

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION

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In the Matter of the Application of Enbridge MPUC Docket No. PL9/CN-13-153
Energy Limited Partnership for a Certificate of
Need for the Line 67 Station Upgrade Project – OAH Docket No. 8-2500-30952
Phase 2 – In Marshall, Clearwater, Itasca,
Kittson, Red Lake, Cass and St. Louis
Counties

**ENBRIDGE ENERGY LIMITED PARTNERSHIP'S POST HEARING BRIEF IN
SUPPORT OF GRANTING A CERTIFICATE OF NEED FOR THE LINE 67, PHASE II
PROJECT**

April 29, 2014

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INTRODUCTION

Enbridge Energy, Limited Partnership filed the current request for a Certificate of Need (“CN”) with the Minnesota Public Utilities Commission (“MPUC”) on June 28, 2013, with an amended application on August 16, 2013 (the “Application”).¹ Enbridge proposes to expand the capacity of its Line 67 Pipeline from 570,000 barrels per day to 800,000 barrels per day (“bpd”) as part of its ongoing efforts to meet North America’s needs for reliable and secure transportation of petroleum energy supplies. Enbridge intends to do so through the installation of new pump facilities adjacent to or near existing Enbridge owned facilities at the Donaldson, Plummer, Cass Lake, and Floodwood Station sites, which are located in Kittson, Red Lake, Cass, and St. Louis Counties, Minnesota, respectively (the “Project”). All station upgrades will be constructed on land that Enbridge owns. No new pipeline construction will be required outside of these station sites.

Enbridge has complied with all relevant statutes and regulations regarding the CN Application throughout these proceedings. And, following the complete submission of evidence by Enbridge, it is clear that the MPUC should grant a CN to Enbridge for the proposed Project.

PROCEDURAL HISTORY

1. Enbridge filed a notice plan for the Project, as required by Minn. R. 7829.2560, on February 28, 2013 (the “Notice Plan”).² The Notice Plan was revised on April 9, 2013,³ and accepted by the MPUC on May 8, 2013.⁴
2. Enbridge implemented the Notice Plan between May 29, 2013 and June 5, 2013.⁵ Direct mail notice was provided to landowners along the route of Line 67 as well as to those adjacent to the facilities involved in the Project.⁶ The letter to landowners along the route of Line 67 was mailed on June 5, 2013, and the letter to landowners adjacent to the proposed facilities was mailed on June 4, 2013.⁷
3. Direct mail notice to local governments was provided on June 3, 2013.⁸
4. Enbridge also published notice of its intent to file an application for a CN for the Project in newspapers between May 29, 2013 and June 5, 2013.⁹

¹ Ex. 1 (Public Version of the Application); Ex. 2 (Trade Secret Version). The Application was assigned MPUC Docket No. PL-9/CN-13-153.

² Certificate of Need Notice Plan, February 28, 2013 ([E-Dockets Document No. 20132-84295-01](#)).

³ Reply Comments and Revised Notice Plan, April 9, 2013 ([E-Dockets Document No. 20134-85561-01](#)).

⁴ Order Approving Notice Plan, MPUC Docket No. PL-9/CN-13-153, May 8, 2013 ([E-Dockets Document No. 20135-86802-01](#)).

⁵ Notice Plan Compliance Filing, Public Version, August 5, 2013, p. 4 ([E-Dockets Document No. 20138-89924-03](#)).

⁶ Notice Plan Compliance Filing, Public Version, August 5, 2013, p. 1.

⁷ Notice Plan Compliance Filing, Public Version, August 5, 2013, p. 2.

⁸ Notice Plan Compliance Filing, Public Version, August 5, 2013, p. 3.

⁹ Notice Plan Compliance Filing, Public Version, August 5, 2013, p. 3.

5. Some minor issues occurred during implementation of the Notice Plan. One paper published the notice on July 2, 2013, instead of June 4, 2013 as scheduled.¹⁰ Additional mailings to one township, one township supervisor, and to some corrected addresses for local governments were made on June 5, 14, and 21, 2013.¹¹
6. Enbridge also provided notice to individuals that had expressed interest in receiving documents for Enbridge's prior Phase 1 project. This was done through direct mail on June 5, 2013.¹²
7. Enbridge filed its Application for the Project with the MPUC on June 28, 2013.¹³
8. The MPUC established a comment period on the June 28, 2013 version of Enbridge's application through an order issued on July 3, 2013.¹⁴
9. Comments were received from the Minnesota State Historic Preservation Office on July 3, 2013, indicating that no historic properties will be affected by the Project.¹⁵
10. The Minnesota Department of Natural Resources filed comments on July 24, 2013.¹⁶
11. The Minnesota Department of Commerce, Division of Energy Resources (the "Department") filed comments on the June 28, 2013 version of Enbridge's application on July 24, 2013. The Department recommended that the MPUC declare the application complete pending submittal of additional information by Enbridge.¹⁷
12. MN350 also filed reply comments on completeness of the June 28, 2013 version of Enbridge's application on August 16, 2013.¹⁸
13. Donovan and Anna Dyrdal (the "Dyrdals") also filed comments on the June 28, 2013 version of Enbridge's application on August 16, 2013.¹⁹
14. Enbridge filed an amended version of its application on August 16, 2013,²⁰ as well as reply comments regarding completeness.²¹

¹⁰ Notice Plan Compliance Filing, Public Version, August 5, 2013, p. 1, note 1.

¹¹ Notice Plan Compliance Filing, Public Version, August 5, 2013, p. 2.

¹² Notice Plan Compliance Filing, Public Version, August 5, 2013, p. 2.

¹³ Application Cover Letter and Affidavit of Service, June 28, 2013 ([E-Dockets Document No. 20136-88672-01](#)).

¹⁴ Notice of Comment Period on the Application of Enbridge Energy, Limited Partnership For A Certificate of Need for the Line 67-Phase 2 Upgrade Project, July 3, 2013 ([E-Dockets Document No. 20137-88853-01](#)).

¹⁵ Minnesota State Historic Preservation Office Comment Letter, July 3, 2013 ([E-Dockets Document No. 20137-88920-01](#)).

¹⁶ Minnesota Department of Natural Resources Comments, July 24, 2013 ([E-Dockets Document No. 20137-89507-01](#)).

¹⁷ Comments of the Minnesota Department of Commerce, Division of Energy Resources, July 24, 2013 ([E-Dockets Document No. 20137-89504-01](#)).

¹⁸ MN350 Reply Comments Regarding Completeness, August 16, 2013 ([E-Dockets Document No. 20138-90359-01](#)).

¹⁹ Dyrdal Comments re Completeness, August 16, 2013 ([E-Dockets Document No. 20138-90360-01](#)).

²⁰ Ex. 1 (Public Version); Ex. 2 (Trade Secret Version).

15. The Minnesota Public Utilities Commission accepted the August 16, 2013 version of the Application and referred the matter to the Office of Administrative Hearings for a contested case proceeding by order dated September 17, 2013. The Application was assigned MPUC Docket No. PL-9/CN-13-153.²²
16. Enbridge mailed copies of the Application on CD-ROM to local libraries on September 17, 2013.²³
17. The Honorable Eric L. Lipman, Administrative Law Judge (“ALJ”) issued the First Prehearing Order on October 22, 2013.²⁴
18. A prehearing conference was held on November 5, 2013.²⁵
19. The Second Prehearing Order was issued on November 14, 2013.²⁶ In the Second Prehearing Order, MN350, now joined by the Sierra Club, was granted party status, as was the Department.²⁷ A schedule for hearing milestones and other matters was also established in the Second Prehearing Order.²⁸
20. The Dyrdals were granted party status in the Third Prehearing Order, issued on November 18, 2013.²⁹
21. Enbridge filed a revised version of Section 7853.0520 of the Application on December 4, 2013, including both public and trade secret versions. The purpose of the new filing was to reduce the scope of trade secret protection applied to Section 7853.0520 of the Application.³⁰
22. Enbridge also filed a Status Report Regarding Venues and Notice Documents on December 4, 2013, updating the ALJ and the parties regarding venue options and schedules for the public hearings to be held in March, 2014.³¹
23. Enbridge filed a second Update Regarding Venues on December 10, 2014 to provide a status report to the ALJ and parties regarding venue options and schedules for the upcoming public hearings.³²

²¹ Enbridge Reply Comments Regarding Completeness, August 16, 2013 ([E-Dockets Document No. 20138-90363-02](#)).

²² MPUC Notice and Order for Hearing, September 17, 2013 ([E-Dockets Document No. 20139-91374-01](#)).

²³ Public Hearing Notice Compliance Filing, Public Version, Exhibits 3a, 3b, 3c ([E-Dockets Document No. 20144-97993-02](#)),

²⁴ First Prehearing Order, October 22, 2013 ([E-Dockets Document No. 201310-92846-01](#)).

²⁵ Second Prehearing Order, November 14, 2013 ([E-Dockets Document No. 201311-93694-01](#)).

²⁶ Second Prehearing Order, November 14, 2013.

²⁷ Second Prehearing Order, November 14, 2013, p. 1.

²⁸ Second Prehearing Order, November 14, 2013, p. 2.

²⁹ Third Prehearing Order, November 18, 2013 ([E-Dockets Document No. 201311-93779-01](#)).

³⁰ Ex. 4 (Public), Ex. 5 (Nonpublic).

³¹ Status Report re Venues and Notice, December 4, 2014 ([E-Dockets Document No. 201312-94330-02](#)).

³² Update Regarding Venues, December 10, 2013 ([E-Dockets Document No. 201312-94479-02](#)).

24. Enbridge filed the direct testimony of witness Neil K. Earnest,³³ together with an expert report titled “Benefits Analysis for the Line 67 Station Upgrade Project - Phase 2”³⁴ on December 20, 2014, in advance of the January 10, 2014 deadline for Enbridge’s initial pre-filed testimony established in the Second Prehearing Order.
25. Honor the Earth filed a Petition to Intervene on January 9, 2014.³⁵
26. Enbridge filed the direct testimony of witnesses Mark Curwin,³⁶ Jeff Jurgens,³⁷ and Paul Turner³⁸ on January 10, 2014.
27. Enbridge also filed an additional update regarding public hearing venues on January 10, 2014.³⁹
28. MN350/Sierra Club filed a Request to Reconvene the Prehearing Conference on January 21, 2014 to resolve issues related to the issuance of a protective order in this matter.⁴⁰
29. Enbridge replied to the MN350/Sierra Club Request to Reconvene the Prehearing Conference on January 24, 2014.⁴¹
30. A telephonic prehearing conference was held by the ALJ on January 24, 2014.
31. The Fourth Prehearing Order (Protective Order) was issued by the ALJ on January 28, 2014.⁴² Exhibit A to the Protective Order was executed by counsel for MN350/Sierra Club, MN350/Sierra Club witness Mary Ellen Denomy, and counsel for the Dyrdals.
32. Honor the Earth was granted party status in the Fifth Prehearing Order, issued on January 29, 2014.⁴³
33. The MPUC issued a Notice of Public Hearings on February 3, 2014,⁴⁴ and a Revised Notice of Public Hearings on February 5, 2014.⁴⁵
34. On February 20, 2014, Enbridge mailed the Revised Notice of Public Hearings to all landowners along the route of Line 67 and those abutting the proposed facilities to be

³³ Ex. 6.

³⁴ Ex. 7.

³⁵ Honor the Earth Petition to Intervene, January 9, 2014 ([E-Dockets Document No. 20141-95294-01](#)).

³⁶ Ex. 8.

³⁷ Ex. 9.

³⁸ Ex. 10.

³⁹ Update Regarding Venues, January 10, 2014 ([E-Dockets Document No. 20141-95348-02](#)).

⁴⁰ Request to Reconvene the Prehearing Conference, January 21, 2-14 ([E-Dockets Document No. 20141-95674-01](#)).

⁴¹ Enbridge Reply to MN350 Request to Reconvene the Prehearing Conference, January 24, 2013 ([E-Dockets Document No. 20141-95754-02](#)).

⁴² Fourth Prehearing Order (Protective Order), January 28, 2014 ([E-Dockets Document No. 20141-95864-01](#)).

⁴³ Fifth Prehearing Order, January 29, 2014 ([E-Dockets Document No. 20141-95898-01](#)).

⁴⁴ Notice of Public Hearings, February 3, 2014 ([E-Dockets Document No. 20142-96129-01](#)).

⁴⁵ Revised Notice of Public Hearings, February 5, 2014 ([E-Dockets Document No. 20142-96201-01](#)).

constructed as part of the Project.⁴⁶ Enbridge later identified twelve additional landowners. The Revised Notice of Public Hearings was provided to these landowners.⁴⁷

35. Enbridge mailed the Revised Notice of Public Hearings to local governments on February 18, 2014.⁴⁸
36. Enbridge mailed the Revised Notice of Public Hearings to additional parties interested in the Project on February 20, 2014.⁴⁹
37. Enbridge published the Revised Notice of Public Hearings in areas reasonably likely to be affected by the Project between February 25 and March 4, 2014.⁵⁰
38. MN350/Sierra Club filed direct testimony of witnesses Mary Ellen Denomy⁵¹ and John P. Abraham⁵² on February 18, 2014.
39. The Department filed direct testimony of witness Laura B. Otis on February 28, 2014.⁵³
40. No direct testimony was filed by Honor the Earth or the Dyrdals.
41. Enbridge filed rebuttal testimony of Dr. Charles Cicchetti,⁵⁴ Mark Curwin,⁵⁵ Neil Earnest,⁵⁶ William Rennie,⁵⁷ and Paul Turner⁵⁸ on March 13, 2014.
42. MN350/Sierra Club filed rebuttal testimony of Mary Ellen Denomy on March 13, 2014.⁵⁹
43. Honor the Earth filed a letter from counsel on March 13, 2014 but did not present rebuttal testimony from a witness.⁶⁰
44. The Dyrdals did not file rebuttal testimony.

⁴⁶ Public Hearing Notice Compliance Filing, Public Version, Exhibits 1a, 2a, 2c ([E-Dockets Document No. 20144-97993-02](#)); Public Hearing Notice Compliance Filing, Trade Secret Version, Exhibits 2b, 2d (e-filed April 4, 2014).

⁴⁷ Public Hearing Notice Compliance Filing, Public Version, Exhibit 2e ([E-Dockets Document No. 20144-97993-02](#)); Public Hearing Notice Compliance Filing, Trade Secret Version, Exhibit 2f (e-filed April 4, 2014).

⁴⁸ Public Hearing Notice Compliance Filing, Public Version, Exhibits 5a, 5a ([E-Dockets Document No. 20144-97993-02](#)).

⁴⁹ Public Hearing Notice Compliance Filing, Public Version, Exhibits 1a, 4a ([E-Dockets Document No. 20144-97993-02](#)).

⁵⁰ Public Hearing Notice Compliance Filing, Public Version, Exhibits 6a, 6b, 6c ([E-Dockets Document No. 20144-97993-02](#)).

⁵¹ Ex. 52, 55.

⁵² Ex. 50.

⁵³ Ex. 35, 36.

⁵⁴ Ex. 19, 26, 27, 28.

⁵⁵ Ex. 11, 12, 13, 14, 15.

⁵⁶ Ex. 15, 16, 17.

⁵⁷ Ex. 20.

⁵⁸ Ex. 18.

⁵⁹ Ex. 53.

⁶⁰ Honor the Earth, Rebuttal Support of Sierra MN350 and Chippewa Treaty Rights ([E-Dockets Document No. 20143-97320-01](#)).

45. The Dyrdals filed a Motion to Contest Claims of Confidentiality and Trade Secret Privilege⁶¹ with a Memorandum of Law in Support of the motion⁶² on March 17, 2014.
46. Public hearings were held on March 18-20, 2014, as follows:
- Hallock, Minnesota: March 18, 2014, 6:30 PM
 - Thief River Falls, Minnesota: March 19, 2014, 10:00 AM
 - Cass Lake, Minnesota: March 19, 2014, 6:30 PM
 - Floodwood, Minnesota: March 20, 2014, 10:00 AM
 - Duluth, Minnesota: March 20, 2014, 6:30 PM
47. The Department filed a motion on March 20, 2014 requesting the opportunity to file surrebuttal testimony.⁶³
48. The Dyrdals filed a Motion to Compel Responses to Discovery⁶⁴ and Memorandum in Support⁶⁵ on March 21, 2014.
49. MN350/Sierra Club filed a Request to Reconvene the Prehearing Conference and Motion to Reschedule the Evidentiary Hearing on March 21, 2014.⁶⁶
50. Honor the Earth filed a letter on March 21, 2014 supporting the Dyrdal Motion to Contest Claims of Confidentiality and Trade Secret Privilege, the Dyrdal Motion to Compel Responses to Discovery, and the MN350/Sierra Club Request to Reconvene the Prehearing Conference and Motion to Reschedule the Evidentiary Hearing.⁶⁷
51. On March 25, 2014, Enbridge filed a Memorandum of Law Opposing the MN350/Sierra Club Motion to Reconvene and Reschedule.⁶⁸
52. On March 25, 2014, Enbridge also filed a Memorandum of Law Opposing the Dyrdal Motion to Contest Claims of Confidentiality and Trade Secret Privilege.⁶⁹

⁶¹ Dyrdal Motion to Contest Claims of Confidentiality and Trade Secret Privilege ([E-Dockets Document No. 20143-97402-01](#)).

⁶² Memorandum of Law in Support of Dyrdal Motion to Contest Claims of Confidentiality and Trade Secret Privilege ([E-Dockets Document No. 20143-97402-02](#)).

⁶³ Motion for Surrebuttal ([E-Dockets Document No. 20143-97460-01](#)).

⁶⁴ Motion to Compel Discovery ([E-Dockets Document No. 20143-97509-01](#)).

⁶⁵ Memorandum in Support of Dyrdal Motion to Compel ([E-Dockets Document No. 20143-97496-01](#)).

⁶⁶ Request to Reconvene the Prehearing Conference and Motion to Reschedule the Evidentiary Hearing ([E-Dockets Document No. 20143-97496-01](#)).

⁶⁷ Honor the Earth Letter ([E-Dockets Document No. 20143-97513-01](#)).

⁶⁸ Memorandum of Law Opposing the MN350/Sierra Club Motion to Reconvene and Reschedule ([E-Dockets Document No. 20143-97605-03](#)).

⁶⁹ Memorandum of Law Opposing the Dyrdal Motion to Contest Claims of Confidentiality and Trade Secret Privilege ([E-Dockets Document No. 20143-97605-02](#)).

53. The ALJ issued the Sixth Prehearing Order on March 25, 2014, setting a prehearing conference for March 26, 2014, as discussed and agreed upon by the parties.⁷⁰
54. A prehearing conference was held on March 26, 2014.
55. The ALJ issued the Seventh Prehearing Order on March 27, 2014. In the Seventh Prehearing Order, deadlines were established for filing of written surrebuttal testimony by all parties, objections to the admissibility of prefiled direct and rebuttal testimony, submission of exhibit lists, and objections to admissibility of prefiled surrebuttal testimony. The Seventh Prehearing Order also rescheduled the evidentiary hearing to April 8-10, 2014. New deadlines for submission of initial and reply briefs were also established.⁷¹
56. Enbridge filed errata to Dr. Charles Cicchetti's rebuttal testimony on March 27, 2014.⁷²
57. The MPUC issued a press release informing the public of the rescheduled evidentiary hearing dates on March 27, 2014.⁷³
58. Enbridge filed a Memorandum of Law Opposing the Dyrdal Motion to Compel Discovery⁷⁴ on March 31, 2014, together with Revised Attachments to the Memorandum of Law.⁷⁵
59. The ALJ issued the Eighth Prehearing Order on April 1, 2014 to establish procedures for the public hearing to be held in St. Paul, Minnesota on April 3, 2014.⁷⁶
60. Enbridge filed surrebuttal testimony of Neil K. Earnest,⁷⁷ Jeff Jurgens,⁷⁸ and Dr. Charles Cicchetti⁷⁹ on April 3, 2014.
61. The Department filed surrebuttal testimony of Laura B. Otis on April 3, 2014.⁸⁰
62. MN350/Sierra Club filed surrebuttal testimony of Mary Ellen Denomy⁸¹ and John Abraham on April 3, 2014.⁸²
63. Honor the Earth and the Dyrdals did not file surrebuttal testimony.

