BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
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IN THE MATTER OF THE APPLICATION OF ENBRIDGE ENERGY, LIMITED PARTNERSHIP FOR A CERTIFICATE OF NEED FOR THE LINE 67, PHASE 2 PROJECT	OAH Docket No. 8-2500-30952 MPUC Docket No. CN-13-153

INITIAL BRIEF OF THE MINNESOTA DEPARTMENT OF COMMERCE

APRIL 29, 2014

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INTRODUCTION

The Minnesota Department of Commerce, Division of Energy Resources ("Department" or "DOC") respectfully submits this Initial Brief in order to provide the Administrative Law Judge ("ALJ") and the Minnesota Public Utilities Commission ("Commission") with analysis of the facts and law pertaining to the Application for a Certificate of Need for the Line 67 Phase 2 Project ("Project"), filed by Enbridge Energy, Limited Partnership ("Enbridge" or "Applicant"). Through its analysis of the record, the Department concludes that Enbridge has met its burden of demonstrating that the proposed Project is needed under Minn. Stat. § 216B.243 (2012) and Minnesota Rules 7853.0130 (2013).

PROCEDURAL HISTORY

On June 28, 2013, Enbridge initially filed an Application for a Certificate of Need ("CN") for a Crude Oil Pipeline ("Application"). The proposed Project, once completed, will increase the capacity of Line 67 from 570,000 barrels per day ("bpd") of heavy crude oil to 800,000 bpd of heavy crude oil.[1] Line 67 is a pipeline that is connected to the Enbridge Mainline system.[2] To do this, Enbridge proposes to upgrade existing pumping stations in Minnesota at the Viking, Clearbrook, and Deer River station sites in Marshall, Clearwater, and Itasca counties.[3] In addition, Enbridge proposes to construct new pump stations next to or near existing facilities at the Donaldson, Plummer, Cass Lake, and Floodwood station sites along Line 67 in Kittson, Red Lake, Cass, and St. Louis counties.[4] In terms of need, Enbridge stated that the proposed Project is necessary to provide secure and reliable heavy crude oil supplies to refiners in the

[1] Enbridge Ex. 1 at 1–3 (as stated in Enbridge's Revised Application, discussed *infra*).
[2] *Id.*
[3] *Id.*
[4] *Id.*

Midwest and around the United States.[5] Additionally, Enbridge stated that the proposed Project is needed to relieve projected capacity constraints on Enbridge's Mainline System, including Line 67.[6]

On July 3, 2013, the Commission issued a Notice of Comment Period regarding Enbridge's Application.

On July 24, 2013, the Department filed comments on completeness of Enbridge's Application. The Department requested that Enbridge provide certain additional information and recommended that the Commission refer Enbridge's Application to the Office of Administrative Hearings ("OAH") for a contested case proceeding. MN350 also filed comments to Enbridge's Application.

On July 30, 2013, the Commission extended the time period for filing reply comments to the Application to August 16, 2013.

On August 16, 2013, MN350 filed reply comments to the Department's Application comments. On that day, Donovan D. Dyrdal and Anna M. Dyrdal also filed comments, for the first time, to the Application.

On August 16, 2013, Enbridge filed a revised Application for a CN for a Crude Oil Pipeline ("Revised Application") in response to the Department's request for additional information. Enbridge also filed its own reply comments in which it responded to the Department and to MN350.

On September 17, 2013, the Commission issued a Notice and Order for Hearing in which it determined that Enbridge's Revised Application is substantially complete. The Commission

[5] *Id.*
[6] *Id.*

allowed Enbridge to include the additional information that it provided in the Revised Application and referred the matter to OAH for a contested case proceeding.[7]

On November 14, 2013, the Administrative Law Judge assigned to this matter, Eric L. Lipman, issued a Second Prehearing Order in which the ALJ set procedures for parties in the case and established the following schedule:

Milestone	Timing
Applicant to File Status Report on Meeting Locations and the Mailing and Publication of the Related Meeting Notices	December 5, 2013
Deadline for Intervention	January 10, 2014
The Applicant's Initial Pre-Filed Testimony	January 10, 2014
The Intervenor's Initial Pre-Filed Testimony	February 18, 2014
All Parties' Pre-Filing of Rebuttal Testimony	March 13, 2014
Public Hearings in Greater Minnesota	March 18–21, 2014
Objections to Admissibility of Pre-Filed Testimony	March 27, 2014
Evidentiary Hearing	April 1–3, 2014
Afternoon Public Hearing in St. Paul	April 3, 2014
All Parties' Initial Briefs	April 29, 2014
All Parties' Reply Briefs	May 13, 2014
ALJ Report	June 12, 2014[8]

