERA-29 at 6-184 (FEIS); Ex. EERA-29 at 6-273 (FEIS).

¹³³⁰ Ex. EERA-29 at 6-184 (FEIS).

¹³³¹ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

¹³³² Ex. EERA-29 at 6-308 – 6-309 (Table 6.3.1.3-15) (FEIS).

¹³³³ Ex. EERA-29 at 10-145 – 10-148 (Table 10.7-3) (FEIS).

¹³³⁴ Ex. EN-22, Sched. 7 at 43 (Simonson Direct).

¹³³⁵ Ex. EN-22, Sched. 7 at 43 (Simonson Direct).

¹³³⁶ Ex. EN-22, Sched. 7 at 44 (Simonson Direct); Ex. EERA-29 at 6-308 – 6-309 (Table 6.3.1.3-15) (FEIS).

¹³³⁷ Ex. EN-60 at 4 (Lee Surrebuttal).

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body, it is likely that Enbridge's emergency response efforts would contain the release and collect the oil before it or its components reached the sediment.¹³³⁸ Mr. Lee testified that wild rice grows best in slow-moving, clear waters, and, Dr. Horn testified that it takes time and/or more turbulent conditions for diluted bitumen or its components to sink. Third, there are several examples of wild rice waters being restored.¹³³⁹ The rebuttal testimony of Ms. Heidi Tillquist also provides evidence of wetlands recovery following releases into similar ecozones as those in Minnesota.¹³⁴⁰ Ultimately, wetlands and their ecosystem functions recover from accidental releases of crude oil, and there are no facts to support the proposition that recovery from an accidental release from this Project would lead to a different result.¹³⁴¹

617. The pipeline could only potentially affect a wild rice water that is hydrologically connected to the pipeline and also near enough downstream that effects of an accidental release of crude oil from the pipeline could feasibly reach the wild rice water.¹³⁴²
618. Crude oil accidentally released from a pipeline cannot affect wild rice waters that are upstream from the pipeline or separated from the pipeline by a watershed divide.¹³⁴³
619. An accidental release of crude oil from the pipeline is unlikely to affect wild rice waters that are not the first downstream lake for two reasons.¹³⁴⁴ First, if released crude oil migrating in a stream were not contained before it reached a lake, the oil movement would slow significantly when it entered the low-energy environment of a lake.¹³⁴⁵ Second, if Enbridge release response activities did not contain crude oil flowing in a stream before it reached a lake, they would be expected to contain the crude oil in the first downstream lake it entered, and block it from flowing any further downstream.¹³⁴⁶
620. Wild rice waters that are hydrologically connected to the pipeline via a wetland or topography also have the potential to be affected from an accidental release of crude oil.¹³⁴⁷ However, crude oil typically moves more slowly via wetland or topography than in a stream, which increases the likelihood that release response activities would contain the oil prior to it reaching a wild rice water.¹³⁴⁸

¹³³⁸ Ex. EN-60 at 4 (Lee Surrebuttal).

¹³³⁹ Ex. EN-60 at 4 (Lee Surrebuttal).

¹³⁴⁰ See Ex. EN-55 at 22-23 (Tillquist Rebuttal).

¹³⁴¹ Ex. EN-60 at 4 (Lee Surrebuttal).

¹³⁴² Ex. EN-17 at 12 (Wuolo Direct).

¹³⁴³ Ex. EN-17 at 12 (Wuolo Direct).

¹³⁴⁴ Ex. EN-17 at 13 (Wuolo Direct).

¹³⁴⁵ Ex. EN-17 at 13 (Wuolo Direct).

¹³⁴⁶ Ex. EN-17 at 13 (Wuolo Direct).

¹³⁴⁷ Ex. EN-17 at 13 (Wuolo Direct).

¹³⁴⁸ Ex. EN-17 at 13 (Wuolo Direct).

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621. A wild rice water must have a hydrological connection to the pipeline to have any chance of being affected by an accidental release of crude oil from the pipeline.¹³⁴⁹
622. Of the wild rice waters that are susceptible to impacts, relative likelihood of impacts from an accidental release of crude oil from the pipeline is higher for those closer to the pipeline than for those farther from the pipeline, and relative likelihood of impacts is higher for those connected via streams compared to those connected via wetlands or topography.¹³⁵⁰
623. The Preferred Route would only cross one MPCA/MDNR-identified wild rice waterbody, the Unnamed (Hay Creek) Lake wild rice water, but as previously stated, would avoid direct impacts to this wild rice stand through utilizing the HDD method.¹³⁵¹ Where wild rice waters are located outside of and downstream of the construction workspace, as in the case of Portage Lake, Peterson Lake, and Mud Lake, Enbridge would implement applicable measures identified in its Environmental Protection Plan (EPP) to address construction impacts. These measures include spill prevention, containment, and control measures and invasive species management measures, as well as erosion and sediment control measures along the edge of the construction workspace and while crossing hydrologically connected waterbodies. With the implementation of these measures, impacts on wild rice waters identified by MPCA/MDNR, if any, are expected to be short-term and minor.¹³⁵²
624. If a release into a wild rice lake were to occur, the type and extent of effects would depend on the life stage of the wild rice, as well as the trajectory and concentrations of the oil.¹³⁵³ If crude oil was deposited to the bottom sediment of a wild rice stand, changes in the chemistry of the sediment (e.g., high concentrations of hydrocarbons or crude oil in the sediment, or low oxygen concentrations caused by microbial degradation of the oil) could affect the viability of the seed or plant. Crude oil deposition to sediment would likely be patchy, rather than uniform, and thus the effects on a wild rice stand would also be patchy. For maturing or mature plants that have grown above the water surface, only those wild rice plants that actually come into contact with the crude oil would be potentially affected.¹³⁵⁴ If a release were to enter a wild rice waterbody, but did not physically reach any or only some portion of the actual wild rice stands, the oil would not affect any of the plants that it did not contact. For those that it did contact, the wild rice would be most sensitive during the floating leaf stage. After the wild rice stem has

¹³⁴⁹ Ex. EN-17 at 14 (Wuolo Direct).

¹³⁵⁰ Ex. EN-17 at 14 (Wuolo Direct).

¹³⁵¹ Ex. EN-50 at 10 (Lee Rebuttal).

¹³⁵² Ex. EN-50 at 10 (Lee Rebuttal).

¹³⁵³ Ex. EN-54 at 17 (Stephenson Rebuttal).

¹³⁵⁴ Ex. EN-54 at 17 (Stephenson Rebuttal).

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emerged from the water, contact between floating crude oil and the stem would be unlikely to result in the death of the plant.¹³⁵⁵

625. Wild rice is an annual emergent plant. In the event oil reached a wild rice stand, the crop may not be harvestable in that year, but wild rice can regrow from the seed bank, or be replanted with seed from nearby stands, and it would be re-established.¹³⁵⁶ If oil was to reach the sediment, specialized cleanup methods would be used to remove oil from the sediment. There could be effects from the exposure to oil as well as disturbance of the sediments. However, once cleanup measures are complete and organic sediments have stabilized, wild rice can be manually reseeded to re-establish a wild rice stand.¹³⁵⁷
626. Enbridge proposed RSA-05 in order to address a concern raised by the White Earth Band of Ojibwe about a specific waterbody of importance to tribal members—Lower Rice Lake.¹³⁵⁸ RSA-05 would address that concern by removing Lower Rice Lake from any hydrologic connection to the pipeline. It also would remove connectivity to Mud Lake, which is listed as being crossed in the FEIS.¹³⁵⁹ Overall, the number of wild rice waterbodies with hydrologic connections to the Project is nearly unchanged by adoption of RSA-05. Given that the overall numbers do not change much, and given that no party appears to oppose it, adoption of RSA-05 to address the White Earth Band’s concern appears to make sense.¹³⁶⁰

B. Lands of Historical, Archaeological, and Cultural Significance.

627. Minn. R. 7852.1900, subp. 3(C), states that when reviewing an application for an RP, the Commission shall consider the impact of the pipeline to “lands of historical, archaeological, and cultural significance.”¹³⁶¹
628. The Preferred Route avoids and/or mitigates impacts to lands of historical, archaeological, and cultural significance. Further, unlike RA-07 or RA-08, the Preferred Route avoids tribal lands and recognizes the Bands’ sovereignty.¹³⁶² Leech Lake Band had repeatedly stated that it will not grant approvals for a route that crosses the Leech Lake Reservation, and the Preferred Route respects that position.¹³⁶³ Likewise, the Fond

¹³⁵⁵ Ex. EN-54 at 17 (Stephenson Rebuttal).

¹³⁵⁶ Ex. EN-50 at 10 (Lee Rebuttal).

¹³⁵⁷ Ex. EN-50 at 10 (Lee Rebuttal).

¹³⁵⁸ Ex. EN-50 at 9 (Lee Rebuttal).

¹³⁵⁹ Ex. EN-50 at 9 (Lee Rebuttal).

¹³⁶⁰ Ex. EN-50 at 9 (Lee Rebuttal).