⁷⁰ Sixth Prehearing Order ([E-Dockets Document No. 20143-97626-01](#)).

⁷¹ Seventh Prehearing Order ([E-Dockets Document No. 20143-97672-01](#)).

⁷² Cicchetti Errata filing ([E-Documents Document No. 20143-97685-01](#)).

⁷³ Press Release ([E-Dockets Document No. 20143-97690-01](#)).

⁷⁴ Memorandum of Law Opposing Dyrdal Motion to Compel Discovery ([E-Dockets Document No.20143-97796-02](#)).

⁷⁵ Revised Attachments to the Memorandum of Law Opposing Dyrdal Motion to Compel ([E-Dockets Document No.20143-97812-01](#)).

⁷⁶ Eighth Prehearing Order ([E-Dockets Document No. 20144-97878-01](#)).

⁷⁷ Ex. 21.

⁷⁸ Ex. 23.

⁷⁹ Ex. 22.

⁸⁰ Ex. 37.

⁸¹ Ex. 54, 56.

⁸² Ex. 51.

64. A public hearing was held in St. Paul, Minnesota on April 3, 2014.
65. Enbridge filed its exhibit list on April 4, 2014,⁸³ along with additional exhibits.⁸⁴
66. The Dyrdals filed an exhibit list on April 4, 2014,⁸⁵ but did not file or circulate copies of the proposed exhibits.
67. The Department and MN350/Sierra Club provided exhibit lists to the parties by email.
68. Transcripts of the Public Hearings were mailed to public libraries on April 7, 2014.⁸⁶
69. On April 7, 2014, Enbridge objected to the exhibits proposed by the Dyrdals.⁸⁷
70. The Dyrdal Motion to Compel Discovery and Motion to Contest Claims of Confidentiality and Trade Secret Privilege were denied in the Ninth Prehearing Order issued on April 7, 2014. The Ninth Prehearing Order also required Enbridge to submit a redacted, public version of its responses to the Department Information Request 21 as a hearing exhibit.⁸⁸ Enbridge did so.⁸⁹
71. An evidentiary hearing was held on April 8, 9, and 10, 2014 in St. Paul, Minnesota.
72. Transcripts of the Evidentiary Hearing were mailed to libraries on April 22, 2014.⁹⁰
73. Public comments related to the Project were submitted by the deadline of 4:30 PM on April 14, 2014.

FACTS

I. The Applicant.

1. Enbridge Energy, Limited Partnership (“EELP”) is a limited liability partnership organized under the laws of the State of Delaware. EELP’s primary U.S. Business Address is 1100 Louisiana, Suite 3300, Houston Texas 77002.⁹¹ EELP is a wholly owned subsidiary of Enbridge Energy Partners L.P. a Delaware Master Limited Partnership (“Enbridge Partners”). EELP owns and operates the U.S. portion of the Enbridge Mainline System,

⁸³ Enbridge Exhibit List ([E-Dockets Document No.20144-98004-02](#)).

⁸⁴ Ex. 24.

⁸⁵ Dyrdal Exhibit List ([E-Dockets Document No. 20144-97999-01](#)).

⁸⁶ Shaddix & Associates Letter, April 7, 2014 ([E-Dockets Document No.20144-98067-01](#)).

⁸⁷ Objection to the Dyrdal Exhibits ([E-Dockets Document No. 20144-98060-02](#)).

⁸⁸ Ninth Prehearing Order ([E-Dockets Document No. 20144-98063-01](#)).

⁸⁹ Ex. 25.

⁹⁰ Shaddix & Associates Letter, April 22, 2014 ([E-Dockets Document No. 20144-98586-01](#)).

⁹¹ Ex. 1, § 7853.0230, p. 1.

which is commonly referred to as the “Lakehead System.”⁹² Collectively, EELP, Enbridge Partners, and their Canadian affiliate Enbridge, Inc. are referred to hereinafter as “Enbridge.”

2. Enbridge owns and operates the 999-mile Line 67 Pipeline, which is the subject of the Application.⁹³ Line 67 is one of two pipelines in Enbridge’s pipeline system that is dedicated to transportation of heavy crude oil from Enbridge’s facilities in Hardisty, Alberta Canada to Enbridge’s terminal and tank farm facility located in Superior, Wisconsin.⁹⁴

II. The Project.

3. The Project will increase the annual average capacity of Line 67 from the current permitted capacity of 570,000 bpd to 800,000 bpd, providing Enbridge with the ability to deliver an incremental 230,000 bpd of secure and reliable heavy crude oil supplies to refineries and numerous marketing hubs throughout the Midwest and beyond.⁹⁵ Those refineries, in turn, supply the transportation fuels, heating oil, asphalt, jet fuel, petrochemicals and petrochemical feed stocks needed for our homes, industry, and transportation.⁹⁶
4. The Project involves the installation of new pump facilities, including all valves and appurtenances, adjacent to or near existing Enbridge owned facilities at Donaldson, Plummer, Cass Lake, and Floodwood Station sites, which are located in Kittson, Red Lake, Cass, and St. Louis Counties, Minnesota, respectively.⁹⁷ The Project will also require additional station modifications at the Viking, Clearbrook, and Deer River Station sites, which are located in Marshall, Clearwater, and Itasca Counties, Minnesota, respectively.⁹⁸ All station upgrades will be constructed on land which Enbridge owns. No new pipeline construction will be required for the Project.⁹⁹
5. The Line 67 Pipeline, the subject of the Application, is operationally integrated with the Enbridge Mainline System¹⁰⁰ and is used to transport heavy crude oil from the Western Canadian Sedimentary Basin (“WCSB”) into Minnesota and beyond.¹⁰¹ At Clearbrook, Minnesota, Line 67 connects to a third-party pipeline to supply crude oil to the Flint Hills, Pine Bend and Northern Tier St. Paul refineries in Minnesota.¹⁰² At Superior, Wisconsin,

⁹² Ex. 1, § 7853.0230, p. 2.

⁹³ Ex. 1, § 7853.0230, p. 1.

⁹⁴ Ex. 1, § 7853.0230, p. 2.

⁹⁵ Ex. 1, § 7853.0240, p. 1-2.

⁹⁶ Ex. 1, § 7853.0240, p. 14.

⁹⁷ Ex. 1, § 7853.0230, p. 3.

⁹⁸ Ex. 1, § 7853.0230, p. 3.

⁹⁹ Ex. 1, § 7853.0230, p. 3.

¹⁰⁰ Enbridge Inc.’s subsidiary, Enbridge Pipelines Inc., owns and operates the Canadian pipeline system that interconnects and delivers into Enbridge Energy, Limited Partnership’s “Lakehead System” at the International Border near Neche, North Dakota. These operationally integrated pipeline systems together form the longest liquid petroleum pipeline in the world. Together, these two systems are referred to as the Enbridge Mainline System. Ex. 1, § 7853.0230, p. 1, note 1.

¹⁰¹ Ex. 1, § 7853.0230, p. 2.

¹⁰² Ex. 1, § 7853.0230, p. 2.

Enbridge delivers crude oil to the Calumet Specialty Products Partners, L.P. refinery which serves Northern Wisconsin and Northern Minnesota.¹⁰³

6. Although Line 67 ends at Superior, Wisconsin, crude oil can be transported further on the Enbridge Mainline System.¹⁰⁴ The Enbridge pipeline network continues on from Superior, Wisconsin, traveling east across the Upper Peninsula of Michigan, or southeast across Wisconsin to various points near the wider Chicago refinery and pipeline hub, then on to Cushing, Oklahoma, and eventually reaching the largest heavy refinery center in the world, which is located along the Gulf Coast.¹⁰⁵
7. The United States portion of Enbridge's Line 67 Pipeline is an interstate common-carrier liquids pipeline subject to regulation by the Federal Energy Regulatory Commission ("FERC") under the Interstate Commerce Act ("ICA").¹⁰⁶ Common-carrier pipelines in interstate commerce provide non-discriminatory service to any shipper who requests transportation services, provided that products tendered for transportation satisfy the conditions and specifications contained in the applicable tariff.¹⁰⁷
8. As a common-carrier, Enbridge does not own the crude oil transported on Line 67 and only transports the crude oil to destinations specified by the shippers.¹⁰⁸
9. The ICA requires Enbridge to maintain tariffs on file with the FERC that set forth the rates charged for providing transportation services on its interstate common-carrier pipelines, as well as Enbridge's rules and regulations governing these services.¹⁰⁹
10. As part of Enbridge's mainline system, the rates charged for the transportation of crude oil from Western Canada are set pursuant to the Competitive Toll Settlement ("CTS"), an agreement that will be in effect until July 2021.¹¹⁰ The CTS sets a fixed international joint toll which is subject to adjustment for inflation and to agreement between Enbridge and shippers who would seek to have oil transported on the Enbridge system.¹¹¹ The CTS toll is charged for transportation of crude oil, including the transportation of heavy crude oil on Line 67, from Canada to the markets in the United States.¹¹²
11. Pending regulatory approval by the MPUC and other regulatory agencies, the Project is anticipated to be in service by July 1, 2015. The additional capacity will help relieve ongoing and increasing capacity constraints on Enbridge's heavy pipelines within its Mainline System and provide refineries with access to secure and reliable heavy crude oil supplies from western Canada.

¹⁰³ Ex. 1, § 7853.0230, p. 2.

¹⁰⁴ Ex. 1, § 7853.0230, p. 2.

¹⁰⁵ Ex. 1, § 7853.0230, p. 2.

¹⁰⁶ Ex. 1, § 7853.0230, p. 2.

¹⁰⁷ Ex. 1, § 7853.0230, p. 2.

¹⁰⁸ Ex. 1, § 7853.0230, p. 2.

¹⁰⁹ Ex. 1, § 7853.0230, p. 2.

¹¹⁰ See Ex. 106.

¹¹¹ See Ex. 106.

¹¹² See Ex. 106.

III. The record contains significant facts related to the specific criteria that the MPUC must evaluate.

Minnesota Statutes, Section 216B.243 governs certificates of need for large energy facilities, including crude oil pipelines. More specifically, Minnesota Rules Ch. 7853 governs the application process and sets out the showing that must be made for the Certificate of Need for the Project to be issued. The specific criteria for the issuance of a Certificate of Need are supplied by Minn. R. 7853.0130. The following sections provide an overview of the facts in the record, organized according to the major criteria in Minn. R. 7853.0130.

A. The probable result of denial of the Application 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.

1. Enbridge's forecasts accurately demonstrate demand for the project.

i. Enbridge accurately forecasted supply of and demand for the crude oil that will be transported by the Project.

12. The record contains numerous forecasts of heavy crude oil supply available for transportation through the Project, forecasts of capacity constraints for heavy crude oil on the Enbridge Mainline System, as well as significant information showing demand for the crude oil transportation capacity to be provided by Project.
13. Neil Earnest of Muse, Stancil & Co., an expert witness testifying on behalf of Enbridge, provided a detailed analysis of supply and demand for the Project ("Muse Report"). The Muse Report notes that the crude oil supply forecast is key for assessing the need for additional pipeline capacity, as this is the volume that must actually be transported to market.¹¹³
14. Multiple supply and demand forecasts from different sources were studied and included in the record. The Muse Report examined the Canadian Association of Petroleum Producers ("CAPP") supply forecast, the Canadian National Energy Board ("NEB") supply outlook, the Energy Resources Conservation Board ("ERCB") oil production outlook, and the U.S. Department of Energy's Energy Information Administration ("EIA") studies which forecasts the demand outlook.¹¹⁴ The Muse Report concludes that while the CAPP, NEB, ERCB and EIA forecasts differ in the details, they more broadly communicate the same message – the forward outlook for Western Canada is one of massive increases in heavy crude oil supply.¹¹⁵
15. Ms. Laura Otis from the Department testified regarding her review of the NEB data. She testified that the NEB expects Canadian heavy crude oil available for export to increase significantly, by 1.4 million bpd between 2012 and 2020.¹¹⁶ She testified that after

¹¹³ Ex. 7, p. 31.

¹¹⁴ Ex. 7 at 30.

¹¹⁵ Ex. 7 at 35.

¹¹⁶ Ex. 37 at 17.

accounting for the 120,000 bpd that Phase 1 is designed to accommodate, and a possible 730,000 bpd of the Keystone XL pipeline, there remains over 500,000 bpd of heavy crude production that would be available for other transport methods, such as the Project.¹¹⁷ As a result, Ms. Otis concludes that both the CAPP and NEB forecasts anticipate growth in Canadian heavy crude oil available for export to the U.S., and this is product that the Project can carry.¹¹⁸

16. There is also significant information in the record showing the growing demand for Canadian heavy crude oil and therefore the need for increased pipeline capacity to transport the heavy crude via this Project.
17. The Muse Report concludes that the primary disposition of the heavy crude oil transported by the Project is expected to be mostly the refineries in the Upper Midwest, including those in Minnesota, and the Gulf Coast.¹¹⁹ Once delivered, the heavy crude oil will be converted into refined products that are shipped to consumers in Minnesota, the Midwest, and elsewhere in the world.¹²⁰
18. The Muse Report concludes that U.S. refineries, including those in Minnesota, must have adequate and reliable access to crude oil to produce the refined products required by the Minnesota public. And, this Project better ensures that the refineries in Minnesota, in neighboring states, and neighboring regions have that access.¹²¹ The crude oil transported by the Project will be delivered to refineries in Minnesota, refineries in Minnesota's neighboring states, and refineries in neighboring regions. Due to the highly integrated refined product distribution system in the U.S., the refined product produced from the crude oil transported by the Project will be available to the Minnesota public from Minnesota refineries, refineries in neighboring states, and refineries in neighboring regions.¹²²
19. Mr. Earnest testified that while demand growth for the primary products manufactured by U.S. refineries is essentially flat, U.S. refineries have been steadily increasing their crude oil runs.¹²³ The situation in the Midwest is much the same.¹²⁴ Mr. Earnest concludes that the U.S. and Midwestern refiners do not require refined product demand growth to increase their crude oil runs or their crude oil processing capacity.¹²⁵ This is possible because of an increase in refined product exports on a national level.¹²⁶ From a global perspective, U.S. refiners are highly competitive due to their size, operational efficiency, and the comparatively low cost of energy in the U.S. relative to other global refining centers.¹²⁷

¹¹⁷ Ex. 37 at 17.

¹¹⁸ Ex. 37 at 17.

¹¹⁹ Ex. 7 at 3.

¹²⁰ Ex. 7 at 3.

¹²¹ Ex. 7 at 4.

¹²² Ex. 7 at 4.

¹²³ Ex. 15 at 28.

¹²⁴ Ex. 15 at 29.

¹²⁵ Ex. 15 at 30.

¹²⁶ Ex. 15 at 28.

¹²⁷ Ex. 15 at 28.

20. Further, Mr. Earnest testified that the evidence indicates that the recently completed BP Whiting and Marathon Detroit refinery upgrading projects, which are intended to increase the capacity to process heavy crude oil at these refineries, are not yet up to full speed.¹²⁸ With these increases in capacity, Canadian heavy crude oil runs in the Midwest can be expected to significantly increase over the course of 2014.¹²⁹ Accordingly, additional heavy crude oil will need to be transported to the Midwest.
21. Dr. Charles Cicchetti testimony supports Mr. Earnest's conclusion that there is demand for heavy crude oil. Dr. Cicchetti stated that Minnesota's consumer demand for refined products is not likely to increase sharply in the future.¹³⁰ On a per capita basis, it might decline, which means that future growth will likely come from population increases and an expanding economy.¹³¹ However, other parts of the world are expanding petroleum consumption.¹³² Therefore, new sources of crude and infrastructure to deliver crude efficiently and economically to refineries and ultimate end-users are necessary.¹³³ Major supply disruptions, or even the prospect of them, can often increase the price of the crude oil both in the short term and long term.¹³⁴ He concludes that without the Project, and the effective delivery of oil produced in Canada made possible by the Project, Minnesota becomes more at risk to the adverse effects of the global market place and geopolitical events.¹³⁵
22. MN350/Sierra Club also presented evidence indicating that refinery demand in Minnesota is likely to increase in the near future. According to testimony introduced by MN350/Sierra Club, the Flint Hills Resources refinery in Rosemount, Minnesota, will undertake an upgrade project to allow the refinery to operate "closer to its current design capacity of 320,000 bpd."¹³⁶
23. Mr. Earnest also testified that changes and enhancements to the pipeline network downstream of Line 67 will also increase the demand for crude oil shipments on the Enbridge Mainline System, which includes Line 67.¹³⁷ For example, the Flanagan South project involves the construction of a 36-inch pipeline from the Enbridge Flanagan terminal to Cushing, Oklahoma.¹³⁸ The Flanagan South pipeline is currently under construction and will have an initial capacity of 430,000 bpd, ramping up to 600,000 bpd by 2020.¹³⁹ The project is expected to be in-service in the third quarter of 2014.¹⁴⁰

¹²⁸ Ex. 15 at 10.

¹²⁹ Ex. 15 at 12.

¹³⁰ Ex. 19, p. 9.

¹³¹ Id.

¹³² Id.

¹³³ Id.

¹³⁴ Id. at 10.

¹³⁵ Id. at 11.

¹³⁶ Ex. 52, p. 13, lines 324-328.

¹³⁷ Ex. 15 at 13.

¹³⁸ Ex. 15 at 15.

¹³⁹ Ex. 15 at 15.

¹⁴⁰ Ex. 15 at 15.

24. At Cushing, the Flanagan South pipeline will connect to the Seaway Pipeline, which extends from Cushing to the Houston, Texas, area.¹⁴¹ The owners of the Seaway Pipeline are in the process of building a second line between Cushing and the Gulf Coast that will substantially increase the capacity of the Seaway system, and thus enable shipments made on the Flanagan South pipeline to reach the Gulf Coast.¹⁴² Mr Earnest testified that the only origination point for the Flanagan South pipeline is the Enbridge Mainline.¹⁴³ Thus, all barrels moving on Flanagan South must first be transported by the Enbridge Mainline.¹⁴⁴ In Mr. Earnest's opinion, the Flanagan South line will significantly increase the need for additional heavy crude oil transportation capacity on the Enbridge Mainline upstream of the Flanagan terminal delivery point.¹⁴⁵

ii. Demand for the increasing supply of Canadian heavy crude oil will exceed pipeline capacity, resulting in apportionment on the Enbridge Mainline System.

25. The primary need for the additional heavy crude oil transportation services to be provided through the Project is to avoid the problem created by pipeline capacity constraints between abundant production of heavy crude oil in Canada and increasing demand for that crude oil in the Midwest and beyond.