In this Order, the ALJ also approved the intervention of the Department and MN350/Sierra Club (collectively the "Environmental Intervenors").[9] The ALJ later approved the intervention of Donovan D. Dyrdal and Anna M. Dyrdal ("Dyrdals") in a Third Prehearing Order.[10]

[7] Notice and Order for Hearing, Sept. 13, 2013.
[8] Second Prehearing Order, at 2–3, Nov. 14, 2013. The First Prehearing Order, among other preliminary items, merely scheduled a prehearing conference.
[9] *Id.* at 1.
[10] Third Prehearing Order, at 1, Nov. 18, 2013.

On December 4, 2013, Enbridge filed a revised section 7853.0520 to its Revised Application. This section covers forecast data for the supply and disposition of the various types of crude oil forecasted to be transported on Line 67 once the proposed Project is completed.

On December 20, 2013, Enbridge filed the Direct Testimony of Neil K. Earnest and the Muse Stancil Benefits Analysis for the Line 67, Phase 2 Upgrade.[11] On January 10, 2014, Enbridge filed the Direct Testimony of Mark Curwin, Jeff Jurgens, and Paul Turner.[12] Enbridge witnesses testified that the proposed Project is needed in Minnesota, states surrounding Minnesota, and the region because the increased capacity of Line 67 would serve Midwestern refineries and those around the United States by providing secure and reliable heavy crude oil supplies in addition to alleviating forecasted apportionment of heavy crude oil shipments on Line 67.[13]

From a shipper or refiner's perspective, Enbridge provided letters of general support for the proposed Project from the United Refining Company, BP Products North America, Inc., and Flint Hills Resources, as well as the Canadian Association of Petroleum Producers (CAPP).[14] In addition, Enbridge provided testimony regarding construction of the proposed Project and testimony regarding environmental permits from local, state, and federal entities. Enbridge also provided testimony regarding environmental concerns, such as its preparedness to address pipeline accidents (*e.g.*, pipeline ruptures).[15]

[11] Enbridge Ex. 6 (Earnest Direct), 7 (Muse Stancil Benefits Analysis).
[12] Enbridge Ex. 8 (Curwin Direct), 9 (Jurgens Direct), 10 (Turner Direct).
[13] Enbridge Ex. 6 (Earnest Direct), 7 (Muse Stancil Benefits Analysis).
[14] Enbridge Ex. 8, MC-A (Curwin Direct).
[15] *Id.* at 8–12.

On February 18, 2014, the Department filed the Direct Testimony of Laura B. Otis, as well as Direct Testimony Attachments.[16] The Department reviewed information provided by Enbridge and analyzed publicly available information in order to gain a perspective on how the proposed Project might impact the people of Minnesota, neighboring states, and the region.[17] Notably, this analysis led the Department to recommend that the Commission deny Enbridge's Revised Application based upon the following conclusions: 1) Enbridge had not sufficiently shown that the capacity increase would be used by refiners in Minnesota or the region; Midwestern refiners already receive nearly all of their heavy crude oil from Canada and there are no new refinery expansions on the horizon; further, petroleum product demand in the region is expected to remain relatively flat over the long term; 2) the added capacity would likely serve refiners in the PADD 3 region, which contains the U.S. Gulf Coast; the additional supplies would enable lower imports from countries such as Mexico and Venezuela, as there is no evidence that U.S. demand for petroleum products (and thus crude oil) will increase; and 3) intra- and inter-regional crude oil and petroleum markets, especially those connected by pipeline, influence each other's prices; it is therefore in the best interest of PADD 2 to ensure adequate supply of crude oil and petroleum products to PADD 3, a region with which it is highly integrated.[18] Demand for the increased capacity that would result from the proposed Project is, or will be, present in the Gulf Coast.[19] Any excess demand for Canadian crude in the Gulf Coast may cause apportionment on the Applicant's Mainline system serving Midwest refiners.[20] While apportionment would have negative impacts on shippers using Enbridge's Line 67, the