¹³⁶¹ Minn. R. 7852.1900, subp. 3(C).

¹³⁶² See Ex. EN-24 at 21 (Eberth Direct).

¹³⁶³ See Ex. EERA-29 at 9-13 (FEIS).

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du Lac Band has given no indication that it will grant approvals for a route that crosses its Reservation.¹³⁶⁴

629. Enbridge has conducted archeological field surveys of approximately 97 percent of the Preferred Route (approximately 24,000 acres) using state-approved field methods.¹³⁶⁵ At a minimum, Enbridge estimates that over 47,000 shovel tests have been excavated for Project-specific surveys since 2013.¹³⁶⁶ In addition, Enbridge has developed an Unanticipated Discovery Plan to avoid and/or mitigate impacts to any resources discovered during construction.¹³⁶⁷
630. Enbridge's practices comply with the standards described in the SHPO Manual for Archaeological Projects in Minnesota (Anfinson 2005).¹³⁶⁸ Enbridge employed a policy of 100 percent survey (approximately 97 percent of which has been completed to date), using state-approved field methods, to provide SHPO and other agencies with an inventory of identified archaeological sites and historic structures. Specifically, the surveys involved undertaking a 100 percent pedestrian survey augmented by shovel testing as appropriate to the level of ground cover (e.g., shovel testing is required in Minnesota within a pasture that is entirely grass-covered). Once surveys were completed within a given calendar year, Enbridge provided the reports to SHPO for their review and comment on each resource's recommended eligibility for inclusion in the NRHP.¹³⁶⁹ Where there was disagreement and SHPO recommended additional work, Enbridge opted to either perform additional reconnaissance or evaluation fieldwork and reporting or avoid the location altogether. Shovel testing was utilized on 4,303 acres throughout the length of the Project corridor in low ground-visibility areas as prescribed in the SHPO guidelines and determined in the field by the archaeological survey Principal Investigators and Field Leads.¹³⁷⁰ Enbridge estimates that shovel test densities across these areas on average ranged from 11 to 14 shovel tests per acre (there are approximately 16 shovel tests per acre in a 15 meter interval grid pattern). At a minimum, Enbridge estimates that over 47,000 shovel tests have been excavated for Project-specific surveys since 2013. This is a substantial level of field effort, which further emphasizes the robust nature of the Phase I investigations and, in turn, highlights the commitment Enbridge has to the identification and avoidance of NRHP-eligible resources.¹³⁷¹

¹³⁶⁴ See Ex. FDL-1 (Dupuis Direct); Ex. FDL-2 (Schuldt Direct); Ex. FDL-3 (Schuldt Rebuttal); Ex. FDL-4 (Schuldt Surrebuttal).

¹³⁶⁵ Ex. EN-8 at 9-10 (Bergman Direct).

¹³⁶⁶ Ex. EN-48 at 7 (Bergman Rebuttal).

¹³⁶⁷ Ex. EN-48 at 7 (Bergman Rebuttal).

¹³⁶⁸ Ex. EN-8 at 9-10 (Bergman Direct).

¹³⁶⁹ Ex. EN-8 at 10 (Bergman Direct).

¹³⁷⁰ Ex. EN-8 at 10 (Bergman Direct).

¹³⁷¹ Ex. EN-8 at 10 (Bergman Direct).

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631. Enbridge’s literature review and field reconnaissance survey identified a total of 59 archaeological sites in the Project cultural resources study corridor, which variably measured between 250 to 450 feet in width.¹³⁷² These sites consist of isolated finds of single artifacts, as well as larger collections of artifacts, both Pre-Contact and Post-Contact in age. In the case of the Pre-Contact artifacts, these mainly consist of waste debris (called “flakes”) resulting from the manufacture of stone tools, with fewer numbers of projectile points, scrapers, and pottery sherds. Most Pre-Contact sites that have artifacts that could be definitively assigned to a time period are from the Woodland Period, most notably post-CE 300 in age. Post-Contact artifacts include broken ceramic sherds and glass shards, as well as metal objects commonly found at homes or farmsteads dating to the 19th and 20th centuries.¹³⁷³ Some of these historic materials were recovered in association with the foundation remains of former structures. Enbridge visited and updated records for 48 sites during the field surveys conducted between 2013 and 2016. The remaining 11 sites were previously recorded and identified in the literature search and, although their previously recorded locations were visited by Enbridge field crews, the sites were not recorded again.¹³⁷⁴ Two of the 11 sites were adequately identified and managed during previous surveys and projects, while nine sites were not re-discovered during the 2013 through 2016 surveys. The failure to locate these resources again can be due to a number of possible factors including that the previously recorded sites were small and all of the artifacts were collected when originally discovered or they were destroyed subsequent to their identification or that they were not mapped correctly and do not fall within the cultural resources study corridor. The last scenario is especially common for surveys conducted prior to the widespread use of sub-meter accurate GPS equipment.¹³⁷⁵
632. As of autumn 2016, the Minnesota SHPO has reviewed the Phase I Reconnaissance and Phase II Intensive Survey NRHP evaluation reports for the 2013, 2014, and 2015 field seasons. These reports cover around 97 percent of the Project LOD. The reports and other project correspondence between Enbridge and the SHPO were copied to the Commission and USACE to assist them in project review. Enbridge also provided the reports to Minnesota’s OSA.¹³⁷⁶
633. Enbridge engaged in further communication with SHPO and provided the results of 2016 surveys to SHPO and USACE in the first quarter of 2017. SHPO provided written responses to the recommendations provided within these reports by Enbridge archaeologists. Enbridge incorporated SHPO responses into project planning activities,

¹³⁷² Ex. EN-8 at 11 (Bergman Direct).

¹³⁷³ Ex. EN-8 at 11 (Bergman Direct).

¹³⁷⁴ Ex. EN-8 at 11 (Bergman Direct).

¹³⁷⁵ Ex. EN-8 at 11 (Bergman Direct).

¹³⁷⁶ Ex. EN-8 at 13 (Bergman Direct).

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such as minor workspace and centerline changes or other proposed mitigation measures during construction to avoid impacts.¹³⁷⁷

634. Enbridge has developed an Unanticipated Discoveries Plan (“UDP”) to address the possibility of unanticipated discoveries during construction. The UDP it complies with industry best management practices as follows: 1) the UDP emphasizes “early and frequent communications” in the event of an unanticipated discovery; 2) the UDP describes the nature of inadvertent finds during construction and outlines a plan for their treatment; 3) the UDP establishes some guidance for preliminary evaluation; 4) the UDP explains the process of agency notification and consultation for lands under the jurisdiction of a RFA, state managed lands, and private lands under Minnesota routing authority; 5) the UDP has a separate section for the discovery of human remains and, importantly, references the notification requirements of Minn. Stat. § 307.08; and 6) there is a robust contact list for the purposes of notification as outlined in the document.¹³⁷⁸
635. The FEIS generally indicates that impacts to cultural resources will be similar across route alternatives, with RA-03AM, RA-07, and RA-08 having the potential to impact (directly and indirectly) more previously-recorded historic resources than the Preferred Route.¹³⁷⁹
636. With respect to resources of tribal significance, specifically, Enbridge has been actively supporting the USACE Tribal Cultural Resources Investigation (“TCR Investigation”), and any avoidance or mitigation required as a result of that effort will be incorporated into Project design and construction.¹³⁸⁰ Similarly, Enbridge has agreed to RSA-05, which was proposed to avoid those specific wild rice waterbodies identified by White Earth Band.¹³⁸¹
637. Several parties have offered testimony or comments referring to traditional cultural properties, or TCPs. A TCP is a specifically defined phrase, and there is a multi-step process under federal law for identifying and classifying TCPs.¹³⁸² Specifically, a TCP is defined in National Register Bulletin 38 as a property that is “eligible for inclusion in 161 the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community.” National Register

¹³⁷⁷ Ex. EN-48 at 2 (Bergman Rebuttal).

¹³⁷⁸ Ex. EN-8 at 16 (Bergman Direct).

¹³⁷⁹ See Ex. EERA-29 at § 6.4.4 (FEIS).

¹³⁸⁰ Ex. EN-48 at 4-5 (Bergman Rebuttal).

¹³⁸¹ Ex. EN-30 at 8 (Eberth Rebuttal).

¹³⁸² Ex. EN-8 at 5 (Bergman Direct).