26. To use the Enbridge system, shippers nominate volumes for shipment on the Enbridge system.¹⁴⁶ A nomination is a request, from a shipper, to transport a specific volume and type of crude oil.¹⁴⁷ Nominations are made near the end of each month for transportation services for the following month. Enbridge takes the total volumes of a specific grade or type of crude oil that is nominated by all shippers and compares it to the available capacity for that grade or type of crude oil on the Mainline System. If the total nominated volume exceeds the available capacity of the system, Enbridge declares apportionment for the applicable month.¹⁴⁸

27. When Enbridge declares apportionment, every shipper that nominated those volumes for transportation on the Enbridge Mainline System receives reduced deliveries.¹⁴⁹ The total nominations are apportioned on a pro rata basis among all shippers that nominated volumes for transportation.¹⁵⁰ That means that less crude oil is delivered to the various delivery points on the Enbridge Mainline System that month. Enbridge cannot give a higher priority to a historical shipper, such as one that supplies the refineries in Minnesota with crude oil.¹⁵¹

¹⁴¹ Ex. 15 at 15.

¹⁴² Ex. 15 at 15-16.

¹⁴³ Ex. 15 at 17.

¹⁴⁴ Ex. 15 at 17.

¹⁴⁵ Ex. 15 at 17.

¹⁴⁶ Ex. 29, FERC No. 41.6.0, p. 8, ¶ 14(a).

¹⁴⁷ Ex. 1, § 7853.0240 D.2, p. 11; Evid. Transcript, Vol. 1., p. 87, lines 21-25; p. 89, lines 8-12.

¹⁴⁸ Ex. 29, FERC No. 41.6.0, p. 8, § 14(a).

¹⁴⁹ Evid. Transcript, Vol. 1, p. 185 lines 17-25, p. 186 lines 1-4; Ex. 29, FERC No. 41.6.0, p. 8, § 14(a).

¹⁵⁰ Ex. 29, p. 8, ¶ 14(a); Transcript, Evidentiary Hearing, April 8, 2014, p. 89, lines 8-12.

¹⁵¹ Evid. Transcript, Vol. 2, p. 38, lines 5-14.

28. Apportionment is declared for any given month around the 20th day of the preceding month, meaning that shippers find out about apportionment only a short time in advance.¹⁵²
29. Enbridge has two pipelines in Minnesota that are currently dedicated to heavy crude oil service. Those are Lines 4 and 67. Enbridge aggregates the capacity of these two pipelines for purposes of nominations and calculating apportionment.¹⁵³ Currently, the total permitted capacity of Lines 4 and 67 is 1,596,000 bpd.¹⁵⁴ The formula for calculating the percentage of apportionment is (Nominations – Available Capacity)/Nominations.¹⁵⁵
30. When apportionment is declared, a refinery or shipper sending oil to a refinery must choose to purchase or ship a different grade of crude oil if it can be processed by that refinery, accept a lower than desired amount of crude oil, or supplement its pipeline shipments with crude oil received through another source, such as rail transportation.¹⁵⁶
31. To minimize the need to call apportionment, Enbridge recently introduced a step requiring the receiving facility (refinery, connecting carrier, or tank operator) to certify their capacity and ability to receive crude nominated to them. This is called downstream verification and is set forth in Enbridge's tariff, FERC No. 41.6. The purpose of both upstream and downstream verification is to ensure, as an initial matter, that the nominations that are submitted are valid. In other words, that there is sufficient supply in the shipper's name at the receipt point to meet the nominated volume and that there is sufficient capacity at the delivery point to receive the nominated volume.¹⁵⁷
32. Enbridge also imposes a non-performance penalty which is charged when apportionment has been imposed, consisting of a penalty applied to the shortfall in volume if the volume tendered is less than 95% of the volume allocated to that shipper. This is intended to encourage the shippers to tender the volumes they were allocated and not leave capacity unused.¹⁵⁸
33. Apportionment has been called on Line 67 in five out of the last 24 months (including three of the five most recent months).¹⁵⁹ Apportionment can occur during individual months, even if a pipeline such as Line 67 is not full every month of the year, because refinery demand is not static and consistent from one month to the next.¹⁶⁰
34. Without the Project, heavy crude oil transported on the Enbridge system will be apportioned. When that happens, refineries served by the Enbridge Mainline System, which includes Line 67, would be forced to satisfy their unfulfilled heavy crude oil needs by using truck or rail

¹⁵² Ex. 1, § 7853.0240 D.2, p. 11; Transcript, Evidentiary Hearing, April 8, 2014, p. 105, lines 9-11.

¹⁵³ Evid. Transcript, Vol. 1., p. 186, lines 5-15.

¹⁵⁴ Ex. 15, p. 6, Lines 102 to 104.

¹⁵⁵ Ex. 15, p. 6.

¹⁵⁶ Ex. 15, lines 442-446.

¹⁵⁷ Ex. 29, FERC No. 41.6.0, p. 4, § 6(c).

¹⁵⁸ Ex. 29, FERC No. 41.6.0, p. 8, § 14(c).

¹⁵⁹ Ex. 15, p. 4, lines 65-67; *See also* Ex. 13, Exhibit F, Enbridge Response to Department IR21B, Attachment 21B, Schedule 1.

¹⁶⁰ Evid. Transcript, Vol. 1, p. 120, lines 23-25; p. 121-122.

transportation, both of which are more costly and have greater environmental and social disadvantages.¹⁶¹ Refineries in Minnesota do not have access to any pipeline alternative to the Enbridge Mainline System to receive their heavy crude oil supplies.¹⁶²

35. Evidence submitted by Enbridge, and unchallenged by any other party, demonstrated that the Enbridge Mainline System will enter into ever-increasing levels of apportionment in the very near future without construction of the Project. Increasing apportionment of heavy crude oil capacity on the Enbridge Mainline System is still predicted in the future even if the Project is constructed, but the onset of apportionment will occur at a later date.¹⁶³

iii. The forecasted apportionment will adversely affect the adequacy, reliability, and efficiency of energy supply to Enbridge's customers, the people of Minnesota, and the people of neighboring states.

36. The capacity added by the Project reduces the probability that, due to apportionment, Minnesota refineries will experience crude oil supply shortfalls, with the corresponding reduction in local refined product supply, and lessens the impact of apportionment should it occur.¹⁶⁴ Thus, the Project will ensure that demand is better met.
37. Mr. Earnest gave an illustrative apportionment example based on a likely set of circumstances.¹⁶⁵ In the example, the Enbridge Mainline is transporting 1,246,000 bpd, Midwestern and Eastern Canadian refinery heavy crude oil demand increases by 250,000 bpd, and heavy crude oil shipments on the Flanagan South pipeline are 75% of its capacity.¹⁶⁶ Under this scenario, the apportionment level on the Enbridge Mainline heavy crude oil pipelines, post-completion of Line 67 Phase 1 would be 25.9%.¹⁶⁷ Once the Flanagan South pipeline is expanded to 600 kb/d, the apportionment goes to 29.8%.¹⁶⁸ This means that the Minnesota refineries would no longer be able to get all of the heavy crude oil that they are processing today via the Enbridge Mainline.¹⁶⁹ A 25.9% apportionment amounts to a reduction of heavy crude oil deliveries of 62,000 bpd, and a 29.8% apportionment amounts to a reduction of 75,000 bpd.¹⁷⁰ However, with the Project, under the above described scenario, the apportionment drops to 12.3% at the Flanagan South capacity of 430,000 bpd, and to 18.0% at 600,000 bpd.¹⁷¹ This means that the Project will reduce the decrease in deliveries to Minnesota refineries by almost 50 percent to 31,000 bpd and 45,000 bpd, respectively.¹⁷²

¹⁶¹ Ex. 15, lines 442-446; Ex. 37, p. 7-8.

¹⁶² Evid. Transcript, Vol. 1, p. 97, lines 5-25.

¹⁶³ Ex. 14, Enbridge Revised Response to Department of Commerce Information Request 21A, TRADE SECRET VERSION.

¹⁶⁴ Ex. 15 at 23.

¹⁶⁵ Ex. 15 at 19.

¹⁶⁶ Id.

¹⁶⁷ Id.

¹⁶⁸ Id.

¹⁶⁹ Id.

¹⁷⁰ Id.

¹⁷¹ Id.

¹⁷² Id.

38. These levels of apportionment would have significant costs to refineries, including those in Minnesota. At 24.1% apportionment, which is less than the 25.9% predicted by Enbridge under the scenario presented above, Minnesota refineries could face cost increases of \$70 million per year if they used rail transportation to make up apportionment of heavy crude oil supplies on the Enbridge Mainline System.¹⁷³
39. The Department’s witness, Ms. Laura Otis testified that “absent the Phase 2 expansion, Enbridge would be forced to apportion shippers on its heavy crude oil lines, including Line 67. Historical shippers, such as Minnesota refineries, would not receive higher priority than new shippers and under apportionment on Line 67 would lose a portion of their current capacity.”¹⁷⁴
40. Crude oil producers and refiners both believe the Project is needed. On the supply side, CAPP supports the project, and CAPP represents companies that produce about 90% of Canada’s natural gas and crude oil.¹⁷⁵ And, on the demand side, the AEO 2014 Early Release shows that the United States will continue to import a significant percentage of the crude oil needed by refineries that need to import that crude oil.¹⁷⁶ Shippers and refiners, including the CAPP, United Refining Company, BP Products North American, Inc., and Flint Hills Resources support the Project, and letters of support for the Project are in the record.¹⁷⁷
41. Of note, BP Products North American, Inc. and Flint Hills Resources operate refineries that serve the Midwest. In its letter of support, BP Products North American, Inc. states that “[i]f additional capacity on Alberta Clipper (Line 67) is not made available, we may be faced with undue and unnecessary risks tied to potential capacity apportionment and/or operational/supply disruptions, both of which would have a negative impact on our operations.”¹⁷⁸ Likewise, Flint Hills Resources states that “[w]ithout the Alberta Clipper upgrade, Flint Hills Resources may not be able to acquire all of the crude oil it needs to meet customer demands.”¹⁷⁹

2. Conservation programs will not eliminate demand for petroleum products made from the crude oil to be transported by the Project.

42. Enbridge does not have a conservation program that impacts demand for petroleum products. Enbridge does diligently work to conserve the resources used to operate the Enbridge Mainline System.

¹⁷³ Ex. 15, p. 22, Table 1.

¹⁷⁴ Evid. Trans., Vol 2, p. 43.

¹⁷⁵ Ex. 13 at 6 and Attachment A.

¹⁷⁶ Ex. 13 at 6 and Attachment A.

¹⁷⁷ Ex. 13 at Attachment B.

¹⁷⁸ Id.

¹⁷⁹ Id.

43. As noted in the above discussion regarding supply and demand, even if consumer demand is stagnant, there are still compelling reasons for increased demand for the product shipped through Line 67. There is a global market for crude oil, and other parts of the world are expanding petroleum consumption. There is no indication that state or federal conservation programs, however beneficial, will reduce or eliminate the need for the Project. A recent report from the EIA, the Annual Energy Outlook 2014 Early Release (“AEO 2014 Early Release”) that takes all known federal regulatory efforts to increase energy efficiency into account, notes that “[t]otal U.S. consumption of petroleum and other liquids, which was 35.9 quadrillion Btu (18.5 MMbbl/d) in 2012, increases to 36.9 quadrillion Btu (19.5 MMbbl/d) in 2018, then declines to 35.4 quadrillion Btu (18.7 MMbbl/d) in 2034 and remains at that level through 2040.”¹⁸⁰
44. At the same time, the AEO 2014 Early Release notes that the United States will require significant petroleum imports for the foreseeable future, despite increasing domestic production.¹⁸¹ The United States will be required to import 25% of all petroleum needs in 2016, and about 32% in 2040.¹⁸² The Project will allow the United States, including Minnesota, to better meet that need with petroleum from a secure, reliable source.
45. Dr. Cicchetti testified regarding demand-side management (i.e. conservation) at the evidentiary hearing. Dr. Cicchetti noted that the countries of the world where great demand growth is coming from are more interested in expanding their economies than conservation.¹⁸³ Expanding world population is driving environmental and energy concerns, and that these concerns cannot be solved by the countries that are already doing things to improve efficiency.¹⁸⁴
46. Dr. Cicchetti also testified regarding renewable energy sources. He testified that renewables are often displacing coal, and some natural gas, but they are less likely to displace liquid fuels, such as petroleum.¹⁸⁵

3. No promotional activities conducted by Enbridge have contributed to the need for the Project.

47. Enbridge has not undertaken promotional activities that would increase demand for crude oil supplies to Minnesota or the surrounding region.¹⁸⁶ Demand for refined petroleum products, and therefore for the oil transported on the Enbridge Mainline System, is driven by external factors.¹⁸⁷ Crude oil is in demand because it can be refined into various products, including but not limited to gasoline, diesel fuel, aviation fuel, heating oil, and asphalt.

¹⁸⁰ Ex. 13 at 3.

¹⁸¹ Ex. 13 at 3.

¹⁸² Ex. 13 at 3.

¹⁸³ Evid. Transcript, Vol. 2 , pp. 239-240.

¹⁸⁴ Evid. Transcript, Vol. 2 , pp. 239-240

¹⁸⁵ Evid. Transcript, Vol. 2 , p. 241.

¹⁸⁶ Ex. 1, § 7853.0250 at 4.

¹⁸⁷ Ex. 1, § 7853.0250 at 4.

48. As a common carrier, Enbridge reacts to shipper demand. Enbridge cannot create demand for crude oil, and has not undertaken activities that have promoted increased demand for refined petroleum products nor the crude oil used by refineries to meet public energy needs.¹⁸⁸
49. Shippers on the Enbridge system have requested that Enbridge expand its pipeline system in response to anticipated growth in both production and market demand.¹⁸⁹

4. Current facilities and planned facilities that do not require certificates of need cannot meet the future demand.

50. Current facilities do not meet the current or future demand discussed above. This is evidenced by the fact that in three of the last five months there has been apportionment for heavy crude oil on Enbridge's system,¹⁹⁰ which means that currently the pipelines are full during peak demand months, and shippers are not getting all of the heavy crude that they have nominated for shipment.¹⁹¹
51. Evidence submitted by Enbridge, and unchallenged by any other party, demonstrated that the Enbridge Mainline System will enter into ever-increasing levels of apportionment in the very near future without construction of the Project. Increasing apportionment of heavy crude oil capacity on the Enbridge Mainline System is still predicted in the future even if the Project is constructed, but the onset of apportionment will occur at a later date.¹⁹²
52. MN350/Sierra Club argued that Enbridge has sufficient capacity on existing pipelines to move an additional 230,000 bpd of heavy crude oil.¹⁹³ This evidence, however, was not convincing. This alternative was advanced by MN350/Sierra Club witness Mary Ellen Denomy. It was Ms. Denomy's claim that "for operational reasons Enbridge chooses to dedicate certain pipelines to particular types of crude oil, but this does not mean that each of its pipelines is physically capable of shipping only a single type of crude oil."¹⁹⁴ Ms. Denomy later testified that "Enbridge may avoid constraints on any one of its pipelines by shifting capacity to other pipelines. As such, the Mainline System as a whole should not be considered apportioned when Enbridge voluntarily chooses to fully utilize a single pipeline while leaving substantial unutilized capacity on other pipelines."¹⁹⁵
53. Ms. Denomy, however, is not an engineer, but is an accountant, and uncontroverted evidence in the record demonstrates that Ms. Denomy is incorrect. Enbridge cannot simply place heavy crude oil into a pipeline that normally carries light crude oil or refined products.

¹⁸⁸ Ex. 1, § 7853.0250 at 4.

¹⁸⁹ Ex. 1, § 7853.0250 at 4.

¹⁹⁰ See Ex. 13, Exhibit F, Enbridge Response to Department of Commerce IR21B, Attachment 21B, Schedule 1.

¹⁹¹ Ex. 7 at 4.

¹⁹² Ex. 14, Enbridge Revised Response to Department of Commerce Information Request 21A, TRADE SECRET VERSION.

¹⁹³ Evid. Transcript, Vol. 3, p. 59, lines 7-11.

¹⁹⁴ Ex. 53, p. 3, lines 60-62.

¹⁹⁵ Ex. 54, p. 3, lines 52-55.

Testimony from Neil Earnest and Jeff Jurgens, both engineers, contradicted Ms. Denomy's testimony.

54. According to Mr. Earnest, pipelines can physically transport more light crude oil than heavy crude oil. As a result, one cannot simply assume that a pipeline carrying light crude oil will have the same capacity when heavy crude oil is added.¹⁹⁶
55. Mr. Jurgens, an engineer employed with Enbridge, held a position at Enbridge that involved hydraulic modeling of Enbridge's pipelines.¹⁹⁷ Mr. Jurgens testified that adding heavy crude oil to a pipeline designed to carry light crude oil would reduce the capacity of that line.¹⁹⁸ Mr. Earnest concurred indicating that the precise reduction in pipeline throughput is influenced by the hydraulic design of the pipeline.¹⁹⁹
56. Contrary to Ms. Denomy's testimony, Enbridge cannot simply add heavy crude oil to pipelines that carry light crude oil, or change a light crude oil line to heavy crude oil service. Pipelines are designed to optimally transport specific types of crude oil through the pipeline diameter, pump station location, and other design specifications.²⁰⁰ The current design of the Enbridge system is also optimized for the current receipt and delivery points for light and heavy crude oil.²⁰¹ Switching Enbridge pipelines that currently carry light crude oil over to heavy crude oil would reduce their effective capacity.²⁰² Additional pump stations would need to be constructed to avoid a loss in capacity caused by changing the pipelines from light crude oil service to heavy crude oil service.²⁰³ Enbridge may require a certificate of need for such a project.²⁰⁴
57. Ms. Denomy, however, did not take any reductions in capacity into account when she asserted that Enbridge could simply add heavy crude oil to pipelines that carry light crude oil in order to meet the growing demand without building a new pipeline.²⁰⁵ Nor did she account for losses to operational efficiency caused by changing the slate of crude oil in a pipeline from that for which the pipeline was designed.²⁰⁶
58. Further, Ms. Denomy did not address the oil quality degradation that would occur if Enbridge were to inject heavy crude into a light line. As Mr. Earnest points out, shipping heavy crude oil in a light crude oil pipeline will result in a degradation of the quality of the light oil.²⁰⁷ Further, Enbridge provided information on the problems caused by and potential for quality

¹⁹⁶ Ex. 15, lines 685-689.

¹⁹⁷ Ex. 23, p. 2, lines 6-11.

¹⁹⁸ Ex. 23, p. 3-4, lines 44-55.

¹⁹⁹ Ex. 21, p. 3, lines 27-31.

²⁰⁰ Ex. 15, p. 33, lines 691-693.

²⁰¹ Ex. 23, p. 3, lines 39-43.

²⁰² Ex. 15, p. 33-34.

²⁰³ Ex. 23, p. 3-4, lines 44-62.

²⁰⁴ Ex. 23, p. 4, lines 56-62.

²⁰⁵ Evid. Transcript, Vol. 3, p. 62, lines 5-10.

²⁰⁶ Evid. Transcript, Vol. 3, p. 62, lines 11-17.