[16] DOC Ex. 35, 36 (Otis Direct and Direct Attachments).
[17] *Id*. at 26. Minnesota's region is generally referred to as "PADD 2," which is discussed in more detail below. The various PADDs throughout the United States stand for "Petroleum Administration for Defense Districts."
[18] *Id.*
[19] *Id.*
[20] *Id.*

Department determined at the time of its Direct Testimony that Enbridge had not provided sufficient supporting documentation showing that apportionment was likely to occur for shippers in Minnesota and neighboring states.[21]

On February 18, 2014, the Environmental Intervenors filed the Direct Testimony of Mary Ellen Denomy and John Abraham.[22] Their witnesses testified that the proposed Project is not needed and that the proposed Project would exacerbate climate change by facilitating greater emissions of greenhouse gases.[23]

On March 13, 2014, Enbridge filed Rebuttal Testimony of Mark Curwin, Neil K. Earnest, Paul Turner, Charles J. Cicchetti, Ph.D., and William J. Rennicke.[24] Enbridge witnesses Mr. Curwin and Mr. Earnest provided substantial additional testimony regarding need for the proposed Project.[25] In addition, Dr. Cicchetti provided testimony regarding the economic impacts that the proposed Project would have on the heavy crude oil market, in Minnesota, its region, and the United States.[26] Enbridge also provided rebuttal testimony on the proposed Project's environmental impact and rail as an alternative to transport heavy crude oil from western Canada.[27]

On March 13, 2014, the Environmental Intervenors also filed Rebuttal Testimony addressing need for the proposed Project, and that largely critiqued the Department's Direct Testimony.[28] The Environmental Intervenors testified that Enbridge had not only not met its burden in demonstrating the proposed Project is needed in Minnesota and the surrounding states,

[21] *Id.* at 26–27.
[22] MN350 Ex. 50 (Abraham Direct), 52 (Denomy Direct).
[23] *Id.*
[24] Enbridge Ex. 11–20 (Rebuttal Testimony of Curwin, Earnest, Turner, Cicchetti, and Rennike).
[25] Enbridge Ex. 11–17 (Rebuttal Testimony of Curwin and Earnest).
[26] Enbridge Ex. 19 (Cicchetti Rebuttal).
[27] Enbridge Ex. 18 (Turner Rebuttal), 20 (Rennike Rebuttal).
[28] MN350 Ex. 53 (Denomy Rebuttal).

but that the proposed Project is not needed.[29] In addition, Ms. Denomy's testimony purports to support the Keystone XL pipeline as not only an alternative to the proposed Project, but one that would be preferred by shippers.[30]

On March 18 through 20, 2014, ALJ Lipman conducted public hearings in Hallock, Thief River Falls, Cass Lake, Floodwood, and Duluth, Minnesota.

On March 20, 2014, the Department filed a motion seeking the Court's permission to file Surrebuttal Testimony, a round of pre-filed testimony that was not included in the Court's Second Prehearing Order. The motivation for the Department's motion was that Enbridge provided substantial additional facts in its Rebuttal Testimony in support of its argument that the proposed Project is needed under Minnesota law. The Department believed that it was important to respond to Enbridge's Rebuttal Testimony to help develop the record before the Commission for their decision making. On March 21, 2014, the Environmental Intervenors similarly moved for leave to file Surrebuttal Testimony, but also sought to reschedule the evidentiary hearing that was originally scheduled to begin on April 1, 2014. On March 25, 2014, Enbridge responded to the Environmental Intervenors' motion in which it opposed rescheduling the evidentiary hearing, but did not oppose providing all parties with the opportunity to file Surrebuttal Testimony.

On March 26, 2014, the ALJ convened a prehearing conference, from which the ALJ issued an amended scheduling order that granted the Department's motion for Surrebuttal Testimony and ordered the following dates that were slightly amended from the Second Prehearing Order:[31]

[29] *Id.*
[30] *Id.* at 10–17
[31] Seventh Prehearing Order, Mar. 26, 2014.