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Bulletin 38:1. For a TCP to be found eligible for the NRHP, it must meet the National Register criteria for eligibility as a building, site, structure, object, or district.¹³⁸³

638. TCPs are generally not identified through desktop surveys or field surveys. Rather, the primary sources of information for TCPs, traditional land use activities, and other landscape elements of significance to Native Americans are the various tribes and their Tribal Historic Preservation Officers. As such, project proposers and agencies rely on the active collaboration of Native America in regards to traditional land use information, especially in providing input during the identification and evaluation of areas of significance to a tribe.¹³⁸⁴
639. USACE has been engaged in consultation with numerous Tribes since September 2015.¹³⁸⁵ Enbridge has provided an appropriate level of informal support to the USACE Section 106 consultation efforts, including coordinating with Native American tribes. This includes participation in Section 106 consultation meetings, technical assistance for tribal comments on survey reports, and facilitating access to, and participation in, tribal site visits to USACE Permit areas.¹³⁸⁶
640. The TCR Investigation is the result of collaboration among USACE, numerous Tribes (including several of the Intervenor Bands), and Enbridge. The TCR Investigation will identify historic properties of traditional religious and cultural significance within USACE permit areas. USACE has led four consultation meetings since March 2017 to solicit input from Tribes regarding the scope of the TCR Investigation, and consultation is ongoing.¹³⁸⁷ The TCR Investigation will include several components, including field surveys, interviews, and site visits. The TCR Investigation will culminate in the preparation of a report that is currently planned to include the TCR Investigation’s findings, assessment of eligibility of properties for National Register of Historic Places (“NRHP”) listing, and summaries of participatory activities.¹³⁸⁸
641. The TCR Investigation has been organized and led by the Fond du Lac Band’s Tribal Historic Preservation Office, with support from additional Tribes that are consulting parties to the Project, including local Minnesota Bands and other consulting Tribes

¹³⁸³ Ex. EN-8 at 5 (Bergman Direct). In contrast, the FEIS and several parties and commenters have used the phrase “cultural corridors.” The phrase “cultural corridors” is not defined under the NHPA or related regulations. For example, MnSHPO does not maintain records specifically identifying “cultural corridors” in Minnesota. Ex. EN-48 at 8 (Bergman Rebuttal).

¹³⁸⁴ Ex. EN-8 at 14 (Bergman Direct).

¹³⁸⁵ Ex. EN-48 at 6 (Bergman Rebuttal).

¹³⁸⁶ Ex. EN-8 at 15 (Bergman Direct).

¹³⁸⁷ Ex. EN-48 at 3-4 (Bergman Rebuttal).

¹³⁸⁸ Ex. EN-48 at 3-4 (Bergman Rebuttal).

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outside of Minnesota. In addition, the Minnesota Indian Affairs Council has also participated in defining the scope and purpose of the TCR Investigation.¹³⁸⁹

642. Enbridge is actively supporting the TCR Investigation.¹³⁹⁰ For example, Enbridge funded a one-week training program developed by the Mille Lacs Band, which included participants from numerous local Minnesota Tribes and other consulting Tribes outside of Minnesota. The purpose of the program was to train Tribal members who are participating in the TCR Investigation.¹³⁹¹ Tribal members will also be able to utilize this training for other matters after the survey for this Project is completed. In addition, Enbridge staff or its consultants will provide logistical support for the TCR Investigation, including ensuring safety protocols are met, identifying the geographical scope of where survey permissions have been obtained, and providing general construction footprint information in specific areas. Enbridge has also worked to facilitate access for the TCR Investigation on privately-owned tracts.¹³⁹²
643. USACE will use the results of the TCR Investigation in connection with the Section 106 review process for the Project. Section 106 requires USACE to ensure that Tribes have “a reasonable opportunity to identify [their] concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate [their] views on the undertaking’s effects on such properties, and participate in the resolution of adverse effects.” 36 C.F.R. 129 800.2(c)(2)(B)(ii)(A).¹³⁹³
644. The FEIS did not identify any TCPs within the Preferred Route footprint. To the extent that a potential TCP is identified through the TCR Investigation, it will be treated like other NRHP-listed or -eligible sites already identified through Enbridge’s prior survey efforts.¹³⁹⁴
645. In addition, Enbridge submitted Information Requests (“IRs”) to several of the Intervenor Bands for the purposes of identifying specific areas of concern.¹³⁹⁵
646. The responses to the IRs provided some general areas of concern in the vicinity of the Preferred Route; however, resource-specific locations that may be impacted by construction of the Project were not provided. In addition to seeking information from the Intervenor Bands through the Commission’s process and the USACE process, Enbridge

¹³⁸⁹ Ex. EN-48 at 4 (Bergman Rebuttal).

¹³⁹⁰ Ex. EN-48 at 4 (Bergman Rebuttal).

¹³⁹¹ Ex. EN-48 at 4 (Bergman Rebuttal).

¹³⁹² Ex. EN-48 at 4 (Bergman Rebuttal).

¹³⁹³ Ex. EN-48 at 4-5 (Bergman Rebuttal).

¹³⁹⁴ Ex. EN-48 at 6 (Bergman Rebuttal).

¹³⁹⁵ Ex. EN-48 at 3 (Bergman Rebuttal).

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has also engaged in direct outreach and coordination with the Intervenor Bands, independent of the Commission and USACE processes.¹³⁹⁶

647. Several tribes, including the White Earth Band, Mille Lacs Band, Red Lake Band, Fond du Lac Band, and Leech Lake Band, and tribal members have raised concerns with the potential impacts of the Preferred Route relative to treaty areas. It is outside the scope of these proceedings to establish the full scope of such rights. Federal courts have jurisdiction over interpretation of treaty rights.¹³⁹⁷
648. Even where usufructuary rights are recognized, they may generally be exercised on private property only with the landowner's permission.¹³⁹⁸ Almost 80 percent of the Preferred Route will be located on private property.¹³⁹⁹ Absent landowner permission, usufructuary rights do not extend to private property. Enbridge asked the participating tribal parties whether they have existing agreements to hunt, fish, gather or rice on private property, and no such agreements were produced.¹⁴⁰⁰ Further, DOC-EERA engaged in extensive tribal consultation and gathered thousands of public comments, and to date no specific areas along the Preferred Route have been identified.¹⁴⁰¹
649. Even tribes with established usufructuary rights do not have regulatory authority over nonmembers (such as Enbridge and private landowners). This is especially true off-reservation, where the entirety of the Preferred Route is located.¹⁴⁰²
650. The FEIS evaluated potential impacts to hunting, fishing, ricing, and gathering activities. As discussed in the FEIS, construction-related impacts to these activities will be limited to the construction seasons and temporary to short-term and minor.¹⁴⁰³ Timing of construction can mitigate impacts to these activities, and adherence to the minimization measures with the EPP can further limit potential impacts.¹⁴⁰⁴
651. The Preferred Route avoids reservation tribal reservations. White Earth Band argues that the Preferred Route crosses "disputed" areas of the White Earth Reservation. According

¹³⁹⁶ Ex. EN-48 at 3 (Bergman Rebuttal).

¹³⁹⁷ See, e.g., *Montana v. U.S.*, 450 U.S. 544 (1981).

¹³⁹⁸ *Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. Voigt*, 700 F.2d 341, 365 and fn. 14 (7th Cir. 1983) ("To the extent that the LCO band might be claiming a broader right – such as the right to engage in usufructuary activities on land that is privately owned but utilized for sport hunting and fishing – we find that claim is inconsistent with the Indians' understanding at the time of the cession treaties that their rights could be limited if the land were needed for white settlement.").

¹³⁹⁹ Ex. EERA-6 at 67 (Table 9-1) (Scoping EAW).

¹⁴⁰⁰ Ex. EN-48 at 3 (Bergman Rebuttal).

¹⁴⁰¹ Ex. EERA-29 at Appx. P.

¹⁴⁰² See *Montana v. U.S.*, 450 U.S. 544, 545-546 (1981).

¹⁴⁰³ Ex. EERA-29 at 9-38 (FEIS) ("Direct impacts from construction could occur on tribal resources; however, most of these are considered temporary to short term and minor.").

¹⁴⁰⁴ E.g., Ex. EERA-29 at 9-33 (FEIS).

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to published case law, there is no ongoing dispute as to the four townships. Specifically, a short segment of the Preferred Route passes through Nora Township in Clearwater County. Nora Township is the northernmost of four townships that were ceded by the White Earth Band to the U.S. in 1889, after which cession the townships were no longer part of the reservation and on which no usufructuary rights have existed.¹⁴⁰⁵

652. Mille Lacs Band argues, further, that the Preferred Route will adversely affect residents of the Sandy Lake and East Lake Communities by “bisecting” these communities and potentially cutting off access to emergency services in the event of a release.¹⁴⁰⁶ There is no evidence in the record supporting a claim that an underground pipeline, once constructed, will “bisect” these communities or in any way interfere with transportation in the area.
653. While the FEIS states that “any route, route segment, or system alternative would have a long-term detrimental impact on tribal members and tribal resources,”¹⁴⁰⁷ this does not mean that all impacts are equal. Unlike RA-07, RA-08, and No Action, the Preferred Route avoids tribal lands, where impacts on tribal resources would, as a practical matter, be greatest.¹⁴⁰⁸
654. Overall, the record shows that the Preferred Route and Enbridge’s proposed mitigation will avoid and/or mitigate impacts to lands of historical, archaeological, and cultural significance. Enbridge’s extensive field survey work, the USACE TCR Investigation, and Enbridge’s proposed mitigation (including its UDP), will help minimize the risks of an inadvertent discovery.¹⁴⁰⁹ Further, as suggested by the FEIS, Enbridge intends to employ tribal monitors and liaisons through the course of Project construction. Enbridge is also using tribal monitors on its current Segment 18 project in Wisconsin (the replacement of the existing Line 3 pipeline in Wisconsin) and, to-date, no issues have been identified by those monitors.¹⁴¹⁰

¹⁴⁰⁵ *White Earth Band of Chippewa Indians v. Alexander*, 518 F. Supp. 527, 532 (D. Minn. 1981) (concluding that “the language of the Nelson Act and the agreement ceding the four northeastern townships to the United States was ‘precisely situated’ to diminish the White Earth Reservation as established by the Treaty of 1867 . . . and that the legislative history, surrounding circumstances, and subsequent history clearly indicate that the four northeastern townships of the original reservation are no longer part of the White Earth Reservation”), *aff’d*, 683 F.2d 1129 (8th Cir. 1982) (“If the four townships were ceded and never returned to reservation status, no Indian hunting and fishing rights exist within the four townships.”), *cert. den.*, 459 U.S. 1070 (1982); *see also State v. Butcher*, 563 N.W.2d 776, 781 (Minn. Ct. App. 1997) (stating that “[t]he four ceded townships are no longer considered part of the White Earth Reservation”).