²⁰⁷ Ex. 21, p. 3, lines 21-31.

degradation.²⁰⁸ In contrast to the uncontroverted evidence provided by Enbridge, Ms. Denomy summarily claimed that refineries could deal with any degradation to light crude oil caused by batching light and heavy crude oil in the same pipeline, but she has no expertise or experience in that area.²⁰⁹

59. In contrast, Mr. Earnest, who has engineering experience with refinery operations, provided evidence that, as a general rule, refineries that are designed to process heavy crude oil have a rather limited capability to process light crude oil. This is because crude oil distillation units designed to process heavy crude oil would have a number of issues processing light crude oil, including inadequate crude tower overhead condenser capacity; inadequate crude unit furnace duty; hydraulic and heat exchanger duty limitations in the crude unit pre-heat train; and a misfit between crude column diameter and tray capabilities and liquid-vapor traffic. Further, Mr. Earnest points out that to the extent a refinery would be able to address all of the issues he has identified, the result would be that processing light crude oil would result in the under-utilization of the refinery heavy oil conversion units.²¹⁰
60. In addition to engineering constraints, attempting to ship different grades of oil in the same pipeline presents qualitative problems in the form of the interface contamination of the product delivered.²¹¹ Refineries designed to process light sweet crude oil are not designed to process any appreciable amount of heavy sour crude oil from Canada. If a refiner of light sweet crude were to start receiving crude oil that had a significant level of contamination, such as increased sulfur content, they would have difficulty producing on-spec finished product, particularly jet fuel.²¹² Refiners expect to receive crude oil with the same qualities it had at the point of purchase, without contamination, from the pipeline.²¹³
61. Enbridge must also negotiate changes to its tolls, or charges to ship crude oil, with its shippers.²¹⁴ Enbridge's shippers, represented by CAPP, agreed that the capacity of Line 67 should be expanded to 800,000 bpd in order to have an incremental 230,000 bpd of heavy crude oil capacity available to the market. These shippers also have agreed that Enbridge can recover the cost of the project through tariffs filed with the FERC.²¹⁵
62. Enbridge's shippers are sophisticated commercial parties, and would be unwilling to pay for construction of the Project through increased tolls if Enbridge was capable of increasing heavy crude oil transportation capacity without investing in new infrastructure.²¹⁶

²⁰⁸ Ex. 54, p. 3-4, lines 74-95 (quoting Attachment MED-33, which is Enbridge's Response to MN350/Sierra Club Information Request 3.c; Ex. 23, Exhibit A.6, Response to MN350/Sierra Club Information Request 3.d; Ex. 24, Enbridge Response to MN350/Sierra Club Information Request 3.k.

²⁰⁹ Evid. Transcript, Vol. 3, p. 62, lines 22-25, p. 63, lines 1-17.

²¹⁰ Ex. 21, p. 4, lines 47-63.

²¹¹ Evid. Transcript, Vol. 1, p. 107.

²¹² Evid. Transcript, Vol. 1, p. 108.

²¹³ Evid. Transcript, Vol. 1, p. 106.

²¹⁴ Ex. 8, p. 5, lines 114-119.

²¹⁵ Ex. 8, Exhibit A, Schedule 1.

²¹⁶ Evid. Transcript, Vol. 1, p. 137, lines 5-25, p. 26, line 1.

63. Any new pipeline or expansion project, such as this Project, would require a Certificate of Need. Therefore, there are no existing or planned facilities that can meet the future demand without a Certificate of Need.²¹⁷
64. The Project is the most efficient method to meet Enbridge's goal of creating capacity to meet shipper demand for additional heavy crude oil transportation.²¹⁸

5. The Project is energy efficient and environmentally conscious, and will therefore make efficient use of resources.

65. Enbridge has carefully designed the Project to make efficient use of resources. Enbridge works to minimize power/energy unit costs, through internal programs directed at continuous improvement of energy utilization efficiency as described in greater detail below.
66. Enbridge has an Energy Management Department that is responsible for negotiating contracts and allocating power to assure economical and efficient use of power for Line 67.²¹⁹ Enbridge continuously reviews and tracks firm and non-firm power requirements, and works closely with electrical utilities in planning for transmission and generation needs.²²⁰
67. Variable frequency induction motor drives ("VFDs") have been installed through an Enbridge program that has been in place for approximately 20 years, and will be used as part of the Project.²²¹ VFDs allow the pipeline operator to vary the pump rotation speed thereby controlling the pressure produced to match the desired flow rate in the pipeline.²²² This eliminates the need to dissipate or waste pressure (energy) with pressure control valves.²²³
68. Enbridge pipeline control operators are trained in applied hydraulics and pipeline control through the use of a computerized pipeline control simulation system.²²⁴ They are trained to operate the pipeline at an optimum flow rate using the most efficient combinations of pumps, thereby minimizing energy consumption.²²⁵ Operators have the capability to start and stop pumps and monitor pipeline operating conditions to maximize energy efficient operations.²²⁶
69. Enbridge's conservation and resource preservation efforts go beyond energy cost control for its pipeline network. Enbridge recognizes that climate change is occurring.²²⁷ Enbridge has set a voluntary goal to work toward a neutral footprint for new projects.²²⁸ This means that

²¹⁷ Note that the proposed Sandpiper project will carry light crude from North Dakota, not heavy crude oil.

²¹⁸ Ex. 1,3 p. 4.

²¹⁹ Ex. 1; § 7853.0260 at 1.

²²⁰ Id.

²²¹ Id.

²²² Id.

²²³ Id.

²²⁴ Id.at 2.

²²⁵ Id.

²²⁶ Id.

²²⁷ Evid. Transcript, Vol. 1, p. 162, lines 4-7.

²²⁸ Ex. 1; § 7853.0260, p. 2.

as Enbridge expands operations, it will attempt to limit its environmental footprint to 2009 levels.²²⁹ Enbridge intends to achieve this by conserving an acre for every acre of natural habitat impacted, planting a tree for every tree that must be removed to build new facilities, and generating a kilowatt-hour of renewable energy for every kilowatt-hour of energy consumed in pipeline operations.²³⁰

70. Enbridge is currently the second largest wind energy generator in Canada and is continuing to grow its fleet of renewable energy projects.²³¹ Enbridge's renewable energy interests include 1,573 megawatts (“MW”) of renewable and alternative energy generating capacity. Enbridge’s renewable energy portfolio includes investments in wind farms (1,400 MW), solar energy operations (150 MW), and a geothermal facility (23 MW).²³²
71. Enbridge’s conservation efforts will not always take place in the right-of-way or impacted area for new projects.²³³ For example, Enbridge recently provided financial support to help the Wisconsin Department of Natural Resources, The Lyme Timber Company and The Conservation Fund secure a unique working forest conservation easement that protects 44,618 acres of the Brule-St. Croix Legacy Forest.²³⁴ This effort is part of the ongoing commitment through the Enbridge Neutral Footprint Fund to conserve significant forest, wetland and native prairie habitats.²³⁵
72. Enbridge’s major accomplishments in energy efficiency or conservation in the past five years include the programs described above and:
- 594,895 Trees Removed for New Projects, but
 - 588,380 Trees Planted²³⁶

 - 1,721 Acres of Natural Habitat Disturbed, but
 - 50,268 Acres of Natural Habitat Conserved²³⁷

 - 2,668 GWh of forecast consumption through 2015, but
 - 3,371 GWh of forecast generation from renewables.²³⁸

²²⁹ Id.

²³⁰ Id.

²³¹ Id.

²³² Id.

²³³ Id.

²³⁴ Id.

²³⁵ Id.

²³⁶ Id. at 3. Enbridge continues to work toward achieving its goal of achieving a neutral footprint with respect to tree planting.

²³⁷ Id.

²³⁸ Id.

73. Additional achievements in the United States include Enbridge, as 100% owner, bringing the following power plants online: Cedar Point Wind Farm, a 250 MW facility located in Limon, Colorado that was commissioned in Q4, 2011 and Silver State Solar Power North, a 50 MW facility located in Primm, Nevada that was commissioned in Q2, 2012.²³⁹
74. The Project is the most efficient method to meet Enbridge's goal of creating capacity to meet shipper demand for additional heavy crude oil transportation.²⁴⁰ In fact, Line 67 was designed and constructed to facilitate the upgrade represented by the Project with minimal impact to the human and natural environment.²⁴¹ By installing a larger pipe than was required at the time Line 67 was constructed, Enbridge facilitated this upgrade to existing infrastructure instead of constructing an entire new pipeline.²⁴²
75. The Project represents the most efficient method to create this capacity, as it is not possible to increase the capacity of the pipeline through improved operational efficiency.²⁴³

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

76. Although MN350/Sierra Club argued in favor of the no action, Keystone XL, and rail transportation alternatives, no reasonable or prudent alternatives were established by any other person or party in this proceeding. An expansion through the addition of horsepower at existing stations is an efficient and economical way to increase the capacity of Line 67, a line that was designed for such an expansion.²⁴⁴ The following sections discuss the alternatives that were reviewed in the Application or in the hearing process.

1. The no action alternative.

77. Shippers that use the Enbridge Mainline System have supported the need to expand the Line 67 capacity from the current 570,000 bpd to the annual design capacity of 800,000 bpd.²⁴⁵ Enbridge predicts that Line 67 will reach its current permitted capacity of 570,000 bpd on an annual basis by mid-2014.²⁴⁶ Volumes nominated for shipment past that date, however, will continue to increase.²⁴⁷
78. Adoption of the "no action alternative" by denying the Application would mean that Enbridge's pipelines that carry heavy crude oil would continue to be in apporportionment,

²³⁹ Id.

²⁴⁰ Ex. 13 at 4.

²⁴¹ Id.

²⁴² Id.

²⁴³ Id.

²⁴⁴ Ex. 1, § 7853.0540, p. 2.

²⁴⁵ Id. at 1; Ex. 8, Exhibit A, Schedule 1.

²⁴⁶ Ex. 4, p. 3.

²⁴⁷ Id.

meaning that shippers on the Enbridge system would not be able to move the volumes of heavy crude oil that they nominate for shipment by pipeline.²⁴⁸

79. When apportionment is declared, a refinery or shipper sending oil to a refinery must choose to purchase a different grade of crude oil if it can be processed by that refinery, accept a lower than desired amount of crude oil, or supplement its pipeline shipments with crude oil received through another source, such as rail transportation.²⁴⁹ Minnesota refineries could face cost increases of \$70 million per year if they used rail transportation to make up for 24.1% apportionment of heavy crude oil supplies on the Enbridge Mainline System.²⁵⁰
80. Evidence submitted by Enbridge, and unchallenged by any other party, demonstrated that the Enbridge Mainline System will enter into ever-increasing levels of apportionment in the very near future without construction of the Project. Increasing apportionment of heavy crude oil capacity on the Enbridge Mainline System is still predicted in the future even if the Project is constructed, but the onset of apportionment will occur at a later date.²⁵¹
81. Enbridge has shown that Enbridge, the shippers, and residents of Minnesota and neighboring states would all be negatively impacted without the capacity expansion afforded by this project. This conclusion is supported by Department witness Laura Otis.²⁵²
82. As the Department's expert, Laura Otis, concluded, the denial of the requested expansion would have a negative effect on the adequacy, reliability, or efficiency of crude oil supplies to the people of Minnesota and neighboring states.²⁵³ The denial of the Project would reduce existing levels of supplies, due to apportionment.²⁵⁴
83. Accordingly, no party has demonstrated by a preponderance of the evidence on the record that the no action alternative is reasonable or prudent. Rather, the entire record, taken as a whole, demonstrates the opposite.

2. Trucking.

84. There is insufficient tanker trailer truck capacity to transport the annual capacity of 230,000 barrels of crude oil per day that would be moved by the Project.²⁵⁵ Trucking is generally only used for crude oil that is produced close to the refinery, as trucking is the most expensive transportation mode for long distances.²⁵⁶

²⁴⁸ Ex. 1, § 7853.0240 D.2, p. 11.

²⁴⁹ Ex. 15, lines 442-446.

²⁵⁰ Ex. 15, p. 22, Table 1.

²⁵¹ Ex. 14, Enbridge Revised Response to Department Information Request 21A, TRADE SECRET VERSION.

²⁵² Ex. 37, p. 25, lines 1-9.

²⁵³ Ex. 37, p. 7.

²⁵⁴ Ex. 15, p. 7.

²⁵⁵ Ex. 1, § 7853.0540, p. 3.

²⁵⁶ Ex. 6, p. 11.

85. A trucking alternative would significantly overburden current public road capacity and is cost prohibitive. Moving 230,000 bpd of oil by truck would require 8,280 trucks.²⁵⁷ More than 2,300 would cross the international border every day, and would then follow the public roads in Minnesota between the border and Superior, Wisconsin.²⁵⁸
86. The trucking alternative would be vastly more expensive than the Project. The initial capital investment would be \$2,387,372,400 for just the fleet of trucks and drivers in the first year of operation. That is 15 times the cost of the Project. The truck fleet would need to be replaced at least four times over the life of the Project, at a cost of \$1,656,000,000 each time.²⁵⁹
87. Pipelines are a more reliable method to transport crude oil than trucks.²⁶⁰
88. As the Department's expert, Laura Otis, concluded, trucking, like all other alternatives, should be rejected because it is not a reasonable or prudent alternative to this Project.²⁶¹
89. No party advanced trucking as a reasonable alternative to the Project.
90. Accordingly, no party has demonstrated by a preponderance of the evidence on the record that the trucking alternative is reasonable or prudent. Rather, the record demonstrates the opposite.

3. Rail Transportation.

91. Transportation of crude oil by rail was also considered in the Application and in the evidentiary hearing process.
92. Economics greatly favor pipeline transport versus rail.²⁶² For example, on Canadian National the rate per car between Edmonton, Alberta and Chicago is US\$6,108 per car, plus a fuel surcharge of US\$507 per car.²⁶³ A tank car holds approximately 585 barrels of heavy crude oil, which translates to a rail transportation cost of US\$11.31 per barrel.²⁶⁴ On Canadian Pacific the rate per car between Edmonton, Alberta and Chicago is US\$5,249 per car, plus a fuel surcharge of US\$607 per car.²⁶⁵ The resultant rail transportation costs would be US\$10.01 per barrel.²⁶⁶ The current Enbridge mainline toll between Edmonton and Chicago is US\$4.31 per barrel.²⁶⁷ The advantage of moving oil by pipeline amounts to \$5.70 to \$7.00 per barrel.

²⁵⁷ Ex. 1, § 7853.0540, p. 4.

²⁵⁸ Id.; Ex. 13, p. 9.

²⁵⁹ Ex. 1, § 7853.0540, p. 5.

²⁶⁰ Ex. 1, § 7853.0540, p. 3-4.

²⁶¹ Ex. 35, p. 39.

²⁶² Ex. 16, Attachment C.

²⁶³ Id.

²⁶⁴ Ex. 16, Attachment C.

²⁶⁵ Ex. 16, Attachment C.

²⁶⁶ Ex. 16, Attachment C.

²⁶⁷ Ex. 16, Attachment C.

93. With a rail alternative, rail car loading and unloading facilities would be required, and new lateral rail service lines would need to be constructed.²⁶⁸ There is no estimate in the record for the time required to construct the facilities or rail lines, but rail tank cars are currently back-ordered for 15-18 months.²⁶⁹ The in-service date of the rail alternative would be far later than that of the Project.²⁷⁰
94. Social costs, such as increased rail traffic and noise also weigh in favor of pipeline as a preferred transportation method.
95. Trains, like trucks, are a less reliable method of transporting crude oil than pipelines.²⁷¹
96. MN350/Sierra Club argued in favor of rail transportation, but MN350/Sierra Club witness Mary Ellen Denomy later stated that rail is an alternate method of transportation that should be considered, not an alternative to the Project, meaning that rail transportation can serve locations that are not served by pipelines.²⁷² Accordingly, no party advocated in favor of transporting an additional 230,000 bpd of crude oil by rail as an alternative to the Project.
97. While MN 350 and Sierra Club submitted evidence that rail could be used to transport crude oil, their testimony did not provide evidence on the size, type and timing of the proposed rail alternative as compared to installing additional pump facilities at or adjacent to existing pump stations. Nor did they provide evidence regarding the cost of the rail alternative and the cost of the energy to be supplied by the rail alternative. Nor did they provide evidence regarding the proposed rail alternative upon the natural and socioeconomic environments.²⁷³
98. The record, however, demonstrates that use of rail traffic to transport 230,000 bpd of crude oil would require moving 786 rail cars per day through Minnesota (393 loaded cars and 393 empty cars returning to loading facilities).²⁷⁴ This would increase train traffic, depending on the route taken and carrier used, by anywhere from 10% to 90% on different rail segments.²⁷⁵ As a result, rail service in Minnesota would see significant impacts to their level of service.²⁷⁶ Dealing with the impacts caused by increased rail traffic would require significant capital investments.²⁷⁷
99. The Minnesota Comprehensive Statewide Freight and Passenger Rail Plan, Final Report, is a document prepared by the Minnesota Department of Transportation in 2010.²⁷⁸ Based on

²⁶⁸ Ex. 1, § 78563.0540 at 6.

²⁶⁹ Ex. 1, § 78563.0540 at 6.

²⁷⁰ Ex. 13 at 9.

²⁷¹ Ex. 1, § 7853.0540, p. 5-6.

²⁷² Evid. Transcript, Vol. 3, p. 115, lines 18-23, p. 116, lines 1-22.

²⁷³ Evid. Transcript, Vol. 3, p. 72, lines 15-25; p. 73, lines 1-9.

²⁷⁴ Ex. 20, p. 19.

²⁷⁵ Ex. 20, p. 20.

²⁷⁶ Ex. 20, p. 22.

²⁷⁷ Ex. 20, p. 22-23.

²⁷⁸ Ex. 20, p. 16, note 16.

information from that document, use of the rail alternative would place additional trains on rail lines that are either at capacity today, or are approaching capacity.²⁷⁹

100. Rail capacity for passenger train service would also be negatively impacted by selection of rail over the Project, as detailed in the evidence presented by William Rennie.²⁸⁰

101. Also of significance, increased rail traffic could impact other rail-dependent sectors of the Minnesota economy, such as the ability of agricultural producers or mines to move commodities to markets.²⁸¹

102. As the Department concluded, rail is not a reasonable or prudent alternative to this Project.²⁸² Crude oil shippers would not choose to use rail if a pipeline alternative is available.²⁸³

103. Accordingly, no party has demonstrated by a preponderance of the evidence on the record that the rail alternative is reasonable or prudent.

4. Pipeline system alternatives.

104. Enbridge does not propose to install a new pipeline. Therefore, no alternative pipeline route was analyzed as part of the proceeding. Instead, Enbridge proposes to increase its pipeline capacity through added pumping horsepower to optimize the existing pipeline infrastructure in the most efficient and cost effective manner.²⁸⁴

105. No party advanced installation of a new pipeline in Minnesota as an alternative to the Project.

106. The Keystone XL Pipeline is a planned pipeline project with an initial capacity of 700,000 bpd at its origin.²⁸⁵ MN350/Sierra Club testified about the impact of the proposed Keystone XL Pipeline on the need for the Project, claiming that construction of the Keystone XL Pipeline would result in construction of pipeline capacity from Western Canada that would far exceed demand for such capacity.²⁸⁶ MN350/Sierra Club also asserted that construction of the Keystone XL Pipeline would eliminate the need for the Project until 2022 or later.²⁸⁷

107. Evidence in the record does not support use of the Keystone XL Pipeline over the Project.

²⁷⁹ Evid. Transcript, Vol. 1, p. 143, lines 12-18.

²⁸⁰ Ex. 20, p. 24-30.

²⁸¹ Ex. 20, p. 34.

²⁸² Ex. 35, p. 39.