Milestone	Timing
All Parties' Pre-filed Surrebuttal Testimony	April 3, 2014
Afternoon Public Hearing in St. Paul	April 3, 2014
Objections to Admissibility of Pre-Filed Direct and Rebuttal Testimony	April 4, 2014
Submission of Table Listing the Exhibits to be Offered at the Evidentiary Hearing	April 5, 2014
Objections to the Admissibility of Pre-filed Surrebuttal Testimony	April 8, 2014
Evidentiary Hearing	April 8–10, 2014
All Parties' Initial Briefs	April 29, 2014
All Parties' Reply Briefs	May 13, 2014
ALJ Report	June 12, 2014

On April 3, 2014, the Department filed the Surrebuttal Testimony of Laura B. Otis.[32] After reviewing the Rebuttal Testimony filed by other parties, and reviewing the information provided by Enbridge in its response to the Department's discovery requests, the Department concluded that there now was sufficient evidence in the record to show that the proposed Project is needed.[33] Therefore, the Department recommended that the Commission approve Enbridge's Revised Application for a CN, with the understanding that Enbridge must also obtain all required permits and approvals from local, state, and national government entities.[34]

On April 3, 2014, the Environmental Intervenors filed Surrebuttal Testimony from witnesses Mary Ellen Denomy and John Abraham.[35] Ms. Denomy and Professor Abraham

[32] DOC Ex. 37 (Otis Surrebuttal).
[33] *Id.* at 3.
[34] *Id.*
[35] MN350 Ex. 51 (Abraham Surrebuttal), 54 (Denomy Surrebuttal).

responded to Enbridge's Rebuttal Testimony and reiterated their conclusions that the proposed Project is not needed and would negatively impact the environment.[36]

On April 3, 2014, Enbridge also filed Surrebuttal Testimony from witnesses Neil K. Earnest, Charles Cicchetti, Ph.D., and Jeff Jurgens.[37] Enbridge witnesses largely responded to the Rebuttal Testimony of Mary Ellen Denomy, refuting her testimonial conclusions that did not find need for the proposed Project.[38]

Also on April 3, 2014, ALJ Lipman held the sixth and final public hearing on this matter, in St. Paul.

On April 8–10, 2014, the ALJ held an evidentiary hearing at the Commission.

STATEMENT OF THE ISSUES

The main issue before the Commission is whether Enbridge has showed that the proposed Project satisfies the applicable statutory and rule criteria for a CN, or whether a more reasonable and prudent alternative to the proposed Project has been demonstrated. The Department recommends that the Commission approve Enbridge's Revised Application for a CN because the Department concludes that Enbridge has met its burden of demonstrating that the proposed Project is needed under the need criteria found in Minnesota Rules 7853.0130 (2013).

BURDEN OF PROOF

Enbridge generally bears the burden of proof by a preponderance of the evidence that it has satisfied Minnesota legal criteria for issuance of a CN.[39] As to the question of alternatives to the proposed Project, however, as long as Enbridge has met the need criteria, it is up to other

[36] *Id.*
[37] Enbridge Ex. 21 (Earnest Surrebuttal), 22 (Cicchetti Surrebuttal), 23 (Jurgens Surrebuttal).
[38] *Id.*
[39] Minn. Stat. § 243B.243, subd. 3 (2012).

parties to demonstrate by a preponderance of the evidence that a more reasonable and prudent alternative exists.[40]

ANALYSIS

I. ENBRIDGE HAS SATISFIED THE LEGAL CRITERIA FOR A CERTIFICATE OF NEED UNDER MINN. STAT. § 216B.243 AND MINN. R. 7853.0130

The principal requirements for a certificate of need are set forth in Minnesota Statutes section 216B.243, subdivision 3 and Minnesota Rules 7853.0130A–D. Essentially, Minnesota law requires Enbridge to demonstrate that the proposed Project is needed and that no party other than Enbridge has shown that a more reasonable alternative to the proposed Project exists.[41] As discussed further below, the Department concludes that Enbridge has met these legal requirements.

Given that Minnesota Rules, where provided, are more detailed than corresponding statutory need criteria, the rule criteria found in Minnesota Rules 7853.0130 are used in the Department's Initial Brief as a framework for evaluating Enbridge's compliance with the legal criteria.

A. Under Minn. R. 7853.0130(A), Enbridge Has Shown that 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

After review of Enbridge's Revised Application and its Direct Testimony with attached exhibits, the Department initially concluded that Enbridge had not satisfied the first criterion of Minnesota Rules 7853.0130.[42] That is, the Department concluded that Enbridge had not shown that "the probable result of denial would adversely affect the future adequacy, reliability, or

[40] Minn. R. 7853.0130(B) (2013).
[41] *See* Minn. Stat. § 243B.243, subd. 3.
[42] DOC Ex. 35 at 25–27 (Otis Direct).

efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states . . . ."[43] In evaluating a CN application, the rule directs an evaluator to consider the following factors:

1) the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility;