¹⁴⁰⁶ Comments by Mille Lacs Band (May 26, 2016) (eDocket No. 20165-121697-01).

¹⁴⁰⁷ Ex. EERA-29 at 9-40 (FEIS).

¹⁴⁰⁸ Ex. EERA-29 at 9-38 (“Overall, route alternatives RA-07 and RA-08 would have the greatest direct impact on tribal resources within reservations, as they cross two reservations and various ceded lands. RA-06 would also have some minor to major impacts on tribal resources within the Fond du Lac Reservation.”).

¹⁴⁰⁹ Ex. EN-48 at 7 (Bergman Rebuttal).

¹⁴¹⁰ Ex. EN-48 at 9 (Bergman Rebuttal).

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C. Land Use Economies.

655. Minn. R. 7852.1900, subp. 3(D), states that when reviewing an application for an RP, the Commission shall consider the impact of the pipeline upon “economies within the route, including agricultural, commercial or industrial, forestry, recreational, and mining operations.”¹⁴¹¹
656. The FEIS indicates that impacts to economies within the route will be similar across route alternatives; generally, the FEIS concludes that such impacts would be non-existent or temporary, minor, and/or negligible.¹⁴¹²

1. Commodity Production.

657. Enbridge and Kennecott were able to work together to address concerns Kennecott and the MDNR raised regarding potential impacts of the Project on parcels Kennecott has leases on for mining exploration in Aitkin County and western Carlton County. Enbridge and Kennecott have similarly begun discussions on ways to minimize impacts to the fee-owned land that Kennecott identified in its direct testimony.¹⁴¹³
658. The total crop loss payment is based on loss over a one-year period from the time construction starts and is 250 percent of the lost crop value for one year.¹⁴¹⁴
659. Enbridge is responsible for repairing any damage to drain tile caused by construction of the Project.¹⁴¹⁵
660. There should be no problem using center-pivot irrigation systems after construction and restoration activities have been completed.¹⁴¹⁶
661. Enbridge will compensate farmers for one year of crop losses for areas of fields that cannot be irrigated because of construction and restoration work.¹⁴¹⁷
662. Enbridge has a proven track record of working with landowners to address their concerns and mitigate any impacts.¹⁴¹⁸

¹⁴¹¹ Minn. R. 7852.1900, subp. 3(D).

¹⁴¹² See generally Ex. EERA-29 at § 6.5.1 (FEIS).

¹⁴¹³ Ex. EN-45 at 24 (Simonson Rebuttal).

¹⁴¹⁴ Ex. EN-6 at 10 (McKay Direct).

¹⁴¹⁵ Ex. EN-6 at 10 (McKay Direct).

¹⁴¹⁶ Ex. EN-6 at 10 (McKay Direct).

¹⁴¹⁷ Ex. EN-6 at 10-11 (McKay Direct).

¹⁴¹⁸ Thief River Pub. Hrg. Tr. Vol. 1B at 54 (Sept. 26, 2017) (Anderson) (“I do happen to have quite a bit of right-of-way on our farm, so this replacement project will be somewhat disruptive to our farming operation. However, Enbridge has always made every effort to treat the landowners and the environment with respect. . . We’ve already had two or more [integrity] digs on our farm and would prefer a new line so we won’t be faced with

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2. Recreation and Tourism.

663. There is no evidence the Project will impact tourism.¹⁴¹⁹
664. Although the Applicant’s Preferred Route and all route alternatives would experience negligible or no impacts, the geographic extent of the affected area within recreational lands differs among the route options. RA-07 would affect the greatest amount of land available for recreation in forests or special management areas (1,049 acres), while RA-03AM would affect the least (57 acres).¹⁴²⁰
665. The FEIS concluded: “impacts on access to recreational resources for the Applicant’s preferred route and all of the route alternatives would range from no impact to negligible or minor temporary impacts for construction and no impacts during operations. Similarly, potential effects on recreational spending and the regional economies of the counties through which the routes pass were found to be temporary and negligible or no impact during construction and nonexistent during operations.”¹⁴²¹
666. Given the limited impacts and Enbridge’s already-planned mitigation measures, the FEIS did not identify further mitigation measures with respect to recreational lands.¹⁴²²

3. Population.

667. The record demonstrates that people who will be directly affected by the Project’s Preferred Route generally support it.¹⁴²³

these future repairs. I also support that the old Line 3 should be sealed off and left in place.”); Thief River Pub. Hrg. Tr. Vol. 1B at 96-98 (Sept. 26, 2017) (Hasnedl) (“My family has Enbridge lines running across them, approximately two miles of right-of-way, which is seven lines. We have only the nicest and most pleasant memories of dealing with Enbridge in that period of time that we’ve lived there. The people are extremely nice, thoughtful, considerate. I have had a great experience. I would say that I would much rather prefer to see the replacement of Line 3 at one time rather than the repeated repairs that may be necessary in the future if it is not replaced. Part of that means every time they have to come in to do a repair, it’s a disruption for our farming operation”).

¹⁴¹⁹ Bemidji Pub. Hrg. Tr. Vol. 6A at 86-87 (Oct. 17, 2017) (Estrada (reading on behalf of Mitch Loomis, owner of Shores of Leech Lake Resort, board member of the Leech Lake Tourism Bureau, and board member of the Walker Area Community Center)) (“Please do not inhibit private investments by a reliable company in our area. To have regulations about how pipelines are constructed and maintained makes sense. To prohibit a company who follows such regulations from making an investment in our area makes no sense. Please do not inhibit our local company and the progress of our area.”); *see also, e.g.*, Comment by Anderson’s Horseshoe Bay Lodge (Nov. 27, 2017) (Batch 18A) (eDocket No. [201711-137680-01](#)) (supporting the Project).

¹⁴²⁰ Ex. EERA-29 at 6-723 (FEIS).

¹⁴²¹ Ex. EERA-29 at 6-723 (FEIS).

¹⁴²² Ex. EERA-29 at 6-724 (FEIS).

¹⁴²³ Thief River Pub. Hrg. Tr. Vol. 1B at 62 (Sept. 26, 2017) (Comstock) (“On Thursday, you’re going to hear a great deal of opposition in the metro area, and I live in northwest Minnesota where this project will operate it and I support it fully.”); Thief River Pub. Hrg. Tr. Vol. 1B at 94 (Sept. 26, 2017) (Kiel) (“So while I can appreciate the rural areas around Minneapolis-St. Paul, I think most of the audience here understands how rural we’re in and

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668. Further, the Project's Preferred Route will have fewest population impacts.¹⁴²⁴ Specifically, when comparing the Applicant's Preferred Route and the route alternatives to each other, the Applicant's Preferred Route would be expected to have the lowest impact on populated areas. It has the lowest number of populated areas within the ROI and the lowest total population within those populated areas. It also has the least acreage along of permanent right-of-way that crosses populated areas and would restrict surface land use within populated areas.¹⁴²⁵ The next highest population exposure would occur from RA-03AM, where approximately 10 times as many people are in populated areas proximal to the pipeline route. The permanent right-of-way acreage that would need to remain cleared in the populated areas would be five times greater for RA-03AM than for the Applicant's Preferred Route. RA-06, RA-08, and RA-07, in that order, would increase the exposed population within populated areas; and the amount of exposed population increases significantly.¹⁴²⁶

4. Employment, Income, and Tax Revenues.

669. The record demonstrates that the Project will result in significant benefits to the communities that will be directly impacted. As described in Section III (Federal, State, and Local Government Participation) above, many local governments and organizations that will be directly impacted by the Project support the Project because of the positive impacts it will have, and because of the positive impacts Enbridge has had in the past.