²⁸³ Evid. Transcript, Vol. 2, p. 56, lines 9-17.

²⁸⁴ Ex. 1, § 7853.0540 at 8.

²⁸⁵ Ex. 1, § 7853.0540 at 3.

²⁸⁶ Ex. 52, p. 12, lines 292-296;

²⁸⁷ Ex. 53, p. 15, lines 310-313.

108. The Keystone XL Pipeline is still working to obtain regulatory approvals in the United States.²⁸⁸ Of note, it cannot be an alternative to the Project, as the Keystone XL pipeline will serve different markets than the Project, as it is not planned to reach Minnesota, Wisconsin, or the greater Chicago area.²⁸⁹
109. The in-service date for Keystone XL is unknown at this time.²⁹⁰ Yet, the demand for additional heavy capacity is growing, and as Mr. Earnest testified, the apportionment level on the Enbridge Mainline heavy crude oil pipelines, post-completion of Line 67 Phase 1 would be 25.9%.²⁹¹ Once the Flanagan South pipeline is expanded to 600 kb/d, the apportionment increases to 29.8%.²⁹² This means that the Minnesota refineries would no longer be able to get all of the heavy crude oil that they are processing today via the Enbridge Mainline.²⁹³ A 25.9% apportionment amounts to a reduction of heavy crude oil deliveries of 62,000 bpd, and a 29.8% apportionment amounts to a reduction of 75,000 bpd.²⁹⁴ As of 2014, when Flanagan South is in-service, demand on upstream pipelines that feed Flanagan South will increase significantly, which will increase apportionment.
110. Moreover, the Department testified that the Keystone XL as an alternative should be rejected because Canadian oil production increases over the next decade are expected to far exceed the additional capacity provided by the Keystone XL pipeline.²⁹⁵
111. The capacity to refine heavy Canadian crude oil within the United States also exceeds the total capacity of the Keystone XL pipeline and Line 67 following construction of the Project.²⁹⁶
112. MN350/Sierra Club witness Mary Ellen Denomy, the proponent of the Keystone XL discussion in MN350/Sierra Club's written testimony, stated at the evidentiary hearing that she did not analyze the Keystone XL Pipeline as an alternative to the Project.²⁹⁷
113. No party presented evidence demonstrating that the proposed Keystone XL pipeline, or any other pipeline option, is a more reasonable and prudent alternative to the Project.

²⁸⁸ Ex. 13, p. 9.

²⁸⁹ Ex. 13, p. 9.

²⁹⁰ Evid. Transcript, Vol. 3, p. 53, lines 9-12.

²⁹¹ Ex. 15, p. 19.

²⁹² Ex. 15, p. 19.

²⁹³ Ex. 15, p. 20, lines 141-415.

²⁹⁴ Ex. 15, p. 20.

²⁹⁵ Ex. 35, p. 39.

²⁹⁶ Ex. 7, p. 13; Evid. Transcript, Vol. 1, p. 102, line 25; p. 103, lines 1-6.

²⁹⁷ Evid. Transcript, Vol. 3, p. 103, lines 19-21.

C. The consequences to society of granting the certificate of need are more favorable than the consequences of denying the certificate.

1. The Project will serve to help meet Minnesota's energy needs.

114. Refineries in Minnesota and the surrounding region must have adequate and reliable access to crude oil to produce the refined products required by the Minnesota public. The Project better ensures that the refineries in Minnesota, in neighboring states, and neighboring regions have that access.²⁹⁸ The crude oil transported by the Project will be delivered to refineries in Minnesota, refineries in Minnesota's neighboring states, and refineries in neighboring regions.²⁹⁹ Further, due to the highly integrated refined product distribution system in the U.S., the refined product produced from the crude oil transported by the Project will be available to the Minnesota public from Minnesota refineries, refineries in neighboring states, and refineries in neighboring regions.³⁰⁰
115. As stated previously, the Muse Report concludes that the primary disposition of the heavy crude oil transported by the Project is expected to be mostly the refineries in the Upper Midwest, including those in Minnesota, and the Gulf Coast.³⁰¹ Once delivered, the heavy crude oil will be converted into refined products that are shipped to consumers in Minnesota, the Midwest, and elsewhere in the world.³⁰²
116. Maintaining a secure supply of crude oil to other parts of the United States benefits Minnesota.³⁰³ Minnesota and the surrounding region are highly integrated in terms of refined product distribution.³⁰⁴ Minnesota imports refined product from neighboring states, while also simultaneously exporting refined products.³⁰⁵ The same is true for North Dakota and Wisconsin.³⁰⁶
117. Access to North American crude capacity will reduce our dependence on oil imported via ocean-going tankers from other continents, including some often less stable, sometimes unfriendly countries, which are typically without the progressive environmental protection laws in place in North America.³⁰⁷
118. The heavy crude oil pipelines within the Enbridge Mainline System have been under apportionment in recent months, which means that the shippers are not getting all of the heavy crude that they have nominated for shipment.³⁰⁸ Apportionment would impose

²⁹⁸ Ex. 7, p. 4.

²⁹⁹ Ex. 7, p. 3.

³⁰⁰ Ex. 7, p. 4.

³⁰¹ Ex. 7, p. 3.

³⁰² Ex. 7, p. 3.

³⁰³ Ex. 7, p. 16.

³⁰⁴ Ex. 7, p. 16.

³⁰⁵ Ex. 7, p. 16.

³⁰⁶ Ex. 7, p. 16.

³⁰⁷ Ex. 19, p. 7.

³⁰⁸ Ex. 7, p. 16.

upward pressure on consumer prices.³⁰⁹ The capacity added by the Project reduces the probability that, due to apportionment, Minnesota refineries will experience crude oil supply shortfalls, with the corresponding reduction in local refined product supply, and lessens the impact of apportionment should it occur.³¹⁰

119. Minnesota refineries could face cost increases of \$70 million per year if they used rail transportation to make up for the reduction of heavy crude oil supplies due to apportionment on the Enbridge Mainline System, which will occur without the additional capacity provided by the Project.³¹¹
120. The Department agrees that apportionment is not desirable.³¹² If the Minnesota refineries cannot obtain all of the heavy crude oil supplies that they require, they would likely either reduce production, or import their supplies using alternate transportation, such as rail or truck.³¹³ The Department agrees that neither of these alternatives are desirable outcomes for the people of Minnesota, as they would lead to decreased refined petroleum product supplies or would require the use of transportation methods that are inferior to pipeline transportation.³¹⁴
121. Evidence submitted by Enbridge, and supported by the Department, demonstrated that the consequences to Minnesota of granting the certificate of need for the Project are more favorable than the consequences of denying the certificate.

2. The effect of the Project on the natural and socioeconomic environments compared to the effect of the no-build alternative.

i. The Project will have limited effects on the natural environment in Minnesota compared to the effect of not building the Project.

122. Constructing the Project, which involves construction of four pump facilities and modification of three existing facilities, will have limited impact on the natural environment. Construction will be limited to discrete sites, and no new pipe will be installed outside of these facilities. The station sites involved with the Project are located on Enbridge property away from major population centers in Minnesota as detailed in Section 7853.0610 of the Application. No federal, state, or county land, incorporated areas or privately owned land will be impacted.³¹⁵ There will be very limited impacts to farmland, wetlands, and forests as the new pump facilities will be installed at or adjacent to existing stations that are already

³⁰⁹ Ex. 15, p. 23.

³¹⁰ Ex. 15, p. 23.

³¹¹ Ex. 15, p. 22, Table 1.

³¹² Ex.37, p. 7.

³¹³ Ex.37, p. 7.

³¹⁴ Ex. 37, p. 7.

³¹⁵ Ex. 1, § 7853.0610 at 2.

industrial sites.³¹⁶ No roads, railroads, or airports will be impacted, other than through temporary traffic for construction work.³¹⁷

123. No national landmarks, national wilderness areas, national wildlife refuges, national wild and scenic rivers, national parks, national forests, national trails, or national waterfowl production areas will be impacted.³¹⁸ Similarly, no state critical areas, state wildlife management areas, state scientific and natural areas, state wild, scenic, and recreational rivers, state parks, state scenic wayside parks, state recreational areas, state forests, state trails, state canoe and boating rivers, zoos, or designated trout lakes will be impacted.³¹⁹
124. The Project will have limited environmental impacts in Minnesota. Construction of the four new pump station facilities will impact 15.8 acres of actively cultivated agricultural land, 2.98 acres of meadow wetlands and 2.1 acres of trees and shrubs.³²⁰ Enbridge owns all of the land that will be impacted by construction of the Project.³²¹
125. There will be some water discharges from trench dewatering and hydrostatic testing.³²² Trench dewatering volumes will depend on precipitation and ground water levels, but Enbridge estimates each station site to have between zero and 25,000 gallons over the duration of construction.³²³ Enbridge will conduct all trench dewatering activities in accordance with its Environmental Mitigation Plan and any applicable permits.³²⁴
126. Hydrostatic testing will require use of 21,000 and 28,000 gallons of water at each station.³²⁵ Like trench dewatering activities, all hydrostatic testing activities will be conducted according to the requirements of Enbridge's Environmental Mitigation Plan and any applicable permits.³²⁶ Only new equipment will be hydrostatically tested, and clean water will be used.³²⁷
127. There will also be some fugitive emissions from construction activities.³²⁸ The level of air emissions expected will not require a permit.³²⁹ And Enbridge does not require air permit approval to construct the Project.³³⁰ No particulate emissions are expected to result from the Project.³³¹

³¹⁶ See Ex. 1, § 7853.0610, E and G; § 7853.0640, Subp. 4.

³¹⁷ Id. at H.

³¹⁸ Id. at I.

³¹⁹ Id. at J.

³²⁰ Ex. 18, p. 2-3..

³²¹ Ex. 10, p. 3, lines. 74-75.

³²² Ex. 1, § 7853.0620, p. 1.

³²³ Ex. 1, § 7853.0620, p. 1, Table 7853.0620-1.

³²⁴ Ex. 1, § 7853.0620, p. 1.

³²⁵ Ex. 1, § 7853.0620, p. 1, Table 7853.0620-1.

³²⁶ Ex. 1, § 7853.0620, p. 1.

³²⁷ Ex. 1, § 7853.0620, p. 2.

³²⁸ Ex. 1, §§ 7853.0620 and 7853.0630.

³²⁹ Evid. Transcript, Vol. 1, p. 161, lines 12-17.

³³⁰ Ex. 1, § 7853.0620, p. 2.

³³¹ Ex. 1, § 7853.0620, p. 2.

128. Construction of the Project will have a short-term impact on noise levels due to operation of construction equipment.³³² Ongoing operation of the Project, however, will not result in increased ambient noise levels.³³³

ii. The Project will have positive effects on the socioeconomic environment compared to the effect of not building the Project.

129. The primary socioeconomic benefit to the entire state and the surrounding region will be increased heavy crude oil supplies. The Project will directly benefit the entire Midwest, including Minnesota consumers and manufacturers, by better ensuring secure supplies of heavy crude oil produced in North America are readily available to refineries.³³⁴

130. Construction of the Project will likely increase the probability that consumers will pay less for the petroleum products they use because the Project adds to existing crude oil pipeline capacity in North America, as opposed to not approving the Project.³³⁵

131. If the Project is not completed, as urged by MN350/Sierra Club, the projected apportionment of the Enbridge Mainline System will reduce the reliability of the supplies to Midwest refineries, and would force the refineries to continue to rely upon or turn to less economically attractive alternatives and imports from less reliable regions of the world.³³⁶

132. Apportionment would apply upward pressure on consumer prices.³³⁷

133. Dr. Charles Cicchetti testified on behalf of Enbridge regarding the economic benefits of the Project. As part of his testimony, Dr. Cicchetti testified that Minnesota's consumer demand for refined products is not likely to increase sharply in the future.³³⁸ On a per capita basis, it might decline, which means that future growth will likely come from population increases and an expanding economy.³³⁹ However, other parts of the world are expanding petroleum consumption.³⁴⁰ Therefore, new sources of crude and infrastructure to deliver crude efficiently and economically to refineries and ultimate end-users are necessary.³⁴¹

134. Dr. Cicchetti's economic analysis focused on the global marketplace for crude oil and its effects on Minnesota and the surrounding region if pipeline capacity does not keep up with demand in the region.³⁴² In Dr. Cicchetti's view, major supply disruptions, or the threat of

³³² Ex. 1, § 7853.0620, p. 3.

³³³ Ex. 1, § 7853.0620, p. 3.

³³⁴ Ex. 1, § 7853.240, p.4; Ex. 19, p. 6-7; Ex. 8 p. at 7.

³³⁵ Ex. 19, p. 6-7.

³³⁶ Ex. 1, § 7853.0250 at 5.

³³⁷ Ex. 15 at 23.

³³⁸ Ex. 19, p. 9.

³³⁹ Ex. 19, p. 9.

³⁴⁰ Ex. 19, p. 9.

³⁴¹ Ex. 19, p. 9.

³⁴² Ex. 19, p. 11, lines 208-211.

major supply disruptions, increases the cost of crude oil because there is little in the way of an insurance pool crude oil supply in the United States.³⁴³

135. Dr. Cicchetti testified that without the Project, and the effective delivery of oil produced in Canada, Minnesota becomes more at risk to the adverse effects of the global market place and geo-political events.³⁴⁴

136. Dr. Cicchetti's analysis focused on "spare capacity," which is the capacity of crude oil that can be called upon to make up for a shortage of oil.³⁴⁵ The current spare capacity, on a global scale, is about two million barrels per day, down from five or six million barrels per day in the 1980's, but up from about one million barrels per day before the recent recession. Spare capacity, however, is dropping again.³⁴⁶

137. According to Dr. Cicchetti, an increase of 230,000 bpd of transportation capacity is significant when compared to the available spare capacity. Adding the Project will provide efficient transportation and help reduce petroleum prices, as well as mitigates impacts of future supply disruption and volatility.³⁴⁷ Such price shocks have become particularly harmful to consumers due to the United States becoming energy dependent in the 1970's.³⁴⁸

138. Dr. Cicchetti's economic analysis quantified the benefit of the Project to Minnesota and the surrounding region, considering the Project as an insurance pool to mitigate future crude oil supply disruptions.³⁴⁹

139. Dr. Cicchetti's analysis included a Net Present Value benefit of the project for petroleum consumers in Minnesota. It was determined that events of lost production or declines in spare capacity have occurred 15.12% of the time since 1986.³⁵⁰ Using conservative estimates of Minnesota expenditures for gasoline and applying the frequency of expected price jump events (where lost production capacity exceeds spare capacity) the expected amount of gasoline sales subject to future price jumps was calculated to be in excess of \$1 billion per year.³⁵¹ The Net Present Value benefit for Minnesota gasoline consumers from the additional 230,000 bpd of Canadian crude delivered via the project is approximately \$788 million over twenty years.³⁵²

140. A calculation of Net Present Value benefit for Minnesota consumers of distillate and jet fuel was also prepared.³⁵³ The Net Present Value benefit of the project for Minnesota

³⁴³ Ex. 19, p. 10, lines 180-184.

³⁴⁴ Ex. 19, p. 11.

³⁴⁵ Evid. Transcript, Vol. 2, p. 99, lines 15-17.

³⁴⁶ Evid. Transcript, Vol. 2, p. 102, lines 6-21.

³⁴⁷ Ex. 19, p. 13-14, lines 257-264.

³⁴⁸ Ex. 19, p. 20, lines 396-397.

³⁴⁹ Ex. 19, p. 21, lines 412-415.

³⁵⁰ Ex. 19, p. 39, lines 693-697.

³⁵¹ Ex. 19, p. 41, lines 709-714.

³⁵² Ex. 19, p. 42, lines 730-731.

³⁵³ Ex. 19, p. 43, lines 735-743.

distillate consumers is estimated to be \$353 million over twenty years.³⁵⁴ The Net Present Value benefit of the Project for Minnesota jet fuel consumers is estimated to be \$155 million over twenty years.³⁵⁵

141. In all, Dr. Cicchetti estimated that the present value of benefits through 2035 to be \$1.3 billion if the Project is constructed. For Petroleum Area Defense District 2, which consists of Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky and Tennessee (“PADD II”). Dr. Cicchetti calculated the net present value of the Project to these states to be about \$18.4 billion.³⁵⁶
142. Dr. Cicchetti also considered the economic impact of the Project in terms of national security. Enbridge argues that the United States has national security reasons to guarantee the flow of crude from Canada rather than from unfriendly countries.³⁵⁷
143. The Muse Report notes that the Project facilitates the supply of Western Canadian crude oil to U.S. refineries, including those in Minnesota.³⁵⁸ This acts to improve U.S. security of supply by further reducing the need for crude oil imports from the Middle East, and lessening the dependence of the U.S. on heavy crude oil supply from Mexico and Venezuela.³⁵⁹
144. As Dr. Cicchetti testified, a reasonable range for the estimated benefit of reducing oil dependence is between \$20 per barrel and \$40 per barrel.³⁶⁰ The more conservative \$20 per barrel figure is relied upon as the national security premium attributable to the additional 230,000 bpd of crude delivered to U.S. refineries from safe Canadian sources by the project.³⁶¹ Applying the \$20 per barrel estimated national security premium per barrel to such imports would yield a benefit of \$250 million.³⁶²
145. Purchasing heavy crude oil from Canada also continues a positive trade relationship. Minnesota’s economy is interdependent with Canada, which produces additional jobs, additional income, and opportunities for business.³⁶³
146. Enbridge also anticipates that the Project will provide beneficial impacts on the local economies during construction and operation through new jobs, taxes and increased demand for goods and services from local businesses³⁶⁴

³⁵⁴ Ex. 19, line 749.

³⁵⁵ Ex. 19, at line 750.

³⁵⁶ Ex. 19, p. 51-52, lines 851-861.

³⁵⁷ Ex. 19, Page 53, Lines 892-893.

³⁵⁸ Ex. 7 at p. 29.

³⁵⁹ Ex. 7 at p. 29.

³⁶⁰ Ex. 19, p. 53, lines 945-947.

³⁶¹ Ex. 19, p. 57, lines 949-952.

³⁶² Evid. Transcript, Vol. 2, p. 68, lines 6-10 and 18-24.

³⁶³ Evid. Transcript, Vol. 2, p. 71, lines 1-9.

³⁶⁴ Ex. 1, § 7853.0240, p. 14.

147. Using the Regional Input-Output Modeling System, Enbridge anticipates that approximately 2,400 person-years of temporary construction jobs will be created for the duration of construction.³⁶⁵ The Regional Input-Output Modeling System predicts total economic benefit of the Project is estimated at \$360 million during the year of construction.³⁶⁶
148. The installation of the new pump facilities will require a construction schedule of approximately nine months.³⁶⁷ Enbridge expects to use union contractors and union labor for the project.³⁶⁸ Unemployment in the area would be temporarily reduced and payroll taxes would temporarily rise.³⁶⁹ Local businesses would also benefit from the temporary demand for goods and services generated by the workforce's need for food, lodging and supplies.³⁷⁰ Enbridge expects to purchase some of the materials necessary for construction of the Project locally, including consumables, fuel, equipment, and miscellaneous construction-related materials.³⁷¹
149. The cost of the Project is estimated at \$159.3 million. Using its current tax schedules, Enbridge estimates that as much as \$2.3 million in additional property taxes will be paid in Minnesota starting in 2016.³⁷²
150. The increased taxes paid by Enbridge are important to the communities where Enbridge facilities and infrastructure is located. Ms. Cheryl Grover, Clearwater County Assessor, cited Enbridge's presence in the community as a major benefit to the local economy.³⁷³ She noted that the more property tax that is paid by Enbridge, the less property tax local land owners have to pay.³⁷⁴ Ms. Sharon Bing, County Commissioner in Marshall County, noted the tax capacity attributable to having Enbridge in the community as a contributor to school districts and the county.³⁷⁵
151. These socioeconomic benefits will not be realized if the Application is denied.