2) the effects of the applicant's existing or expected conservation programs and state and federal conservation programs;

3) the effects of the applicant's promotional practices that may have given rise to the increase in energy demand, particularly promotional practices that have occurred since 1974;

4) the ability of current facilities and planned facilities not requiring certificates of need, and to which the applicant has access, to meet the future demand; and

5) the effect of the proposed facility, or a suitable modification of it, in making efficient use of resources.[44]

In response, in its Rebuttal Testimony, Enbridge provided substantially more information on this aspect of its proposal.[45] The Department concluded in Surrebuttal Testimony that Enbridge has met this criterion after evaluation of Enbridge's Rebuttal Testimony, recent discovery responses, and analysis of publicly available information.[46]

Specifically, in his Rebuttal Testimony, Enbridge witness Mr. Earnest responded to the Department's Direct Testimony and to the Direct Testimony of the Environmental Intervenors' witness Ms. Denomy.[47] Mr. Earnest presented detailed additional testimony indicating current pipeline capacity shortages, negative implications of Enbridge's apportionment policies for Line

[43] Minn. R. 7853.0130(A).
[44] Minn. R. 7853.0130(A)(1)–(5).
[45] *See generally* Enbridge Ex. 11 (Curwin Rebuttal), 15 (Earnest Rebuttal), 18 (Turner Rebuttal), 19 (Cicchetti Rebuttal), 20 (Rennicke Rebuttal).
[46] DOC Ex. 37 at 24–25 (Otis Surrebuttal).
[47] Enbridge Ex. 15 (Earnest Direct).

67 on Minnesota refineries, evidence supporting higher heavy crude oil volumes or inputs on Enbridge's Mainline system, evidence indicating that Canadian crude will displace other, waterborne, heavy crudes, and evidence of increasing regional refinery heavy crude oil processing.[48]

1. Apportionment on Line 67

The concept of "apportionment" is the most important concept supporting need for the proposed Project and is a provision in Enbridge's tariffs, which are subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC").[49] The term "apportionment" has different meanings on different Enbridge pipelines.[50] Enbridge did not explain these differences in its Revised Application, but Mr. Earnest explained in his Rebuttal Testimony how apportionment would work for Line 67:

> Apportionment occurs when nominations for shipments exceed the available capacity of the pipeline. In that circumstance, the available pipeline capacity is allocated to the shippers as set forth in the tariffs approved by the applicable regulators in Canada and the U.S.[51]

Because Enbridge's Line 67 is a common-carrier pipeline, apportionment means that Enbridge must accommodate all requests by shippers to move supplies on its pipeline.[52] If there is not enough capacity to move all of the shipments, then supplies for all shippers would be reduced.[53] Therefore, under this tariff provision, a shipper that has been moving supplies on Line 67 since the inception of the pipeline would have the same priority as a completely new shipper that

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[48] *See generally id.*
[49] DOC Ex. 37 at 3 (Otis Surrebuttal); Enbridge Ex. 29 (FERC Tariff).
[50] *Id.*
[51] Enbridge Ex. 11 at 5 (Earnest Rebuttal).
[52] DOC Ex. 37 at 4 (Otis Surrebuttal). For purposes of determining when to apportion shipments of heavy crude oil on the Enbridge Mainline system, Lines 67 and 4 are considered to be one single service. Trial Tr. vol. 1, 201–205, Apr. 8, 2014. Mr. Curwin indicated that shipments of heavy crude oil on Line 67 are increasing, but that Line 4 is subject to capacity restrictions. *Id.* at 201.
[53] *Id.*

wants to ship products through Minnesota to an entirely different region.[54] Any apportionment, however, does not occur before the pipeline is fully utilized.[55]

Apportionment is an important topic in this proceeding because under applicable FERC tariffs, Minnesota refiners may be unable to satisfy even their existing heavy crude oil needs if heavy crude oil buyers require amounts that exceed, in aggregate, Enbridge's pipeline capacity to carry heavy crude oil.[56] Mr. Earnest testified that the Enbridge Mainline system recently experienced intermittent apportionment and will continue to do so.[57] The Department agrees that these data show intermittent apportionment on Enbridge's heavy crude lines, but some of this apportionment will likely be alleviated when the Line 67 Phase I upgrade,[58] which has already been approved by the Commission, comes online.[59] Nonetheless, in some cases, there would have been apportionment even if the Phase I expansion had been completed.[60] Table 1 below shows the level of apportionment (in thousands of bpd) on Enbridge's heavy crude lines (Lines 4 and 67) with and without the Phase I upgrades.[61]