670. The Project would create hundreds of high-quality job opportunities for local workers, including workers who are already employed in the construction industry as well as young people looking to get started in a construction career.¹⁴²⁷ Northern Minnesota has many skilled pipeliners who would welcome an opportunity to work close to home.¹⁴²⁸ Construction jobs on the Project would be some of the highest paying jobs that workers could have in this line of work.¹⁴²⁹ All of these workers would also receive health benefits for themselves and their families as well as pension contributions for the duration of the Project.¹⁴³⁰

671. Construction of the pipeline in Minnesota would employ approximately 464 UA members for an average of 1,500 hours each.¹⁴³¹ UA members employed on construction

how important this project is to our area. And as I pointed out earlier, it is very important for us to have the economics of just the oil flowing through the pipelines.”).

¹⁴²⁴ Ex. EERA-29 at 6-742 (FEIS).

¹⁴²⁵ Ex. EERA-29 at 6-742 (FEIS).

¹⁴²⁶ Ex. EERA-29 at 6-742 (FEIS).

¹⁴²⁷ Ex. LC-1 at 3 (Whiteford Direct).

¹⁴²⁸ Ex. LC-1 at 3 (Whiteford Direct).

¹⁴²⁹ Ex. UA-2 at 3 (Barnett Rebuttal).

¹⁴³⁰ Ex. UA-1 at 10 (Barnett Direct).

¹⁴³¹ Ex. UA-1 at 9 (Barnett Direct).

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of the pipeline would earn between \$45,000 and \$90,000, depending upon job classification.¹⁴³² Approximately 100 UA members would be employed on construction of the eight (8) pump stations associated with the Project, and those workers would work approximately 1,440 hours each and earn between \$40,000 and \$75,000, depending upon worker classification.¹⁴³³

672. UA workers would be employed on permanent deactivation of the existing Line 3.¹⁴³⁴ Approximately 100 UA members would be needed for a combined approximate 61,000 hours to perform this deactivation work, and that those members would earn between \$20,000 and \$50,000, again depending upon their classifications.¹⁴³⁵
673. In total, UA members would work approximately 900,000 total hours on all aspects of the Project, including construction of the pipeline and pump stations and the permanent deactivation of the current Line. These workers would earn a total of over \$72.5 million in wages, per diem, and fringe benefit contributions.¹⁴³⁶
674. Many Minnesota businesses support the Project because of the benefits that construction and operation of the Project will provide. For example, the following businesses submitted letters in support of the Project: Anderson’s Horseshoe Bay Lodge;¹⁴³⁷ Minnesota Grain and Feed Association;¹⁴³⁸ Baker Hughes Company;¹⁴³⁹ Lakes Area Power Sports;¹⁴⁴⁰ Minnesota Service Station & Convenience Store Association;¹⁴⁴¹ Trapper’s Landing Lodge on Leech Lake;¹⁴⁴² Minnesota Chamber of Commerce;¹⁴⁴³ Consumer Energy Alliance;¹⁴⁴⁴ FHR;¹⁴⁴⁵ Allete;¹⁴⁴⁶ Superior Water Light and Power;¹⁴⁴⁷

¹⁴³² Ex. UA-1 at 9 (Barnett Direct).

¹⁴³³ Ex. UA-1 at 9 (Barnett Direct).

¹⁴³⁴ Ex. UA-1 at 9-10 (Barnett Direct).

¹⁴³⁵ Ex. UA-1 at 9-10 (Barnett Direct).

¹⁴³⁶ Ex. UA-1 at 10 (Barnett Direct).

¹⁴³⁷ Comment by Anderson’s Horseshoe Bay Lodge (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁴³⁸ Comment by Minnesota Grain and Feed Association (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁴³⁹ Comment by Baker Hughes Company (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁴⁴⁰ Comment by Lakes Area Power Sports (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁴⁴¹ Comment by Minnesota Service Station and Convenience Store Association (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁴⁴² Comment by Trapper’s Landing Lodge on Leech Lake (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁴⁴³ Comment by Minnesota Chamber of Commerce (Nov. 27, 2017) (Batch 18A) (eDocket No. 201711-137680-01).

¹⁴⁴⁴ Comment by Consumer Energy Alliance (Nov. 28, 2017) (Batch 25) (eDocket No. 201711-137704-02).

¹⁴⁴⁵ Comment by Flint Hills Resources (Nov. 28, 2017) (Batch 25) (eDocket No. 201711-137704-02).

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Floodwood Business Community Partnership;¹⁴⁴⁸ Saginaw Power and Automation;¹⁴⁴⁹ Itasca Economic Development Corporation;¹⁴⁵⁰ Aitkin Growth Inc.;¹⁴⁵¹ Delta Air Lines, Inc.;¹⁴⁵² Minnesota Limited;¹⁴⁵³ Andeavor;¹⁴⁵⁴ United Piping Inc.;¹⁴⁵⁵ Bemidji Regional Airport;¹⁴⁵⁶ Duluth Seaway Port Authority;¹⁴⁵⁷ Minnesota Agrigrowth Council;¹⁴⁵⁸ and, Minnesota Farm Bureau.¹⁴⁵⁹

675. With respect to property taxes, Enbridge’s operations in Minnesota contribute more than \$30 million per year in local property taxes, which is a significant source of revenue to many local communities. For example, Enbridge pays 40 percent of the total taxes in Clearwater County, Minnesota.¹⁴⁶⁰

D. Pipeline Cost and Accessibility.

676. Minn. R. 7852.1900, subp. 3(E), states that when reviewing an application for an RP, the Commission shall consider “pipeline cost and accessibility.”¹⁴⁶¹

¹⁴⁴⁶ Comment by Bradley Oachs (on behalf of Allete) (Nov. 28, 2017) (Batch 26) (eDocket No. 201711-137705-02).

¹⁴⁴⁷ Comment by Superior Water Light and Power (Nov. 28, 2017) (Batch 26) (eDocket No. 201711-137705-02).

¹⁴⁴⁸ Comment by Floodwood Business Community Partnership (Oct. 4, 2017) (Batch 3) (eDocket No. 201710-136134-01).

¹⁴⁴⁹ Comment by Joe Newlander (on behalf of Saginaw Power and Automation) (Oct. 24, 2017) (Batch 6) (eDocket No. 201710-136771-01).

¹⁴⁵⁰ Comment by Mark Zimmerman (on behalf of Itasca Economic Development Corporation) (Oct. 24, 2017) (Batch 6) (eDocket No. 201710-136771-01).

¹⁴⁵¹ Comment by Aitkin Growth Inc. (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

¹⁴⁵² Comment by Delta Air Lines, Inc. (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

¹⁴⁵³ Comment by Minnesota Limited (Oct. 24, 2017) (Batch 7) (eDocket No. 201710-136772-02).

¹⁴⁵⁴ Comment by Andeavor (Oct. 31, 2017) (Batch 9) (eDocket No. 201710-136994-02).

¹⁴⁵⁵ Comment by United Piping (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

¹⁴⁵⁶ Comment by Bemidji Regional Airport (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

¹⁴⁵⁷ Comment by Duluth Seaway Port Authority (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

¹⁴⁵⁸ Comment by Minnesota Agrigrowth Council (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

¹⁴⁵⁹ Comment by Minnesota Farm Bureau (Nov. 17, 2017) (Batch 14) (eDocket No. 201711-137475-01).

¹⁴⁶⁰ Ex. EN-30 at 7 (Eberth Rebuttal). All of the property tax benefits presented by Enbridge were estimated assuming Enbridge was successful in the currently pending property tax dispute with the State of Minnesota. In this regard, the potential property tax benefit figures are conservative. If Enbridge is not successful in the litigation, property tax benefits to Minnesota would be higher. Ex. EN-30 at 32 (Eberth Rebuttal).

¹⁴⁶¹ Minn. R. 7852.1900, subp. 3(E).

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677. Construction of the Preferred Route in Minnesota is anticipated to cost approximately \$2.1 billion.¹⁴⁶²
678. The FEIS estimated that pipeline construction would cost an average of \$6.2 million per mile, and then extrapolated that cost over the RAs. Using this methodology, the FEIS estimated that the RAs would result in the following construction costs: RA-03AM - \$2.4 billion; RA-06 - \$2.0 billion; RA-07 - \$1.8 billion; and RA-08 - \$1.8 billion.¹⁴⁶³
679. The cost to construct the Preferred Route is approximately \$2.1 billion. The cost to construct each of the RAs and RSAs relative to the Preferred Route is largely a function of the difference in the length of the alternative, as well as special construction consideration such as blasting, winter construction and right-of-way acquisition.¹⁴⁶⁴ Schedule 7 to Mr. Barry Simonson’s direct testimony¹⁴⁶⁵ and Sections 6.6 and 7.3 of the FEIS¹⁴⁶⁶ provide details regarding the cost of each RA and RSA. The only alternative that stands as a significant outlier on cost is RA-07, which contemplates the in-trench replacement of the pipeline within the existing Line 3 trench.¹⁴⁶⁷ The additional costs related to removal, construction in close proximity to existing infrastructure and additional right-of-way necessary to accomplish in-trench removal dramatically increase of the costs of RA-07. While the FEIS includes only generic costs related to construction of the pipeline, Enbridge’s Alternatives Analysis Report provides stronger evidence on this point, as the costs provided compare the costs of construction of the pipeline along for the Preferred Route (without facilities) at approximately \$1.7 billion and the costs of RA-07, including complete in-trench replacement, of approximately \$2.4 billion.¹⁴⁶⁸
680. Enbridge has provided evidence that it can access the entirety of the Preferred Route for both construction and operations of the pipeline. RA-07 and RA-08, however, present unbuildable alternatives due to Leech Lake Band of Ojibwe’s denial of any access for construction of a replacement pipeline through the Leech Lake Reservation.¹⁴⁶⁹ Accordingly, even if the Commission were to grant a Route Permit for either RA-07 or RA-08, Enbridge would be unable to acquire the access necessary to complete construction of these alternatives through the Leech Lake Reservation.