3. The Project will induce future development.

152. The Project will result in increased access to expanding volumes of Canadian heavy crude for refineries in the United States, specifically refineries in Minnesota, Wisconsin, the Chicago area, the Detroit area, the Toledo area, eastern Canada and the United States Gulf

³⁶⁵ Ex. 1, § 7853.0240, p. 12.

³⁶⁶ Ex. 1, § 7853.240, p. 12.

³⁶⁷ Evid. Transcript, Vol. 1, p. 68, l. 17.

³⁶⁸ Evid. Transcript, Vol. 1, p. 180, lines 17-18.

³⁶⁹ Ex. 1, § 7853.240, p. 12.

³⁷⁰ Ex. 1, § 7853.240, p. 12.

³⁷¹ Ex. 1, § 7853.240, p. 12.

³⁷² Ex. 1, § 7853.0240, p. 13.

³⁷³ Transcript, Thief River Falls Hearing, March 19, 2014, p. 53.

³⁷⁴ Transcript, Thief River Falls Hearing, March 19, 2014, p. 54.

³⁷⁵ Transcript, Thief River Falls Hearing, March 19, 2014, p. 56.

Coast region.³⁷⁶ Refiners require access to reliable and economical supplies of raw materials to remain competitive, evaluate potential expansions of their facilities and remain financially healthy. A financially healthy refiner can maintain or increase employment and production, maintain and improve its facilities, and have a positive economic impact on its region.³⁷⁷

153. Refiners in the Chicago area, the Detroit area, the Toledo area, eastern Canada and along the United State Gulf Coast have the capability to refine heavy crude oil or other grades of crude oil sourced from western Canada.³⁷⁸ Marathon Petroleum completed a \$2.2 billion upgrade and expansion project at its Detroit refinery in 2012.³⁷⁹ In February 2013, a \$400 million investment in the BP-Husky Refining LLC Toledo refinery went online.³⁸⁰ Refineries along the United States Gulf Coast are making certain upgrades to their refining capabilities; however, they have refined heavy crude oil from Mexico, Venezuela and other parts of the world for some time.³⁸¹ They are already configured to process the increased supplies that will be transported through existing pipeline systems via the expanded Line 67.³⁸²

154. Enbridge anticipates operation of the Project to commence in 2015.³⁸³ At that time, Enbridge estimates, again using the Regional Input-Output Modeling System, that the Project will yield economic benefits of 97 new jobs and another \$23 million in economic impacts. Those figures rise to 183 new jobs per year and an additional \$44 million economic impact per year beyond 2015.³⁸⁴

155. The business community recognizes the importance of the Project for future development. Mr. Bill Blazar, representing the Minnesota Chamber of Commerce, expressed support for the Line 67 Phase 2 expansion project.³⁸⁵ Mr. Blazar cited three primary reasons for the Chamber's support of the project. He cited the importance of this energy infrastructure to development and growth of the state's economy.³⁸⁶ Mr. Blazar specifically noted the role of the pipeline expansion in enhancing our nation's energy security and safety.³⁸⁷ Finally, he referenced the jobs that would be created in the construction and maintenance of the facility, enhanced business activity for local vendors and added tax base for communities.³⁸⁸

³⁷⁶ Ex. 1, § 7853.0250, p. 5

³⁷⁷ Ex. 1, § 7853.0250, p. 5.

³⁷⁸ Ex. 1, § 7853.0250, p. 5.

³⁷⁹ Ex. 1, § 7853.0250, p. 5.

³⁸⁰ Ex. 1, § 7853.0250, p. 5.

³⁸¹ Ex. 1, § 7853.0250, p. 5.

³⁸² Ex. 1, § 7853.0250, p. 5.

³⁸³ Ex. 1, § 7853.0240, p. 13.

³⁸⁴ Ex. 1, § 7853.0240, p. 13.

³⁸⁵ Transcript, St. Paul Public Hearings, April 3, 2014, p 31.

³⁸⁶ Transcript, St. Paul Public Hearings, April 3, 2014, p 32.

³⁸⁷ Transcript, St. Paul Public Hearings, April 3, 2014, p 32.

³⁸⁸ Transcript, St. Paul Public Hearings, April 3, 2014, pp 32-33.

156. Mr. Robert Chastan expressed support for the project. He is a member of the International Union of Operating Engineers, Local 49.³⁸⁹ Mr. Chastan specifically cited the benefits to the local economy and working families across Minnesota.³⁹⁰
157. Mr. John McMahon, an employee of a Bemidji-based engineering firm, expressed support for the project citing the increase in local jobs and the boost to the local economy with workers supporting local businesses.³⁹¹ He also referred to Enbridge as one of the safest and environmentally conscience companies with which he works.³⁹²
158. Mr. Steve Marshik, a professional engineer with Barr Engineering Company, spoke in support of the project.³⁹³ He cited the high-paying engineering design and permitting assistance jobs that would be associated with the Project.³⁹⁴
159. Mr. Pete Weidman, RJS Construction Group, expressed support for the project focusing on the benefits of expanding oil production and transportation from a more stable source of supply. Mr. Weidman also noted Enbridge's safety record and the safety standards with which contractors must comply.³⁹⁵
160. Ms. Christina Rossetter, an employee of Lake Superior Consulting, supports the project for three reasons. She cites the professional jobs created at companies like Lake Superior Consulting to support project development,³⁹⁶ she cites the connection between the project and the engineering and computer-aided design (CAD) programs at local institutions of higher education,³⁹⁷ and Ms. Rossetter also notes the many ways Enbridge supports community organizations.³⁹⁸
161. Mr. Bill Bennett, an engineer at LHB spoke in support of the project.³⁹⁹ He addressed the enhanced employment at companies like LHB who are vendors performing design services for the project.⁴⁰⁰ He also noted the construction jobs that will result and the impact on companies that provide ancillary goods and services.
162. Mr. Dale Poweleit, President of Steamfitter Local 601 spoke in favor of the project.⁴⁰¹ He observed that the upgrade project will increase capacity without constructing a new

³⁸⁹ Transcript, Thief River Falls Hearing, March 19, 2014, p. 29

³⁹⁰ Transcript, Thief River Falls Hearing, March 19, 2014, p. 31.

³⁹¹ Transcript, Cass Lake Hearing, March 19, 2014, p. 46.

³⁹² Transcript, Cass Lake Hearing, March 19, 2014, p. 47..

³⁹³ Transcript, Duluth Hearing, March 20, 2014, pp. 33.34.

³⁹⁴ Transcript, Duluth Hearing, March 20, 2014, p. 35.

³⁹⁵ Transcript, Duluth Hearing, March 20, 2014, p. 38.

³⁹⁶ Transcript, Duluth Hearing, March 20, 2014, p. 69.

³⁹⁷ Transcript, Duluth Hearing, March 20, 2014, p. 70.

³⁹⁸ Transcript, Duluth Hearing, March 20, 2014, p. 71.

³⁹⁹ Transcript, Duluth Hearing, March 20, 2014, p. 119.

⁴⁰⁰ Transcript, Duluth Hearing, March 20, 2014, p. 119.

⁴⁰¹ Testimony, St. Paul Hearing, April 3, 2014, p. 40.

pipeline.⁴⁰² He made reference to the many “family-supporting” jobs that will result in the maintenance of facilities beyond 2014.⁴⁰³

4. The Project, and the crude oil to be transported by the Project, are socially beneficial.

163. Enbridge anticipates that the Project will provide beneficial impacts on the local economies during construction and operation through new jobs, taxes and increased demand for goods and services from local businesses.⁴⁰⁴

164. The Project is both the most economic and most environmentally and socioeconomically friendly means to meet public demand for the refined products produced from the petroleum carried by Line 67. Pipelines operate more safely than any other mode of oil transportation. Liquid pipelines transport 25% more billion ton-miles of shipments than is transported by road, but the average number of hazmat incidents is 1066 times higher for road transports.⁴⁰⁵ Similarly, liquid pipelines transport 16% more billion ton-miles of shipments than is transported by rail but the average number of hazmat incidents is 33 times higher for rail transports.⁴⁰⁶

165. The product transported by the Project is Canadian heavy crude oil, which will be turned into socially beneficial products such as fuel, medicines, health and safety products, and agricultural products, among others.⁴⁰⁷

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

166. The Project is subject to permitting or consultation with numerous state, federal, and local agencies, ranging from federal agencies such as the U.S. Army Corps of Engineers to state agencies such as the Minnesota Department of Natural Resources and Minnesota Pollution Control Agency to county-level governments.⁴⁰⁸

167. Enbridge assembled a table identifying the various federal, state and local agencies with whom it must interact to obtain permits or approvals for the project.⁴⁰⁹ Applications have

⁴⁰² Testimony, St. Paul Hearing, April 3, 2014, p. 40.

⁴⁰³ Testimony, St. Paul Hearing, April 3, 2014, p. 40.

⁴⁰⁴ Ex. 1, § 7853.0240, p. 14.

⁴⁰⁵ Ex. 1, § 7853.0250, p. 2.

⁴⁰⁶ Ex. 1, § 7853.0250, p. 2.

⁴⁰⁷ Ex. 35, p. 47, lines 17-20.

⁴⁰⁸ Ex. 1, § 7853.0230, p. 14-15.

⁴⁰⁹ Ex. 1, § 7853.0230, Table 7853.0230-2.

been or will be submitted and consultations have commenced as necessary to facilitate timely review and approval by governmental entities with oversight authority.⁴¹⁰

168. The design, construction and operation of the Project is subject to regulation by the United States Department of Transportation under 49 C.F.R. Part 195.⁴¹¹ Operation of the pipeline will have oversight from the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (“PHMSA”) pursuant to 49 U.S.C. 2001 *et seq.*⁴¹²
169. Enbridge has had its Incident Contingency Plan (f/k/a Emergency Response Plan) reviewed by multiple agencies including PHMSA and the U.S. Environmental Protection Agency.⁴¹³ The Enbridge plan, approved by PHMSA in July of 2013, is now the industry standard for Emergency Response Preparedness.⁴¹⁴
170. There is no indication in the record, nor has it been established by opponents of the Project or others that the design, construction, and operation of the Project will fail to comply with the relevant policies, rules, and regulations of other state and federal agencies and local governments. Enbridge will obtain and abide by the conditions placed on any permit required by law.

LAW AND ARGUMENT

I. Applicable Law

Minnesota Statutes, Section 216B.243 governs certificates of need for large energy facilities, including crude oil pipelines like the Project. More specifically, Minnesota Rules Ch. 7853 governs the application process and sets out the showing that must be made for the CN to be issued for the Project. A CN is required for any project that will expand an existing large petroleum pipeline in excess of either 20 percent of its rated capacity or 10,000 bpd, whichever is greater.⁴¹⁵ The Project will increase the permitted capacity of Line 67 from 570,000 bpd to 800,000 bpd, and therefore requires issuance of a CN.

The MPUC’s jurisdiction in this matter is defined by law. The Minnesota Administrative Procedure Act, Minn. Stat. Ch. 14 (“APA”) requires agencies to promulgate, as rules, all formal and informal procedures of the agency “to the extent that those procedures directly affect the rights of or procedures available to the public.” Minn. Stat. § 14.06, *also see Weber v. Hvass*, 626 N.W. 2d 426 (Minn.Ct.App. 2001). The purposes of the APA include “provide[ing] oversight of powers and duties delegated to administrative agencies”, and “ensur[ing] a uniform minimum procedure.” Minn. Stat. § 14.001(1) and (3). An agency may adopt rules only after the legislature has enacted a law granting such authority to the agency. Minn. Stat. § 14.05,

⁴¹⁰ Ex. 1, § 7853.0230, Table 7853.0230-2.

⁴¹¹ Ex. 1, § 7853.0270, p. 2.

⁴¹² Ex. 1, § 7853.0270, p. 2.

⁴¹³ Evid. Transcript, Vol. 1, p. 189-190.

⁴¹⁴ Evid. Transcript, Vol. 1, p. 189-190

⁴¹⁵ Minn. R. 7853.0030, D.

subd. 1. In general, an agency is to follow its existing rules, as the rules provide the public with fair notice of the agency's intentions and procedures. *See In re Hibbing Taconite, Co.*, 431 N.W.2d 885, 894-95 (Minn.Ct.App. 1988). Minnesota statutes section 216B.243, subd. 1 states:

The commission [MPUC] shall, pursuant to chapter 14 and sections 216C.05 to 216C.30 and this section, adopt assessment of need criteria to be used in the determination of need for large energy facilities pursuant to this section.

Minn. Stat. § 216B.243, subd. 1.

The MPUC has adopted specific criteria for the issuance of a CN through Minn. R. 7853.0130. Under Minn. R. 7853.0130, the MPUC must examine four major areas, each with several criteria. The major areas of inquiry are:

- 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;
- 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;
- The consequences to society of granting the certificate of need are more favorable than the consequences of denying the certificate; and
- 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.

Minn. R. 7853.0130, A, B, C, and D.

A. The full text of Minn. R. 7853.0130 A must be considered when evaluating the Application.

Minn R. 7853.0130 A contains several independent elements for review by the Commission. Enbridge, as the applicant, is not required to satisfy all of the listed elements, as this rule looks to how energy supply is negatively affected through a denial of the CN, be it adequacy, reliability or efficiency of energy supply. Also, Minn. R. 7853.0130 A is agnostic as to who suffers the adverse affect, so long as it is one or more of the following: the Applicant, the Applicant's customers, or Minnesota and the surrounding states.

The use of "or" in the rule indicates that only one of the alternatives must be satisfied to justify issuance of a Certificate of Need for the Project. It would be inconsistent with the full reading of the rule to choose only one of the potential impacts listed in Minn. R. 7853.0130 A to evaluate, and ignore the remaining portion of the rule. Specifically, an analysis focused on the

effect of approval, or denial, on the people of Minnesota and neighboring states alone ignores consideration of the adverse effect on the applicant or the applicant's customers, which the Rule specifically allows. In other words, Enbridge's demonstration that denial of the Application would have adversely impacted the supply of energy to its customers, regardless of their location, would be sufficient for the MPUC to issue the CN under Minnesota law, if all other elements of Minn. R. 7853.0130 are satisfied.

Focusing only on the adequacy, reliability, or efficiency of energy supply to the people of Minnesota and neighboring states, even if it would adversely impact markets in other regions, is impermissibly narrow. If the MPUC adopted that restricted view of Minn. R. 7853.0130 to deny the Application, the MPUC order would impermissibly discriminate against or burden interstate commerce in violation of the Commerce Clause of the United States Constitution.

The Commerce Clause provides that "[t]he Congress shall have the Power . . . to regulate Commerce with foreign Nations and among the several states." U.S. Const. art. I, § 8, cl. 3. Although the Commerce Clause is an affirmative grant of Congressional power, it is also recognized as implying a negative command, commonly referred to as the "dormant" Commerce Clause, that the states may not discriminate against or unduly burden interstate commerce. *Chapman v. Comm'r of Revenue*, 651 N.W.2d 825, 832 (Minn. 2002) (citing *Quill Corp. v. North Dakota*, 504 U.S. 298, 312, 112 S.Ct. 1904, 119 L.Ed.2d 91 (1992)). This implied rule applies to any exercise of state authority, whether by legislation, order of court, or act or order of an administrative board or officer, which directly regulates, burdens, or interferes with interstate commerce. *See, e.g., Cannonball Transp. Co. v. American Stages, Inc.*, 53 F.2d 1051, 1053 (S.D. Ohio 1931) ("[T]he order of an administrative board or officer, the obedience of which will infringe upon or burden interstate commerce, is unconstitutional."); *see also* 15 C.J.S. Commerce § 53 (citing cases).

Any order on the Application, whether to approve or deny, implicates the Commerce Clause because it concerns the transportation of oil between states by pipeline. *See United States v. Ohio Oil Co.*, 234 U.S. 548, 560, 34 S.Ct. 956 (1914) ("That the transportation [of oil by pipeline] is commerce among the states we think clear."). Further, an order denying the Application on the basis that denial would not adversely impact Minnesota, without consideration of adverse impacts of denial on Enbridge and its customers, would facially violate the Commerce Clause. *See, e.g., Transcontinental Gas Pipe Line Corp. v. Hackensack Meadowlands Dev. Comm'n*, 464 F.3d 1358, 1363 (3d Cir. 1972) (regional development commission's refusal to issue permit for construction of additional storage facility for natural gas transported by interstate pipelines impermissibly burdened interstate commerce). Thus, such an order would be "*per se* invalid." Accordingly, the MPUC must consider the full scope of Minn. R. 7853.0130.

B. The MPUC's jurisdiction is limited to review of the criteria specified in Minn. R. 7853.0130, and alleged impacts of Canadian oil production and downstream refining or use of petroleum cannot be considered.

MN350/Sierra Club has argued that the MPUC must consider alleged impacts of Canadian oil production and downstream refining or use of petroleum. MN350/Sierra Club is incorrect. The MPUC's jurisdiction in this matter is defined by statute. As an agency of Minnesota State government, the MPUC does not have jurisdiction to consider alleged environmental impacts regulated by other governmental agencies or other governments entirely. Despite the lack of jurisdiction, MN350/Sierra Club offered testimony concerning alleged impacts on global climate change caused by extraction of the crude oil in Canada.

There are no state laws that require consideration of the impacts of Canadian oil extraction, and even if there were, Minnesota state laws cannot be applied to activities in foreign nations or other states. "It is a longstanding principle of American law that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States." *Morrison v. National Australia Bank*, 561 U.S. 247, 130 S. Ct. 2869, 2877 (2010) (citing, *EEOC v. Arabian American Oil Co.*, 449 U.S. 244, 248, 111 S. Ct. 1227 (1991)). This principle rests on the perception that Congress ordinarily legislates with respect to domestic, not foreign, matters. *Smith v. United States*, 507 U.S. 197, 204, n.5, 113 S. Ct. 1178 (1993). Thus, unless Congress clearly expresses an intention to give a statute territorial effect, "we must presume it is primarily concerned with domestic conditions." *Arabian American Oil Co.*, *supra*, 499 U.S. at 248. In other words, when a statute gives no clear indication of an extra-territorial application, it has none. *Morrison*, *supra*, 561 U.S. 247, 130 S. Ct. at 2878.

The general presumption against extra-territorial application of federal statutes similarly applies to state statutes. *Longaker v. Boston Scientific Corporation*, 872 F. Supp. 2d 816, 819 (D. Minn. 2012). Statutes of a state have no effect beyond its own limits, and even if a state legislature should intend its laws to apply to persons or property in other states, such an enactment would be wholly inoperative and void. *Id.*, quoting, *In Re St. Paul & K.C. Grain Co.*, 94 N.W. 218, 225 (Minn. 1903).

Several issues raised by MN350/Sierra Club fall within this prohibition of extra-territorial application of Minnesota law. The testimony of John Abraham focused on the alleged impacts of global climate change. Specifically, Dr. Abraham expressed concern for CO₂ releases relative to the extraction of crude oil in Canada. As an action by a foreign country, the MPUC has no jurisdiction to review it. Other testimony offered by Intervenors questioned the end use of petroleum products outside Minnesota. Again, the MPUC has no authority to regulate or control petroleum product use in another state.