Table 1: Mainline Heavy Crude Historical Apportionment

Month/Year	Lines 4 and 67	Lines 4 and 67 (with Phase I)
October 2012	108	0
December 2012	105	0
February 2013	87	0

[54] *Id.*
[55] Trial Tr. vol. 1, 206, Apr. 8, 2014.
[56] DOC Ex. 37 at 4 (Otis Surrebuttal).
[57] *Id.* at 5.
[58] *Id.*
[59] *Id.* The Phase I upgrade is the first of two upgrades to Enbridge's Line 67 pipeline, which will increase average daily throughput on Line 67 by 120,000 bpd. The Phase I upgrade expansion was approved by the Commission in an August 12, 2013 Order in Docket No. PL9/CN-12-590.
[60] *Id.* at 6.
[61] *Id.*

December 2013	174	54
January 2014	269	149
February 2014	266	146

This intermittent increase in apportionment was likely the result of heavy crude oil upgrades coming online in December, 2013 at BP's Whiting refinery.[62] Mr. Earnest provided information in his Rebuttal Testimony that corroborates the ramp-up in production at BP's Whiting refinery.[63]

The Department generally agrees with Enbridge's view that apportionment is not desirable.[64] Minnesota refiners have invested significant capital in the heavy crude oil processing equipment at their refineries.[65] Moreover, the price differential between light crudes and heavy crudes make it unlikely that these refiners would substitute light crude for heavy crude.[66] If refiners 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 by rail or truck.[67] Both of these alternatives are undesirable outcomes for the people of Minnesota, as the alternatives would lead to decreased refined petroleum product supplies or would require the use of transportation methods that are generally inferior to pipeline transportation, such as rail or truck.[68]

[62] DOC Ex. 37 at 6 (Otis Surrebuttal).
[63] *Id.*
[64] *Id.* at 7.
[65] *See* DOC Ex. 37 at 7, LBO-S-2, LBO-S-6 (Otis Surrebuttal).
[66] *Id.* at 7.
[67] *Id.*
[68] *Id.*

2. Evidence of Refineries Increasing Their Capacity to Refine Heavy Crude Oil and Increasing Forecasted Demand

Enbridge discusses in its testimony instances of refineries in the Midwestern region that are increasing their capacity to refine heavy crude oil from western Canada.[69] Most notably among these is the BP Whiting refinery, located in Whiting, Indiana.[70] Once completed, the BP Whiting refinery is expected to be able to refine approximately 268,000 bpd of heavy crude oil, on average.[71] Additionally, the Flint Hills Resources refinery in Rosemount, Minnesota is planning a 36,000 bpd heavy crude oil refining expansion.[72] After accounting for the capacity added by the Phase I upgrade (120,000 bpd), the heavy oil refinery market in the region (PADD 2) will still require an additional 184,000 bpd of capacity, which the proposed Project could supply.[73] The apportionment cited by Mr. Earnest, and outlined in Table 1 above, plus the known upgrades to Midwestern refineries, support a need for additional heavy crude oil supplies in the Midwest above what was approved in Docket No. PL9/CN-12-590 (Phase I).[74] If apportionment on pipelines transporting heavy crude oil from Canada to the Midwest is to be avoided, then under Enbridge's FERC tariffs applicable to Line 67, additional pipeline capacity is needed.[75]

The anticipated capacity increases at Midwestern refineries also can be analyzed in conjunction with forecasted apportionment.[76] First, it is important to understand construction

[69] Enbridge Ex. 15 at 10–13 (Earnest Rebuttal).
[70] *Id.* at 11–12.
[71] *Id.* at 11; *see also* Enbridge Ex. 12 at Ex. D (Curwin Rebuttal).
[72] DOC Ex. 37 at 22, LBO-S-5, LBO-S-6 (Otis Surrebuttal).
[73] *Id.* at 22.
[74] *Id.*
[75] *Id.*
[76] *Id.* at 23.