¹⁴⁶² Ex. EERA-20 at 6-775 (FEIS).

¹⁴⁶³ Ex. EERA-29 at 6-775 (FEIS).

¹⁴⁶⁴ Ex. EERA-29, at 6-775 (FEIS).

¹⁴⁶⁵ Ex. EN-22, Sched. 7 at 172, 176, 180, 183, 186, 189, 192, 195 (Simonson Direct).

¹⁴⁶⁶ Ex. EERA-29, at 6-775 – 6-776 and 7-6 – 7-93 (FEIS).

¹⁴⁶⁷ See Ex. EERA-29 at 6-775 (FEIS); Ex. EN-22 at 29 (Simonson Direct) (“The total cost to remove the existing Line 3 . . . is estimated to be \$1,277,831,896. . . This estimate does not include costs related to: purging, cleaning, and isolating the pipeline from the active system; pipe and equipment disposal; operational impacts (including any related outages on the Enbridge Mainline System); or inspection and operational services.”).

¹⁴⁶⁸ Ex. EN-22, Sched. 7 at 176 (Simonson Direct).

¹⁴⁶⁹ See Evid. Hrg. Tr. Vol. 10A (Nov. 16, 2017) at 142 (Brown) (“Enbridge will not get a permit from Leech Lake to access our property.”); Ex. LL-4 (Official Statement of Leech Lake Band, dated November 14, 2017); Ex. LL-10 at 1 (Leech Lake Tribal Council Resolution No. LD2018-073, dated November 27, 2017).

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E. Use of Existing Rights-of-Way and Right-of-Way Sharing or Paralleling.

681. Minn. R. 7852.1900, subp. 3(F), states that when reviewing an application for an RP, the Commission shall consider the “use of existing rights-of-way and right-of-way sharing or paralleling.”¹⁴⁷⁰
682. Between Clearbrook and Carlton, the Preferred Route and most of the RAs would share or parallel existing rights-of-way for the majority of their lengths.¹⁴⁷¹ RA-06 has the lowest proportion of its route co-located with existing rights-of-way between Clearbrook and Carlton (20 percent).¹⁴⁷²
683. The Preferred Route is substantially collocated with existing rights-of-way. From the North Dakota border to Clearbrook, the Preferred Route is 94 percent collocated with the Enbridge Mainline Corridor.¹⁴⁷³ Between Clearbrook and the Wisconsin border, the Preferred Route is 75 percent collocated with other rights-of-way (the Minnesota Pipe Line system, transmission lines, and road corridors). In total, the Preferred Route is collocated for over 81 percent of its length.¹⁴⁷⁴ Simply, “[t]he idea that the Preferred Route passes through areas akin to a wilderness area – where development is prohibited and human activities are generally absent – is not accurate.”¹⁴⁷⁵
684. Any suggestion that other Route Alternatives do not cross so-called “greenfield” areas is also not accurate. For example, RA-03AM crosses slightly more so-called “greenfield” than the Preferred Route,¹⁴⁷⁶ and RA-08 crosses “greenfield” too.¹⁴⁷⁷
685. The Project's Preferred Route between the North Dakota border and Clearbrook generally runs alongside the Enbridge Mainline System corridor, which contains existing Line 3 and other Enbridge pipelines.¹⁴⁷⁸ As a result, for this portion of the Preferred Route, Enbridge already has certain easement rights that can be partially utilized for the Project.¹⁴⁷⁹

¹⁴⁷⁰ Minn. R. 7852.1900, subp. 3(F).

¹⁴⁷¹ Ex. EERA-29 at 6-777 (FEIS).

¹⁴⁷² Ex. EERA-29 at 6-777 (FEIS).

¹⁴⁷³ Ex. EN-46 at 8 (Bergland Rebuttal).

¹⁴⁷⁴ Ex. EN-46 at 27 (Bergland Rebuttal).

¹⁴⁷⁵ Ex. EN-46 at 27 (Bergland Rebuttal).

¹⁴⁷⁶ Ex. EN-22, Sched. 7 at 23 (Simonson Direct).

¹⁴⁷⁷ Ex. EN-22, Sched. 7 at 43 (Simonson Direct).

¹⁴⁷⁸ Ex. EN-6 at 4 (McKay Direct).

¹⁴⁷⁹ Ex. EN-6 at 4 (McKay Direct).

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F. Extent Human or Environmental Effects are Subject to Mitigation by Regulatory Control and Permit Conditions.

686. Minn. R. 7852.1900, subp. 3(H), states that when reviewing an application for an RP, the Commission shall consider the “extent to which human or environmental effects are subject to mitigation by regulatory control and by application of the permit conditions contained in part 7852.3400 for pipeline right-of-way preparation, construction, cleanup, and restoration practices.”¹⁴⁸⁰
687. As noted in the FEIS, a wide variety of state and federal permits and approvals are required initially for approval of the Project and subsequently for various elements of Project construction and operation.¹⁴⁸¹
688. The FEIS identified a multitude of potential mitigation measures, and Enbridge has already agreed to implement many of these measures. For example:
- With respect to mitigation of potential impacts related to environmental justice concerns, as recommended by the FEIS, Enbridge: has sited pump stations away from heavily populated areas and areas of tribal significance; will work with stakeholders to understand concerns and address impacts, consistent with a route permit; and conduct reporting, consistent with a route permit.¹⁴⁸²
 - Enbridge will employ archaeological and tribal monitors during Project construction.¹⁴⁸³
 - Enbridge has reduced the construction workspace to 95’ in wetland areas, which may also benefit fisheries and wildlife.¹⁴⁸⁴
689. In addition, Enbridge has developed several plans that are already incorporated into Project design, construction, and operation. For example, the Environmental Protection Plan provides a multitude of measures that mitigate the impacts of Project construction on the environment; the Agricultural Protection Plan does the same with respect to agricultural impacts. Further, Enbridge is committed to working with federal, state, and local agencies, as well as other stakeholders, to further mitigate potential Project impacts. Schedule 5 to Mr. Eberth’s rebuttal testimony specifically addresses the additional mitigation measures proposed in the FEIS.¹⁴⁸⁵

¹⁴⁸⁰ Minn. R. 7852.1900, subp. 3(H).

¹⁴⁸¹ Ex. EERA-29 at 6-779 (FEIS).

¹⁴⁸² Ex. EN-30, Sched. 5 at 9 (Eberth Rebuttal).

¹⁴⁸³ Ex. EN-30, Sched. 5 at 8 (Eberth Rebuttal).

¹⁴⁸⁴ Ex. EN-30, Sched. 5 at 3 (Eberth Rebuttal).

¹⁴⁸⁵ See Ex. EN-30, Sched. 5 (Eberth Rebuttal).

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690. Enbridge has developed or will develop several plans to mitigate the potential impacts of Project construction. A description of mitigation plans developed or to be developed for the Project is provided below:

- Summary of Construction Methods and Procedures for Wetland and Waterbody Crossings: This document outlines the various construction methods that Enbridge will utilize to construct through wetlands and waterbodies on the Project including the advantages and disadvantages of each method and the mitigation measures that Enbridge will implement to avoid or minimize impacts associated with implementation of each method. This document is attached as Appendix D to the January 2017 EAW, which is Schedule 2 to the direct testimony of Mr. Eberth.
- Environmental Protection Plan (“EPP”): Enbridge’s EPP outlines construction-related environmental policies, procedures, and general protection measures for construction of the Project. The EPP was developed based on Enbridge’s experience implementing Best Management Practices during construction, as well as the FERC’s Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures (May 2013 Versions). The EPP is attached as Appendix E to the FEIS.
- Agricultural Protection Plan: Enbridge’s Agricultural Protection Plan (“APP”) identifies measures that Enbridge has committed to implement to avoid, mitigate, or provide compensation for negative agricultural impacts that may result from pipeline construction. Enbridge met with the MDA to develop the APP based on agency concerns and Enbridge best practices. The APP filed with the Commission reflects this coordination. Appendix A of the APP outlines specific mitigation measures that will be applied to Organic Agricultural Lands, such as Organic Certified farms or farms that are in active transition to become Organic Certified. The APP is attached as Appendix F to the FEIS.
- Unanticipated Discoveries Plan: Enbridge has prepared an Unanticipated Discovery Plan (“UDP”) to be used in the unlikely event that cultural resources are encountered during construction. Enbridge’s UDP sets forth specific guidelines to be used if archaeological sites, artifacts, and/or human remains are encountered during construction activities. Enbridge developed the measures in the UDP in accordance with applicable state and federal guidelines. The UDP is attached as Appendix O to the FEIS.
- Stormwater Pollution Prevention Plan: Enbridge will prepare a Stormwater Pollution Prevention Plan (“SWPPP”) for the Project to meet the requirements outlined in the National Pollutant Discharge Elimination System Permit that will be obtained from MPCA prior to ground disturbing activities. Enbridge and its construction contractor(s) will implement the SWPPP during the construction and restoration activities associated with the Project. The SWPPP will include, by reference, the relevant environmental permits, policies, plans, and protocols