II. Enbridge demonstrated that a CN should be issued under the criteria established in Minn. R. 7853.0130.

A. Enbridge established that denial of the CN for the Project will have an adverse effect on the adequacy, reliability or efficiency of energy supply for its shippers, refineries, or the people of Minnesota and neighboring states.

The first major area of inquiry under Minn. R. 7853.0130 requires the MPUC to ask if 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. Therefore, the MPUC is to examine the future view of:

- The adequacy of energy supply to the applicant/the applicant's customers or the people of Minnesota and neighboring states; or
- The reliability of energy supply to the applicant/the applicant's customers or the people of Minnesota and neighboring states; or
- The efficiency of energy supply to the applicant to the applicant/the applicant's customers or the people of Minnesota and neighboring states.

In examining these issues, the MPUC is to consider the following:

- the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility;
- the effects of the applicant's existing or expected conservation programs and state and federal conservation programs;
- 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;
- 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
- the effect of the proposed facility, or a suitable modification of it, in making efficient use of resources.

Minn. R. 7853.0130, A.

1. Enbridge's forecast accurately demonstrates demand for the crude oil transportation capacity that will be provided by the Project.

The record contains numerous forecasts of heavy crude oil supply as well as significant information showing demand for the crude oil transportation capacity to be provided by Project. Both must be considered.

i. Supply forecasts accurately predict massive increases in Canadian heavy crude oil supply.

Forecasts of crude oil supply are key for assessing the need for additional pipeline capacity, as these forecasts present the volume that must actually be transported to market. Multiple supply and demand forecasts from different sources were studied and included in the record, including CAPP's supply forecast, the NEB's supply outlook, the ERCB's oil production outlook, and the EIA's study which forecasts the demand outlook. Evidence in the record demonstrates that while the CAPP, NEB, ERCB and EIA forecasts differ slightly, all demonstrate that the forward outlook for Western Canada is one of massive increases in heavy crude oil supply.

The other parties also considered these supply forecasts. Ms. Laura Otis testified that the NEB expects Canadian heavy crude oil available for export to increase significantly, by 1.4 million bpd between 2012 and 2020. She testified that after accounting for the 120,000 bpd that Enbridge's prior Line 67, Phase 1 project was designed to accommodate, and a possible 730,000 bpd of the Keystone XL pipeline, there remains over 500,000 bpd of heavy crude production that would be available for other transport methods, such as the Project. Ms. Otis concluded that both the CAPP and NEB forecasts anticipate growth in Canadian heavy crude oil available for export to the U.S., and this is product that the Project can carry.

MN350/Sierra Club attempted to show that the CAPP forecast is inaccurate and should not be relied upon based on comparisons of earlier CAPP forecasts to later versions. Significantly, MN350/Sierra Club only argued that the CAPP forecasts over estimated production by 3.55%.⁴¹⁶ That is a very small number. MN350/Sierra Club also argued that the CAPP forecasts were inherently biased in favor of the Canadian petroleum industry, but that argument ignored the actual methodology of the CAPP forecast. MN350/Sierra Club did not compare the CAPP forecast to any of the other forecasts in the record, which all directionally show a substantial increase in Canadian heavy crude oil production. Given that all forecasts submitted and reviewed by the parties, including Enbridge, support the trend in increasing Canadian heavy crude oil production Enbridge asserts that the supply forecasts in the record are accurate.

⁴¹⁶ Ex. 52, p. 4, lines 96-97.

ii. The record demonstrates increased demand for Canadian Heavy Crude oil, and for the transportation capacity to be created by the Project.

There is significant information in the record showing demand for the heavy crude oil transportation services to be provided by Enbridge through the Project.

The primary disposition of the heavy crude oil transported by the Project is expected to be mostly the refineries in the Upper Midwest, including those in Minnesota, and the Gulf Coast. Once delivered, the heavy crude oil will be converted into refined products that are shipped to consumers in Minnesota, the Midwest, and elsewhere in the world. U.S. refineries, including those in Minnesota, must have adequate and reliable access to crude oil to produce the refined products required by the Minnesota public. The Project will better ensure that the refineries in Minnesota, in neighboring states, and neighboring regions have that access.

Due to the highly integrated refined product distribution system in the U.S., the refined product produced from the crude oil transported by the Project will be available to the Minnesota public from Minnesota refineries, refineries in neighboring states, and refineries in neighboring regions.

The domestic demand trend for refined products is not an issue in this proceeding. Enbridge's witnesses agreed that domestic demand for refined products is not likely to increase sharply in the near future. However, other parts of the world are expanding petroleum consumption. Therefore, new sources of crude and infrastructure to deliver crude efficiently and economically to refineries and ultimate end-users are necessary. Major supply disruptions, or even the prospect of them, can often increase the price of the crude oil both in the short term and long term. Dr. Cicchetti concluded that without the Project, and the effective delivery of oil produced in Canada made possible by the Project, Minnesota becomes more at risk to the adverse effects of the global market place and geopolitical events.

Although demand growth for the primary products manufactured by U.S. refineries is essentially flat, U.S. refineries have been steadily increasing their crude oil runs. The situation in the Midwest is much the same. Mr. Earnest concludes that the U.S. and Midwestern refiners do not require refined product demand growth to increase their crude oil runs or their crude oil processing capacity. This is possible because of an increase in refined product exports on a national level. From a global perspective, U.S. refiners are highly competitive due to their size, operational efficiency, and the comparatively low cost of energy in the U.S. relative to other global refining centers.

That is not to say that there is no demand for the heavy crude oil to be transported by the Project in Minnesota and neighboring states in PADD II. In fact, the opposite is true. Multiple refineries are expected to have increased demand for heavy crude oil. The BP Whiting and Marathon Detroit refinery upgrading projects, which are intended to increase the capacity to process heavy crude oil at these refineries, are not yet up to full speed. MN350/Sierra Club even presented evidence indicating that refinery demand in Minnesota is likely to increase in the near future. The Flint Hills Resources refinery in Rosemount, Minnesota, will undertake an upgrade

project to allow the refinery to operate “closer to its current design capacity of 320,000 bpd.”⁴¹⁷ Accordingly, the Project is needed to transport additional heavy crude oil to Minnesota and beyond.

Changes and enhancements to the pipeline network downstream of Line 67 will also increase the demand for crude oil shipments on the Enbridge Mainline System, which includes Line 67. The Flanagan South project involves the construction of a 36-inch pipeline from the Enbridge Flanagan terminal to Cushing, Oklahoma. The owners of the Seaway Pipeline are in the process of building a second line between Cushing and the Gulf Coast that will substantially increase the capacity of the Seaway system, and thus enable shipments made on the Flanagan South pipeline to reach the Gulf Coast. The record reflects that all barrels moving on Flanagan South must first be transported by the Enbridge Mainline. Accordingly, the Flanagan South line will significantly increase the need for additional heavy crude oil transportation capacity on the Enbridge Mainline upstream of the Flanagan terminal delivery point.

The need for the Project is clear when the demand discussed above is compared to available pipeline capacity, and how that capacity is allocated under a process governed by the FERC. To use the Enbridge system, shippers nominate volumes for shipment on the Enbridge system. If the total nominated volume exceeds the capacity of the system for that type of crude, Enbridge declares apportionment for the applicable month.

When Enbridge declares apportionment, every shipper that nominated volumes for transportation on the Enbridge Mainline System receives reduced deliveries. The total nominations are apportioned on a pro rata basis among all shippers that nominated volumes for transportation. Under a tariff governed exclusively by FERC, Enbridge cannot give a higher priority to a historical shipper, such as one that supplies the refineries in Minnesota with crude oil.

When apportionment is declared, a refinery or shipper sending oil to a refinery must choose to purchase a different grade of crude oil (if it can be processed by that refinery), accept a lower than desired amount of crude oil, or supplement its pipeline shipments with crude oil received through another source, such as rail transportation.

Apportionment has been declared in recent months for heavy crude oil on the Enbridge Mainline System. Apportionment can occur during individual months, even if a pipeline such as Line 67 is not full every month of the year, because refinery demand is not static and consistent from one month to the next. Without the Project, the Enbridge system will enter apportionment for heavy crude oil on a constant basis. When that happens, refineries served by Enbridge including those in Minnesota, would be forced to satisfy their unfulfilled heavy crude oil needs by using truck or rail transportation, both of which are more costly and have greater environmental and social disadvantages. Refineries in Minnesota do not have access to any pipeline alternative to the Enbridge Mainline System to receive their heavy crude oil supplies.

⁴¹⁷ Ex. 52, p. 13, lines 324-328.

Evidence submitted by Enbridge, and unchallenged by any party, demonstrated that the Enbridge Mainline System will enter into ever-increasing levels of apportionment in the very near future without construction of the Project. Increasing apportionment of heavy crude oil capacity on the Enbridge Mainline System is still predicted in the future even if the Project is constructed, but the onset of apportionment will occur at a later date.

Crude oil producers and refiners both believe the Project is needed. On the supply side, CAPP supports the project, and CAPP represents companies that produce about 90% of Canada's natural gas and crude oil. On the demand side, the AEO 2014 Early Release shows that the United States will continue to import a significant percentage of the crude oil needed by refineries that need to import that crude oil. Shippers and refiners, including the CAPP, United Refining Company, BP Products North American, Inc., and Flint Hills Resources support the Project, and letters of support for the Project are in the record.

Of note, BP Products North American, Inc. and Flint Hills Resources operate refineries that serve the Midwest. In its letter of support, BP Products North American, Inc. states that “[i]f additional capacity on Alberta Clipper (Line 67) is not made available, we may be faced with undue and unnecessary risks tied to potential capacity apportionment and/or operational/supply disruptions, both of which would have a negative impact on our operations.”⁴¹⁸ Likewise, Flint Hills Resources states that “[w]ithout the Alberta Clipper upgrade, Flint Hills Resources may not be able to acquire all of the crude oil it needs to meet customer demands.”⁴¹⁹ Even MN350/Sierra Club agrees that the letters from the Minnesota refineries should be given weight by the MPUC.⁴²⁰

In sum, the record contains ample evidence of sufficient crude oil supply to be transported by the Project and demand for heavy crude oil that is well beyond the capacity increase to be created by the Project. The CN should be granted.

2. Conservation programs will not eliminate demand for crude oil, and, by extension, crude oil transportation services.

As noted in the above discussion regarding supply and demand, even if consumer demand is stagnant, there are still compelling reasons for increased demand for the product shipped through Line 67. There is a global market for crude oil, and other parts of the world are expanding petroleum consumption. There is no indication that state or federal conservation programs, however beneficial, will reduce or eliminate the need for the Project. A recent report from the EIA, the Annual Energy Outlook 2014 Early Release (“AEO 2014 Early Release”) that takes all known federal regulatory efforts to increase energy efficiency into account, notes that “[t]otal U.S. consumption of petroleum and other liquids, which was 35.9 quadrillion Btu (18.5 MMbbl/d) in 2012, increases to 36.9 quadrillion Btu (19.5 MMbbl/d) in 2018, then declines to 35.4 quadrillion Btu (18.7 MMbbl/d) in 2034 and remains at that level through 2040.”⁴²¹

⁴¹⁸ Ex. 13 at Attachment B.

⁴¹⁹ Ex. 13 at Attachment B.

⁴²⁰ Evid. Transcript, Vol. 3, p. 101, lines 18-22.

⁴²¹ Ex. 13 at 3.

At the same time, the AEO 2014 Early Release notes that the United States will require significant petroleum imports for the foreseeable future, despite increasing domestic production. The United States will be required to import 25% of all petroleum needs in 2016, and about 32% in 2040. The Project will allow the United States, including Minnesota, to better meet that need with petroleum from a secure, reliable source.

Dr. Cicchetti testified regarding demand-side management (i.e. conservation) at the evidentiary hearing. Dr. Cicchetti noted that the countries of the world where great demand growth is coming from are more interested in expanding their economies than conservation. Expanding world population is driving environmental and energy concerns, and that these concerns cannot be solved by the countries that are already doing things to improve efficiency. Renewable energy sources displace coal and perhaps natural gas, but not liquid fuels.

Conservation will not eliminate demand for crude oil, which must be transported from production areas to refineries. Accordingly, conservation will not eliminate demand for the Project.

3. No promotional activities conducted by Enbridge have contributed to the need for the Project.

Enbridge has not undertaken promotional activities that would increase demand for crude oil supplies to Minnesota or the surrounding region. Demand for refined petroleum products, and therefore for the oil transported on the Enbridge Mainline System, is driven by external factors, including shipper demand. Crude oil is in demand because it can be refined into various products, including, but not limited to, gasoline, diesel fuel, aviation fuel, heating oil, and asphalt.

Shippers on the Enbridge system have requested that Enbridge expand its pipeline system in response to anticipated growth in both production and market demand. This factor weighs in favor of issuance of a CN for the Project.

4. Current facilities and planned facilities that do not require certificates of need cannot meet the future demand.

Current facilities do not meet the current or future demand discussed above. This is evidenced by the fact that there is apportionment for heavy crude oil on Enbridge's system, which means that the pipelines are full during peak demand months, and shippers are not getting all of the heavy crude that they have nominated for shipment.

Evidence submitted by Enbridge and unchallenged by any other party demonstrated that the Enbridge Mainline System will enter into ever-increasing levels of apportionment in the very near future without construction of the Project. Increasing apportionment of heavy crude oil

capacity on the Enbridge Mainline System is still predicted in the future even if the Project is constructed, but the onset of apportionment will occur at a later date.

MN350/Sierra Club argued that Enbridge has sufficient capacity on existing pipelines to move an additional 230,000 bpd of heavy crude oil without construction of the Project. This evidence, however, was not convincing or credible. MN350/Sierra Club witness Mary Ellen Denomy was the proponent of this theory, but Ms. Denomy is not an engineer, and uncontroverted evidence in the record demonstrates that Ms. Denomy's analysis was incomplete and incorrect.

Adding heavy crude oil to a pipeline designed to transport light crude oil would reduce the capacity of that pipeline. Enbridge's Mainline System consists of pipelines designed to carry specific products through optimization of pipeline diameter, pump station location, and other design specifications. Pumps would need to be added, much like they will be through this Project, which requires a CN, if Enbridge were to convert a light crude oil pipeline to heavy crude oil service. Significant quality degradation of light sweet crude oil or refined products would occur if Enbridge added heavy crude oil into a pipeline carrying those lighter hydrocarbons. Ms. Denomy took none of those issues into account.

Ms. Denomy also failed to consider the role Enbridge's shippers play in infrastructure expansions. Enbridge must negotiate changes to its tolls, or charges to ship crude oil, with its shippers. Enbridge's shippers, represented by CAPP, agreed that the capacity of Line 67 should be expanded to 800,000 bpd through the Project, and have agreed that Enbridge can recover the cost of the project through tariffs filed with the FERC. Enbridge's shippers are sophisticated commercial parties, and would be unwilling to pay for construction of the Project through increased tolls if Enbridge was capable of increasing heavy crude oil transportation capacity without investing in new infrastructure.

The record demonstrates that there are no existing or planned facilities that can meet the future demand without a CN. Accordingly, this factor points in favor of approving the Application for the Project.

5. The Project will make efficient use of resources.

Enbridge has carefully designed the Project to make efficient use of resources. Enbridge has an Energy Management Department that is responsible for negotiating contracts and allocating power to assure economical and efficient use of power for Line 67. Enbridge continuously reviews and tracks firm and non-firm power requirements, and works closely with electrical utilities in planning for transmission and generation needs.

Enbridge's facilities are designed to be efficient through use of variable frequency induction motor drives ("VFDs"), which will be used as part of the Project. VFDs allow the pipeline operator to vary the pump rotation speed thereby controlling the pressure produced to match the desired flow rate in the pipeline. This eliminates the need to dissipate or waste pressure (energy) with pressure control valves.

Enbridge works to operate efficiently. Enbridge's pipeline operators are trained to operate the pipeline at an optimum flow rate using the most efficient combinations of pumps, thereby minimizing energy consumption, and can start and stop pumps and monitor pipeline operating conditions to maximize energy efficiency.

Enbridge's conservation and resource preservation efforts go beyond energy cost control for its pipeline network. Enbridge recognizes that climate change is occurring. Enbridge has set a voluntary goal to work toward a neutral footprint for new projects. This means that as Enbridge expands operations, it will attempt to limit its environmental footprint to 2009 levels. Enbridge intends to achieve this by conserving an acre for every acre of natural habitat impacted, planting a tree for every tree that must be removed to build new facilities, and generating a kilowatt-hour of renewable energy for every kilowatt-hour of energy consumed in pipeline operations.

These efforts are bearing fruit. Enbridge has significant wind generation capacity, and is expanding its renewable portfolio. Enbridge has also made major contributions toward land conservation through its neutral footprint efforts.

Finally, the Project itself is the most efficient method to meet Enbridge's goal of creating capacity to meet shipper demand for additional heavy crude oil transportation. In fact, Line 67 was designed and constructed to facilitate the upgrade represented by the Project with minimal impact to the human and natural environment. By installing a larger pipe than was required at the time Line 67 was constructed, Enbridge facilitated this upgrade to existing infrastructure instead of constructing an entire new pipeline.

No party challenged Enbridge's efforts to conserve resources. This factor, like those considered above, indicates that the CN should be issued.

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

The second major area of inquiry under Minn. R. 7853.0130 is whether another party to the proceeding has demonstrated a more reasonable and prudent alternative to the proposed project by a "preponderance of the evidence." In examining this question, the MPUC is to consider:

- the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;
- 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;

- the effect of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and
- the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives.

Minn. R. 7853.0130, B

The Minnesota Court of Appeals has addressed how the criteria in Minn. R. 7853.0130 are to be used, stating that:

[u]nder the certificate-of-need process established by statute and rule, an applicant bears the burden of proving the need for a proposed facility. An applicant fails to meet this burden when another party demonstrates that there is a more reasonable and prudent alternative to the facility proposed by the applicant. Minn. Stat. § 216B.243, subd. 3; Minn. R. 7851.0120, subp. 8. This regulatory scheme is simply a practical way to prevent the issuance of a certificate of need when there is a more reasonable and prudent alternative to the proposed facility without requiring an applicant to face the extraordinary difficulty of proving that there is not a more reasonable and prudent alternative.

In re Application of the City of Hutchinson (Hutchinson Utilities Commission) for a Certificate of Need to Construct a Large Natural Gas Pipeline, Minn. App. A03-99, September 23, 2003, p.11.

In this case, no reasonable or prudent alternatives were established by any other person or party. Enbridge examined multiple alternatives, including the no action alternative, the construction of a new pipeline, the construction of the Keystone XL pipeline, and truck or rail transport. However, the record reflects that an expansion through the addition of horsepower by installing pump facilities at or adjacent to existing stations is the most efficient and economical way to increase the capacity of Line 67, which was designed for such an expansion. And, in fact, the Department similarly concluded that all of the alternative options considered should be rejected on the basis of higher costs, increased environmental disruptions, and extended in-service dates.

Although MN350/Sierra Club argued in favor of the no action, Keystone XL, and rail transportation alternatives, the arguments and evidence presented are unconvincing. An expansion through the addition of horsepower at or adjacent to existing stations is an efficient and economical way to increase the capacity of Line 67, a line that was designed for such an expansion.