timelines.[77] The data on historical apportionment is from periods both before and after the upgrades at BP's Whiting refinery were completed and production began to ramp-up.[78] BP Whiting completed its upgrades in late 2013, but the refinery is not yet fully ramped up to refine heavy crude oil.[79] Therefore, historical apportionment data does not fully incorporate known heavy crude refinery upgrades at BP Whiting or Flint Hills or the additional capacity the Line 67 Phase I upgrade is expected to provide.[80] When analyzing future apportionment risk, it is necessary to add together all known upgrades to refinery capacity (*e.g.*, Flint Hills and BP Whiting) and then subtract known pipeline capacity increases, such as the Phase I upgrade, to determine whether known additions to pipeline capacity will alleviate historical apportionment.[81]

Since the known increases in heavy crude refining capacity exceed the Phase I upgrade capacity by 184,000 bpd, the mathematical result means that historical apportionment will not be relieved unless additional pipeline capacity is added.[82] In fact, apportionment would be expected to increase.[83] A summary of impacts on the capacity of Line 67 can be outlined as follows:

Table 2: Known Impacts on Heavy Crude Pipeline Capacity

Phase I Upgrade (bpd)	Phase II Upgrade (bpd)	Historical Intermittent Apportionment (bpd)	BP Whiting Upgrade (bpd)	Flint Hills Resources Upgrade (bpd)
120,000	230,000	Up to 299,000	268,000	36,000

[77] *Id.*
[78] DOC Ex. 37 at 23 (Otis Surrebuttal).
[79] *Id.*
[80] *Id.*
[81] *Id.*
[82] *Id.*
[83] *Id.*

Enbridge also provided letters of support from petroleum associations and refineries in the Midwest, including Minnesota.[84] The Department did not address the letters provided by Enbridge witness Mark Curwin in his Direct Testimony because these letters indicate only general industry support for the proposed Project, and do not adequately establish need for the proposed Project in Minnesota or neighboring states.[85] In other words, the general nature of their support does not constitute an adequate demonstration of need for expansion of Enbridge's pipeline.[86] While Enbridge provided far more detailed letters of support in its Rebuttal Testimony, they are not particularly helpful in showing that refineries will experience apportionment without the proposed Project or to what extent.[87] As discussed above, apportionment, if it were to occur, would be an undesirable outcome for the people of Minnesota and neighboring states.[88] These letters of support do, however, provide some information regarding refineries increasing their capacity to refine heavy crude oil, notably the capacity expansion at the BP Whiting refinery for heavy crude oil from western Canada.[89]

3. Accuracy of Supply and Demand Forecasts for Western Canadian Heavy Crude Oil

With regard to Enbridge's demand, supply, and apportionment forecasts, the Department does not dispute that the proposed Project is intended to serve future needs, but the Department cannot independently verify Enbridge's demand and apportionment forecasts because this information is based on proprietary sources that Enbridge, unfortunately, did not reveal.[90] Given this obstacle, the Department cannot conclude that the Applicant's unverified forecasts provide

[84] Enbridge Ex. 8 at Ex. A (Curwin Direct); Enbridge Ex. 12, at Ex. C–E (Curwin Rebuttal).
[85] DOC Ex. 37 at 11 (Otis Surrebuttal).
[86] *Id.*
[87] Enbridge Ex. 12 at Ex. C–E (Curwin Rebuttal).
[88] DOC Ex. 37 at 11 (Otis Surrebuttal).
[89] Enbridge Ex. 12 at Ex. C–E (Curwin Rebuttal).
[90] DOC Ex. 37 at 5 (Otis Surrebuttal).

sufficient evidence of need.[91] What the Department has relied upon, however, is information that shows need in the near term, such as historical apportionment data and announced heavy crude refinery upgrades, because the Department was able to verify this information with publicly-available information.[92]