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Enbridge has obtained and developed to authorize construction activities and minimize and/or mitigate the potential environmental impacts of construction.¹⁴⁸⁶

- Contaminated Sites Management Plan: Enbridge is in the process of developing a Contaminated Sites Management Plan (“CSMP”) for Project construction. The purpose of the CSMP is to provide guidance on the management of contaminated soil, groundwater, and potential debris from historical sources that may be encountered during construction. Enbridge’s EPP also contains procedures that address construction-related spills to ensure all potential aspects of contamination. An example of this plan was attached as Attachment E to Enbridge’s July 2017 DEIS Comments.¹⁴⁸⁷

G. Cumulative Potential Effects of Related or Anticipated Future Pipeline Construction.

691. Minn. R. 7852.1900, subp. 3(I), states that when reviewing an application for an RP, the Commission shall consider the “cumulative potential effects of related or anticipated future pipeline construction.”¹⁴⁸⁸
692. The Line 3 Replacement Project is a stand-alone Project. There are no planned expansions of the Project.¹⁴⁸⁹ Similarly, there are no other pipeline construction projects the completion of which is dependent upon the route for the Project. Accordingly, this factor does not support selection of a route other than the Preferred Route.

H. Other Local, State, or Federal Rules and Regulations.

693. Minn. R. 7852.1900, subp. 3(J), states that when reviewing an application for an RP, the Commission shall consider the “relevant applicable policies, rules, and regulations of other state and federal agencies, and local government land use laws, including ordinances adopted under Minnesota Statutes section 299J.05, relating to the location, design, construction, or operation of the proposed pipeline and associated facilities.”¹⁴⁹⁰
694. For a discussion of the Project’s compliance with applicable law, see Section II(D) in the Certificate of Need section herein. With respect to local planning and zoning, specifically, the FEIS indicates that impacts will generally be similar across route alternatives.¹⁴⁹¹

¹⁴⁸⁶ Ex. EN-9 at 11 (Bergland Direct).

¹⁴⁸⁷ Comment by Enbridge (July 10, 2017) (eDocket No. [20177-133700-01](#)).

¹⁴⁸⁸ Minn. R. 7852.1900, subp. 3(I).

¹⁴⁸⁹ Ex. EN-2 at 4-19 (R Application).

¹⁴⁹⁰ Minn. R. 7852.1900, subp. 3(J).

¹⁴⁹¹ Ex. EERA-29 at 6-49 – 6-50 (FEIS).

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I. Route Segment Alternatives.

695. Enbridge’s review of the RSAs can be found in Schedule 7 of Mr. Simonson’s direct testimony. No party and few if any public commenters evaluated the RSAs following their acceptance for evaluation within the EIS. The one exception was the MDNR. In its November 22, 2017 letter, the MDNR commented that it believed five RSAs had the potential to reduce impacts to certain natural resources of concern to the MDNR.¹⁴⁹²

1. RSA-05.

696. MDNR states that RSA-05 avoids Mud Lake, in the Wild Rice Watershed, which has known trumpeter swan nesting, although it would have 4 additional stream crossings.¹⁴⁹³ The FEIS notes meaningful distinctions between RSA-05 and the Preferred Route related to human settlement, natural environment, co-location, and natural resources.¹⁴⁹⁴ Specifically, RSA-05 follows a greenfield route in this area, whereas the Preferred Route follows existing pipeline infrastructure. The FEIS also notes some increased impacts to forested and woodland habitats along RSA-05 but fewer wetland impacts.¹⁴⁹⁵

697. Enbridge also noted a number of these distinctions but concluded that, on balance, RSA-05 should be included in the Route Permit because it addressed the concern raised by the White Earth Band of Ojibwe by removing the Project from the Eastern Wild Rice Watershed and thereby removing any hydrological connection to Lower Rice Lake, an important wild rice lake for tribal members.¹⁴⁹⁶

2. RSA-10.

698. MDNR notes that “RSA-10 follows an existing transmission line near the road instead of the Preferred Route that goes through an area the Minnesota Biological Survey (MBS) has preliminarily identified as a site of high biodiversity significance. RSA-10 also avoids an Aquatic Management Area and areas with identified species of special concern.”¹⁴⁹⁷ The FEIS identified differences between RSA-10 and the Applicant’s preferred route related to human settlement, natural environment, cultural resources, economics, and natural resources.¹⁴⁹⁸

¹⁴⁹² Comment by MDNR at 6 (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)). MDNR also noted 14 RSAs it believes have the potential for greater impacts than the RSA. Because Enbridge does not dispute those conclusions, they are not discussed further here. Again, Enbridge’s full analysis of all of the RSAs can be found in Schedule 7 to Ex. EN-22 (Simonson Direct).

¹⁴⁹³ Comment by MDNR at 6 (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)).

¹⁴⁹⁴ Ex. EERA-29 at 7-7 (FEIS).

¹⁴⁹⁵ Ex. EERA-29 at 7-7 (FEIS).

¹⁴⁹⁶ Ex. EN-22, Sched. 7 at 49 (Simonson Direct).

¹⁴⁹⁷ Comment by MDNR at 6 (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)).

¹⁴⁹⁸ Ex. EERA-29, at 7-12 (FEIS).

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699. Enbridge recommended against including RSA-10 due primarily to the potential impacts to Itasca State Park, which RSA-10 crosses for 0.7 miles, and because there are seven homes within 750 feet of this alternative, two of which would be directly impacted by construction of this alternative.¹⁴⁹⁹

3. RSA-15.

700. MDNR states that “RSA-15 avoids several areas of native plant communities and avoids an unnamed public water basin and three watercourse crossings, although it does cross another creek and another area with a few native plant communities.”¹⁵⁰⁰ The FEIS notes differences between RSA-15 and the Preferred Route related to human settlement, natural environment, cultural resources, economics, and natural resources.¹⁵⁰¹

701. Enbridge recommended against includes of RSA-15 because it crosses a USFWS easement, increases wetland impacts at Fishhook River, increases agricultural impacts to center pivot irrigation systems in the area, comes in close proximity to a number of residences along County Highway 14 and creates constructability issues due to proximity to an area highway, power line and substation.¹⁵⁰²

4. RSA White Elk Lake.

702. The MDNR states that “RSA White Elk Lake follows existing disturbed area and avoids a forest legacy program easement that would likely raise permitting issues. RSA White Elk Lake also avoids fragmenting a site the MBS has identified as having moderate biodiversity significance. The DNR strongly recommends RSA White Elk Lake over the APR.”¹⁵⁰³ The FEIS notes differences between RSA White Elk Lake and the Preferred Route related to human settlement, natural environment and natural resources.¹⁵⁰⁴

703. Enbridge recommended RSA White Elk Lake not be included in the Route Permit because of issues it creates with the hydraulic operation of the pipeline. The western portion of this RSA traverses in the opposite direction of the flow of oil. This introduces additional stresses on the pipeline, which affect the pipeline design and potentially operability and maintenance.¹⁵⁰⁵ Enbridge also noted that this RSA would cross additional land in the Hill River State Forest, run adjacent to the Blind Lake Connector All-Terrain Vehicle Trail, and create hydrologic connectivity to Wild Rice Lake, a

¹⁴⁹⁹ Ex. EN-22, Sched. 7 at 48-49 (Simonson Direct).

¹⁵⁰⁰ Comment by MDNR at 6 (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)).

¹⁵⁰¹ Ex. EERA-29 at 7-16 (FEIS).

¹⁵⁰² Ex. EN-22, Sched. 7 at 59-60 (Simonson Direct).

¹⁵⁰³ Comment by MDNR at 6 (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)).

¹⁵⁰⁴ Ex. EERA-29 at 7-24 (FEIS).

¹⁵⁰⁵ Ex. EN-22, Sched. 7 at 67 (Simonson Direct).