1. The no action alternative is not an acceptable option for Minnesota.

Adoption of the “no action alternative” by denying the Application would mean that Enbridge’s pipelines that carry heavy crude oil would enter apportionment, meaning that shippers on the Enbridge system would not be able to move the volumes of heavy crude oil that they nominate for shipment by pipeline. The record shows that the Enbridge Mainline System will enter into ever-increasing levels of apportionment in the very near future without construction of the Project. In fact, increasing apportionment of heavy crude oil capacity on the Enbridge Mainline System is still predicted in the future even if the Project is constructed, but the onset of apportionment will occur at a later date.

When apportionment is declared, a refinery or shipper sending oil to a refinery must choose to purchase a different grade of crude oil if it can be processed by that refinery, accept a lower than desired amount of crude oil, or supplement its pipeline shipments with crude oil received through another source, such as rail transportation. Minnesota refineries could face cost increases of \$70 million per year if they used rail transportation to make up for 24.1% apportionment of heavy crude oil supplies on the Enbridge Mainline System.

Enbridge has shown that Enbridge, the shippers, and residents of Minnesota and neighboring states would all be negatively impacted without the capacity expansion afforded by this project. Accordingly, no party has demonstrated by a preponderance of the evidence on the record that the no action alternative is reasonable or prudent. Rather, the entire record, taken as a whole, demonstrates the opposite.

2. Trucking is not a realistic alternative due to increase cost and traffic.

Trucking is not a remotely realistic alternative to the Project. There is insufficient tanker trailer truck capacity to transport the annual capacity of 230,000 barrels of crude oil per day that would be moved by the Project. Use of a trucking alternative would significantly overburden current public road capacity and is cost prohibitive. Moving 230,000 bpd of oil by truck would require 8,280 trucks. More than 2,300 trucks would cross the international border every day, and would then follow the public roads between the border and Superior, Wisconsin. Trucking is also a less reliable transportation method.

The trucking alternative would be vastly more expensive than the Project. The initial capital investment would be \$2,387,372,400 for just the fleet of trucks and drivers in the first year of operation. That is 15 times the cost of the Project. The truck fleet would need to be replaced at least four times over the life of the Project, at a cost of \$1,656,000,000 each time.

No party advanced trucking as a reasonable alternative to the Project. Accordingly, no party has demonstrated by a preponderance of the evidence on the record that the trucking alternative is reasonable or prudent. Rather, the record demonstrates the opposite.

3. Rail transportation is more expensive and has greater impact on the natural and socioeconomic environments.

Transportation of crude oil by rail was also considered in the Application and in the evidentiary hearing process. The evidence, however, demonstrates that use of rail capacity instead of the Project would be a poor decision for Minnesota.

Economics greatly favor pipeline transport versus rail. Moving a barrel of oil from Edmonton, Alberta to Chicago costs \$11.31/barrel on the Canadian National railroad. On the Canadian Pacific railroad, the cost is \$10.01 per barrel. In comparison, the current Enbridge mainline toll between Edmonton and Chicago is \$4.31 per barrel. The advantage of moving oil by pipeline amounts to \$5.70 to \$7.00 per barrel.

Environmental and socioeconomic costs of rail transportation are also much higher. With a rail alternative, rail car loading and unloading facilities would be required, and new lateral rail service lines would need to be constructed. There is no estimate in the record for the time required to construct the facilities or rail lines, but rail tank cars are currently back-ordered for 15-18 months. The in-service date of the rail alternative would be far later than that of the Project. Social costs, such as increased rail traffic and noise also weigh in favor of pipeline as a preferred transportation method. Rail transportation is also a less reliable method of transportation for crude oil.

MN350/Sierra Club argued in favor of rail transportation, but the analysis presented was incomplete, having failed to consider the socioeconomic impacts of increased rail transportation on Minnesota. The record demonstrates that use of rail traffic to transport 230,000 bpd of crude oil would require moving 786 rail cars per day through Minnesota (393 loaded cars and 393 empty cars returning to loading facilities). This would increase train traffic, depending on the route taken and carrier used, by anywhere from 10% to 90% on different rail segments. As a result, rail carriers in Minnesota would see significant impacts to their level of service. Dealing with the impacts caused by increased rail traffic would require significant capital investments. Without such investment, passenger rail service and the ability of trains to serve other parts of Minnesota's economy will be severely impacted.

As the Minnesota Department of Commerce concluded, rail is not a reasonable or prudent alternative to this Project. Crude oil shippers would not choose to use rail if a pipeline alternative is available.

MN350/Sierra Club witness Mary Ellen Denomy later stated that rail is an alternate method of transportation that should be considered, not an alternative to the Project, meaning that rail transportation can serve locations that are not served by pipelines. Accordingly, no party advocated in favor of transporting an additional 230,000 bpd of crude oil by rail as an alternative to the Project.

4. No alternative pipeline system exists.

No party advanced installation of a new pipeline in Minnesota as an alternative to the Project.

MN350/Sierra Club testified about the impact of the proposed Keystone XL Pipeline on need for the Project, claiming that construction of the Keystone XL Pipeline would result in construction of pipeline capacity from Western Canada that would far exceed demand for such capacity. MN350/Sierra Club also asserted that construction of the Keystone XL Pipeline would eliminate the need for the Project until 2022 or later. Evidence in the record, however, does not support use of the Keystone XL Pipeline over the Project because the in-service date is uncertain, it is not being built to serve the Minnesota, Midwest and PADD II markets, and as Ms. Otis testified, the construction of both the Keystone XL pipeline and the Project will not be capable of transporting the forecasted increases in supply.

Even MN350/Sierra Club's witness Mary Ellen Denomy, the proponent of the Keystone XL discussion in MN350/Sierra Club's written testimony, stated at the evidentiary hearing that she did not analyze the Keystone XL Pipeline as an alternative to the Project.⁴²² Accordingly, no party presented evidence demonstrating that the proposed Keystone XL pipeline is a more reasonable and prudent alternative to the Project.

C. The consequences to society of granting the CON are more favorable than the consequences of denying the CON.

The third major area of inquiry under Minn. R. 7853.0130 is whether the consequences to society of granting the CON are more favorable than the consequences of denying the CON. Minn. R. 7853.0130, Subp. C. In examining this question, the MPUC is to consider:

- the relationship of the proposed facility, or a suitable modification of it, to overall state energy needs;
- the effect of the proposed facility, or a suitable modification of it, upon the natural and socioeconomic environments compared to the effect of not building the facility;
- the effects of the proposed facility or a suitable modification of it, in inducing future development; and
- 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.

Minn. R. 7853.0130, C.

⁴²² Evid. Transcript, Vol. 3, p. 103, lines 19-21.

1. The Project will serve to meet Minnesota's energy needs.

Refineries in Minnesota and the surrounding region must have adequate and reliable access to crude oil to produce the refined products required by the Minnesota public. The Project better ensures that the refineries in Minnesota, in neighboring states, and neighboring regions have that access.

The crude oil transported by the Project will be delivered to refineries in Minnesota, refineries in Minnesota's neighboring states, and refineries in neighboring regions. Due to the highly integrated refined product distribution system in the U.S., the refined product produced from the crude oil transported by the Project will be available to the Minnesota public from Minnesota refineries, refineries in neighboring states, and refineries in neighboring regions.

The heavy crude oil pipelines within the Enbridge Mainline System have been under apportionment in recent months, which means that the shippers are not getting all of the heavy crude that they have nominated for shipment. If the Minnesota refineries cannot obtain all of the heavy crude oil supplies that they require, they would likely either reduce production, or import their supplies using alternate transportation, such as rail or truck.

Apportionment would impose upward pressure on consumer prices. The capacity added by the Project reduces the probability that, due to apportionment, Minnesota refineries will experience crude oil supply shortfalls, with the corresponding reduction in local refined product supply, and lessens the impact of apportionment should it occur. Minnesota refineries could face cost increases of \$70 million per year if they used rail transportation to make up apportionment of heavy crude oil supplies on the Enbridge Mainline System.

Neither of these alternatives are desirable outcomes for the people of Minnesota, as they would lead to decreased refined petroleum product supplies or would require the use of transportation methods that are inferior to pipeline transportation.

Maintaining a secure supply of crude oil to other parts of the United States provides benefits to Minnesota. Minnesota and the surrounding region are highly integrated in terms of refined product distribution. Minnesota imports refined product from neighboring states, while also simultaneously exporting refined products. The same is true for North Dakota and Wisconsin.

Access to North American crude capacity will reduce dependence on oil imported via ocean-going tankers from other continents, including some often less stable, sometimes unfriendly countries, which are typically without the progressive environmental protection laws in place in North America.

Consideration of the evidence related to this factor indicates that the Project should be approved and a CN should be issued.

2. Enbridge has presented evidence regarding the limited effect that the Project will have on the natural and socioeconomic environments compared to the effect of the no-build alternative.

i. The Project will have limited effects on the natural environment in Minnesota compared to the effect of not building the Project.

Enbridge does not deny that constructing the Project, which involves construction of four pump facilities and modification of three existing facilities, will impact the natural environment. Those impacts, however, will be minor when compared to the socioeconomic impacts discussed below. Construction will be limited to discrete sites, and no new pipe will be installed outside of these facilities.

The station sites involved with the Project are located on Enbridge property away from major population centers in Minnesota. No federal, state, or county land, incorporated areas or privately owned land will be impacted. There will be very limited impacts to farmland, wetlands, and forests as the existing stations to be upgraded are already industrial sites. No roads, railroads, or airports will be impacted, other than through temporary traffic for construction work. No national landmarks, national wilderness areas, national wildlife refuges, national wild and scenic rivers, national parks, national forests, national trails, or national waterfowl production areas will be impacted. Similarly, no state critical areas, state wildlife management areas, state scientific and natural areas, state wild, scenic, and recreational rivers, state parks, state scenic wayside parks, state recreational areas, state forests, state trails, state canoe and boating rivers, zoos, or designated trout lakes will be impacted.

Construction of the four new pump station facilities will impact 15.8 acres of actively cultivated agricultural land, 2.98 acres of meadow wetlands and 2.1 acres of trees and shrubs.

There will be some water discharges from trench dewatering and hydrostatic testing, but the volumes involved will be minimal. There will also be some fugitive emissions from construction activities. The level of air emissions expected will not require a permit. And Enbridge does not require air permit approval to construct the Project. No particulate emissions are expected to result from operation of the Project.

ii. The Project will have positive effects on the socioeconomic environment compared to the effect of not building the Project.

The primary socioeconomic benefit to the entire state and the surrounding region will be increased crude oil supplies. The Project will directly benefit the entire Midwest, including Minnesota consumers and manufacturers, by better ensuring that secure supplies of crude oil produced in North America are available to refineries.

Construction of the Project will likely increase the probability that consumers will pay less for the petroleum products they use because the Project adds to existing crude oil pipeline capacity in North America, as opposed to not approving the Project. On the other hand, if the

Project is not built, as urged by MN350/Sierra Club, the projected apportionment of the Enbridge Mainline System will reduce the reliability of the supplies to Midwest refineries, and would force the refineries to continue to rely upon or turn to less economically attractive alternatives and imports from less reliable regions of the world. Apportionment would apply upward pressure on consumer prices.

Dr. Cicchetti's economic analysis focused on the global marketplace for crude oil and its effects on Minnesota and the surrounding region if pipeline capacity does not keep up with demand in the region. In Dr. Cicchetti's view, major supply disruptions, or the threat of major supply disruptions, increases the cost of crude oil because there is little in the way of an insurance pool crude oil supply in the United States. Without the Project, and the effective delivery of oil produced in Canada, Minnesota becomes more at risk to the adverse effects of the global market place and geo-political events.

Dr. Cicchetti's analysis focused on "spare capacity," which is the capacity of crude oil that can be called upon to make up for a shortage of oil. The current spare capacity, on a global scale, is about two million barrels per day, down from five or six million barrels per day in the 1980's, but up from about one million barrels per day before the recent recession. Spare capacity, however, is dropping again. According to Dr. Cicchetti, an increase of 230,000 bpd of transportation capacity is significant when compared to the available spare capacity. Adding the Project will provide efficient transportation and help reduce petroleum prices, as well as mitigates impacts of future supply disruption and volatility. Such price shocks have become particularly harmful to consumers due to the United States becoming energy dependent in the 1970's.

Dr. Cicchetti's economic analysis quantified the benefit of the Project to Minnesota and the surrounding region, considering the Project as an insurance pool to mitigate future crude oil supply disruptions. That analysis included a Net Present Value benefit of the project for petroleum consumers in Minnesota. It was determined that events of lost production or declines in spare capacity have occurred 15.12% of the time since 1986. Using conservative estimates of Minnesota expenditures for gasoline and applying the frequency of expected price jump events (where lost production capacity exceeds spare capacity) the expected amount of gasoline sales subject to future price jumps was calculated to be in excess of \$1 billion per year. The Net Present Value benefit for Minnesota gasoline consumers from the additional 230,000 bpd of Canadian crude delivered via the project is approximately \$788 million over twenty years.

A calculation of Net Present Value benefit for Minnesota consumers of distillate and jet fuel was also prepared. The Net Present Value benefit of the project for Minnesota distillate consumers is estimated to be \$353 million over twenty years. The Net Present Value benefit of the Project for Minnesota jet fuel consumers is estimated to be \$155 million over twenty years. In all, Dr. Cicchetti estimated that the present value of benefits through 2035 to be \$1.3 billion if the Project is constructed.

These benefits are not restricted to Minnesota. Petroleum Area Defense District 2, which consists of Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Iowa,

Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky and Tennessee. Dr. Cicchetti calculated the net present value of the Project to these states to be about \$18.4 billion.

The Project will improve U.S. security of supply by further reducing the need for crude oil imports from the Middle East, and lessening the dependence of the U.S. on heavy crude oil supply from Mexico and Venezuela. The United States has national security reasons to guaranty the flow of crude from Canada rather than from unfriendly countries. A reasonable range for the estimated benefit of reducing oil dependence is between \$20 per barrel and \$40 per barrel. The more conservative \$20 per barrel figure is relied upon as the national security premium attributable to the additional 230,000 bpd of crude delivered to U.S. refineries from safe Canadian sources by the project. Applying the \$20 per barrel estimated national security premium per barrel to such imports would yield a benefit of \$250 million.

Purchasing heavy crude oil from Canada also continues a positive trade relationship. Minnesota's economy is interdependent with Canada, which produces additional jobs, additional income, and opportunities for business.

The Project will provide beneficial impacts on the local economies during construction and operation through new jobs, taxes and increased demand for goods and services from local businesses. Using the Regional Input Output Modeling System, Enbridge anticipates that approximately 2,400 person-years of temporary construction jobs will be created for the duration of construction. According to the Regional Input Output Modeling System, the total economic benefit of the Project is estimated at \$360 million during the year of construction. The installation of additional pump facilities will require a construction schedule of approximately nine months. Enbridge expects to use union contractors and union labor for the project. Unemployment in the area would be temporarily reduced and payroll taxes would temporarily rise. Local businesses would also benefit from the temporary demand for goods and services generated by the workforce's need for food, lodging and supplies. Enbridge expects to purchase some of the materials necessary for construction of the Project locally, including consumables, fuel, equipment, and miscellaneous construction-related materials.

The cost of the Project is estimated at \$159.3 million. Using its current tax schedules, Enbridge estimates that as much as \$2.3 million in additional property taxes will be paid in Minnesota starting in 2016. The increased taxes paid by Enbridge are important to the communities where Enbridge facilities and infrastructure is located. Local elected officials emphasized this point.

These socioeconomic benefits will not be realized if the Application is denied.

3. The Project will induce future development.

The Project will result in increased access to expanding volumes of Canadian heavy crude for refineries in the United States, specifically refineries in Minnesota, Wisconsin, the Chicago area, the Detroit area, the Toledo area, eastern Canada and the United States Gulf Coast region. Refiners require access to reliable and economical supplies of raw materials to remain

competitive, evaluate potential expansions of their facilities and remain financially healthy. A financially healthy refiner can maintain or increase employment and production, maintain and improve its facilities, and have a positive economic impact on its region.

Refiners in the Chicago area, the Detroit area, the Toledo area, eastern Canada and along the United State Gulf Coast have the capability to refine heavy crude oil or other grades of crude oil sourced from western Canada. Marathon Petroleum completed a \$2.2 billion upgrade and expansion project at its Detroit refinery in 2012. In February 2013, a \$400 million investment in the BP-Husky Refining LLC Toledo refinery went online. Refineries along the United States Gulf Coast are making certain upgrades to their refining capabilities; however, they have refined heavy crude oil from Mexico, Venezuela and other parts of the world for some time. They are already configured to process the increased supplies that will be transported through existing pipeline systems via the expanded Line 67.

Enbridge anticipates operation of the Project to commence in 2015. At that time, Enbridge estimates that the Project will yield economic benefits of 97 new jobs and another \$23 million in economic impacts. Those figures rise to 183 new jobs per year and an additional \$44 million economic impact per year beyond 2015.

The business community recognizes the importance of the Project for future development. Numerous individuals provided information regarding the positive impacts Enbridge has had on their businesses and on the benefits that will flow to local businesses and economies if the Project is approved.

These future development opportunities will be lost without the Project.

4. The Project, and the crude oil to be carried by the Project, are socially beneficial.

The Project is both the most economic and most environmentally and socioeconomically friendly means to meet public demand for the refined products produced from the petroleum carried by Line 67. Pipelines operate more safely than any other mode of oil transportation. Liquid pipelines transport 25% more billion ton-miles of shipments than is transported by road, but the average number of hazmat incidents is 1066 times higher for road transports. Similarly, liquid pipelines transport 16% more billion ton-miles of shipments than is transported by rail but the average number of hazmat incidents is 33 times higher for rail transports.

The crude oil that will be transported by the Project will be refined into fuels, medicines, health and safety products, and agricultural products, among others. All of these items are socially beneficial.

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

The Project is subject to permitting or consultation with numerous state, federal, and local agencies, ranging from federal agencies such as the U.S. Army Corps of Engineers to state agencies such as the Minnesota Department of Natural Resources and Minnesota Pollution Control Agency to county-level governments.

The design, construction and operation of the Project is subject to regulation by the United States Department of Transportation under 49 C.F.R. Part 195. Operation of the pipeline will have oversight from PHMSA pursuant to 49 U.S.C. 2001 *et. seq.*

Enbridge has had its Incident Contingency Plan (f/k/a Emergency Response Plan) reviewed by multiple agencies including PHMSA and the U.S. Environmental Protection Agency. The Enbridge plan, approved by PHMSA in July of 2013, is now the industry standard for Emergency Response Preparedness.

There is no indication in the record, nor has it been established by opponents of the Project or others that the design, construction, and operation of the Project will fail to comply with the relevant policies, rules, and regulations of other state and federal agencies and local governments. Enbridge will obtain and abide by the conditions placed on any permit required by law.

CONCLUSION

Enbridge has met all the requirements of Minnesota law related to obtaining a CN. The Department recommends that the MPUC approve the request. Denial of the CN Application would adversely affect the future adequacy, reliability and efficiency of energy supplies to the people of Minnesota, Enbridge's customers, and the surrounding region. A more reasonable and prudent alternative has not been demonstrated on the record. The consequences to society of granting a certificate of need are more favorable than the consequences of denial. And, there is no evidence that the design, construction, and operation of the Project will not comply with relevant policies, rules and regulations of other local, state, and federal governments. The Minnesota Public Utilities Commission should grant a CN to Enbridge for the Project.

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Respectfully submitted,

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