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known wild rice lake.¹⁵⁰⁶ Enbridge instead recommended approval of either the Preferred Route or RSA-Blandin in this area.¹⁵⁰⁷

5. RSA-33.

704. MDNR notes that “RSA-33 appears to avoid some forest fragmentation.”¹⁵⁰⁸ The FEIS notes differences between RSA-33 and the Preferred Route related to human settlement, natural environment and natural resources.¹⁵⁰⁹
705. While this is a relatively short RSA and quantitative impacts are relatively similar, Enbridge did not recommend including this RSA because of the potential future impacts to an active peat-farming operation in the area.¹⁵¹⁰

J. Draft Route Permit and Proposed Mitigation Measures.

706. No party has recommended any revisions to the draft route permit attached as Schedule 4 to Mr. Eberth’s rebuttal testimony or suggested additional conditions be added.¹⁵¹¹ Likewise, no other party has contested the mitigation measures set forth in Schedule 5 to Mr. Eberth’s rebuttal testimony.
707. In public comments posted on November 22, 2017, MDNR submitted a letter recommending a number of permit conditions be included in the route permit for the Project.¹⁵¹² The proposed conditions fall primarily into two categories: (1) items already addressed in Enbridge’s proposed Route Permit, EPP or APP¹⁵¹³ and (2) items more appropriately and comprehensively addressed through the MDNR permitting process Enbridge will engage in for site-specific crossings.¹⁵¹⁴ If such conditions were added to the Route Permit, it is possible that the conditions to the Route Permit and MDNR permits could differ and create unnecessary compliance issues. Enbridge has committed to working with MDNR, and other federal, state and local agencies, to obtain the permits necessary to construct the Project. Accordingly, no additional conditions are necessary to

¹⁵⁰⁶ Ex. EN-22, Sched. 7 at 67 (Simonson Direct).

¹⁵⁰⁷ Ex. EN-22, Sched. 7 at 67 (Simonson Direct).

¹⁵⁰⁸ Comment by MDNR at 6 (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)).

¹⁵⁰⁹ Ex. EERA-29 at 7-48 (FEIS).

¹⁵¹⁰ Ex. EN-22, Sched. 7 at 103 (Simonson Direct).

¹⁵¹¹ Ex. EN-30, Sched. 4 (Eberth Rebuttal); Ex. EERA-29 at Appendix E (Environmental Protection Plan) and F (Agricultural Protection Plan) (FEIS).

¹⁵¹² Comment by MDNR at 7-12 (Nov. 22, 2017) (eDocket No. [201711-137641-01](#)).

¹⁵¹³ *See, e.g.*, installation of cathodic protection, use of third party monitors, restoration requirements, HDD frac-out plan.

¹⁵¹⁴ *See, e.g.*, recommendations related to federal financing encumbrances on DNR-administrated state land, access across pipelines to public lands, mineral resource plans.

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Enbridge's Proposed Route Permit included as Schedule 4 to Mr. Eberth's direct testimony.

708. Enbridge has committed to implementing the mitigation measures as set forth in its Applications, as updated through testimony, including Schedule 5 to Mr. Eberth's rebuttal testimony, subject to any modifications resulting from individual permit conditions included in any federal, state or local permit issued for the Project.

CONCLUSIONS OF LAW

I. PROCEDURAL REQUIREMENTS.

1. The Commission has jurisdiction to consider Enbridge Energy, Limited Partnership's Applications for a Certificate of Need and a Pipeline Routing Permit.

2. The Commission and the Applicant have complied with all applicable procedural requirements, including the preparation of an environmental impact statement that complies with MEPA and Minn. R. Ch. 4410.

II. CERTIFICATE OF NEED.

3. Minn. R. 7853.0130 sets forth the criteria used by the Commission to determine the need for pipeline projects.

4. The Rule states that the Commission shall grant a certificate of need if the record demonstrates, by a preponderance of the evidence, that:

A certificate of need shall be granted to the applicant if it is determined that:

A. the probable result of denial would adversely affect the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states, considering:

(1) the accuracy of the applicant's forecast for demand for the type of energy that would be supplied by the proposed facility;

(2) the effects of the applicant's existing or expected conservation programs and state and federal conservation programs;

(3) the effects of the applicant's promotional practices that may have given rise to the increase in the energy demand, particularly promotional practices that have occurred since 1974;

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(4) the ability of current facilities and planned facilities not requiring certificates of need, and to which the applicant has access, to meet the future demand; and

(5) the effect of the proposed facility, or a suitable modification of it, in making efficient use of resources;

B. a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record by parties or persons other than the applicant, considering:

(1) the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;

(2) the cost of the proposed facility and the cost of energy to be supplied by the proposed facility compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;

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

(4) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives;

C. the consequences to society of granting the certificate of need are more favorable than the consequences of denying the certificate, considering:

(1) the relationship of the proposed facility, or a suitable modification of it, to overall state energy needs;

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

(3) the effects of the proposed facility or a suitable modification of it, in inducing future development; and

(4) socially beneficial uses of the output of the proposed facility, or a suitable modification of it, including its uses to protect or enhance environmental quality; and

D. it has not been demonstrated on the record that the design, construction, or operation of the proposed facility will fail to

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comply with those relevant policies, rules, and regulations of other state and federal agencies and local governments.

5. The record demonstrates the reasonableness of Enbridge's forecasts of demand for crude oil.
6. Conservation efforts have been considered in those forecasts, and conservation cannot replace the need for the Project.
7. No promotional activities have given rise to the need for the Project.
8. There are no current or planned facilities not requiring a certificate of need that can meet the needs met by the Project.
9. The Project makes efficient use of resources by reducing per barrel energy usage on the pipeline, making use of existing Enbridge facilities and limiting GHG emissions.
10. The Project will enhance the future adequacy, reliability, and efficiency of energy supply to Minnesota and the region.
11. No party demonstrated a more reasonable or prudent alternative than the Project, considering: the Project size, type, and timing; cost; human and environmental impacts; and reliability.
12. The record demonstrates that, with respect to the potential human and environmental impacts, the Project is superior to alternatives examined in the record.
13. The record demonstrates that the consequences to society of granting the certificate of need are expected to be more favorable than the consequences of denying the certificate of need.
14. The record demonstrates that the Project can be constructed and operated in compliance with all applicable federal, state, and local rules and regulations.
15. Application of each of the factors listed in Minn. R. 7853.0130 supports the granting of the requested certificate of need.
16. The record supports adding the following conditions proposed by DOC-DER to the certificate of need:
 - Enbridge shall name the State of Minnesota as an additional insured under its insurance program once the Project is operational.
 - The Applicant shall obtain a parental guaranty from Enbridge Energy Partners, LP in substantially the same form as that obtained by North Dakota Pipeline Company LLC related to the Sandpiper Pipeline Project.

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17. The record does not support adding the following conditions proposed by DOC-DER to the certificate of need:
- Use 34-inch (as opposed to 36-inch) diameter pipe.
 - Requiring a parental guaranty from Enbridge, Inc.
 - Establishment of a decommissioning trust fund.
 - Obtaining the insurance recommended by DOC-DER witness Mr. Dybdahl.
 - Complete removal of existing Line 3.
 - The “Neutral Footprint” condition.

III. ROUTE PERMIT.

18. The record demonstrates that the Preferred Route with the incorporation of RSA-05 (“Recommended Route”) is consistent with Minn. Stat. Ch. 216G and best satisfies the route permit criteria set forth in Minn. R. 7852.1900.
19. The evidence on the record demonstrates that constructing the Project along the Recommended Route is not likely to cause the pollution, impairment, or destruction of the air, water, land, or other natural resources located within Minnesota, and that there is no more feasible and prudent alternative.
20. The record evidence demonstrates that the Recommended Route is the best alternative for the Project.
21. Enbridge’s request for a route width of up to 700 feet is reasonable and appropriate for the Project.
22. The Route Permit should be issued in the form attached as Schedule 4 to the rebuttal testimony of Mr. Paul Eberth.
23. Any of the foregoing Findings of Fact more properly designated Conclusions are hereby adopted as such.

**PUBLIC DOCUMENT –
HIGHLY SENSITIVE TRADE SECRET INFORMATION HAS BEEN EXCISED**

RECOMMENDATIONS

It is recommended that the Minnesota Public Utilities Commission:

1. Issue to Enbridge Energy, Limited Partnership a Certificate of Need for the Line 3 Replacement Project with the following conditions:
 - a) Enbridge shall name the State of Minnesota as an additional insured under its insurance program once the Project is operational.
 - b) The Applicant shall obtain a parental guaranty from Enbridge Energy Partners in substantially the same form as that obtained by North Dakota Pipeline Company LLC related to the Sandpiper Pipeline Project.
2. Issue to Enbridge Energy, Limited Partnership a Pipeline Routing Permit for the Line 3 Replacement Project along the Recommended Route.

NOTICE

Notice is hereby given that exceptions to this Report, if any, by any party adversely affected must be filed under the time frames established in the Commission's rules of practice and procedure, Minn. R. 7829.2700 and 7829.3100, unless otherwise directed by the Commission. Exceptions should be specific and stated and numbered separately. Pursuant to Minn. R. 7829.2700, subp. 3, the parties will be granted an opportunity for oral argument before the Commission prior to its decision. The Commission will make the final determination of the matter after the expiration of the period for filing exceptions, or after oral argument, if an oral argument is held. The Commission may, at its own discretion, accept, modify, or reject the ALJ's recommendations. The recommendations of the ALJ have no legal effect unless expressly adopted by the Commission as its final order.