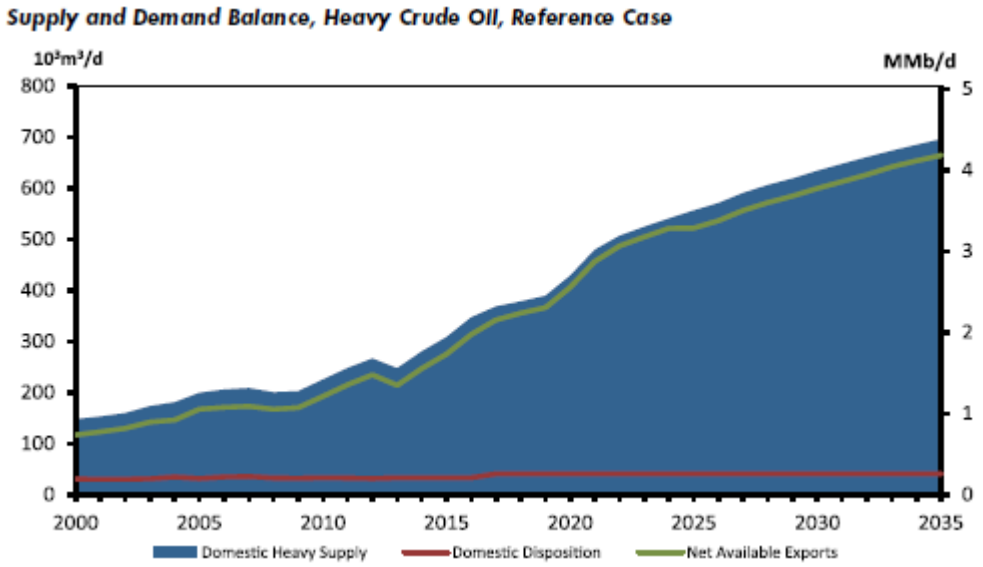
The Department agrees that refiners do, at times, process more than their average yearly requirements.[93] Just as refinery requirements are reported in terms of averages, however, so, too, are pipeline throughputs.[94] When the Commission issues a CN for a pipeline, it does so in terms of average annual capacity.[95] Presumably, Enbridge is shipping somewhat more than the average annual throughput permitted by the terms of its CN during months when refiners are requesting more than their average annual requirements, and less when refinery demand happens to be lower.[96]

As to forecasting supply of heavy crude oil that is available to be shipped from western Canada, the Department relied on reports from the Canadian National Energy Board (NEB), an independent governmental regulatory agency.[97] Specifically, the Department analyzed data provided in its report "Canada's Energy Future 2013 - Energy Supply and Demand Projections to 2035 - An Energy Market Assessment."[98] This report presents supply projections through 2035 for a reference case, which represents the most likely outcome, and for a high price and a low

[91] *Id.* at 5, 21.
[92] *Id.*
[93] *Id.* at 8.
[94] *Id.*
[95] DOC Ex. 37 at 8 (Otis Surrebuttal).
[96] *Id.*
[97] *Id.* at 16
[98] *Canada's Energy Future 2013 – Energy Supply and Demand Projections to 2035 – An Energy Market Assessment*, National Energy Board, (Nov. 2013), http://www.neb-one.gc.ca/clf-nsi/rnrgynfmtn/nrgyrprt/nrgyftr/2013/nrgftr2013-eng.html.

price case.[99] The report's referenced case predicts that Canadian heavy crude oil available for export (production less domestic production) will increase by 182 percent, or 4.2 million bpd, between 2012 and 2035.[100] This predicted change is illustrated in the figure below.[101]

Figure I: Projected Supply/Demand Balance for WCS



The NEB's data suggests that the NEB expects Canadian heavy crude oil available for export to increase significantly, by 1.4 million bpd between 2012 and 2020.[102] After accounting for the 120,000 bpd that the Phase I upgrade is designed to accommodate, and a possible 730,000 bpd of capacity that may be served by the Keystone XL pipeline, there remains over 500,000 bpd of heavy crude production that would be available for other transport methods—such as rail or the proposed Project—to serve.[103] As a result, the Department concluded that this information

[99] DOC Ex. 37 at 16 (Otis Surrebuttal).
[100] *Id.*
[101] *Id.*
[102] *Id.* at 17; *see also id.* at LBO-S-3.
[103] *Id.* at 17.

indicates that the NEB forecasts anticipate growth in Canadian heavy crude oil available for export to the U.S.[104]

The Environmental Intervenors questioned the Department's testimony regarding the potential for Gulf Coast refiners to replace imports of heavy crude oil from other regions with Canadian heavy crude oil.[105] Environmental Intervenors witness Ms. Denomy testified that the Department failed to adequately address the commercial constraints that refiners face when contemplating a switch from one supply of heavy crude oil to another.[106] The Department agrees that the fact that foreign producers of heavy crude oil own heavy crude oil refineries in the Gulf Coast will impact the likelihood that these refiners will switch sources of crude oil.[107] While Ms. Denomy provided a detailed breakdown of the heavy crude oil refining capacity in the Gulf Coast that is controlled by international interests, she did not show that the Department's initial conclusion is invalid: that there is heavy crude oil currently being imported to the Gulf Coast that could be backed out by Canadian supplies.[108] The Department's conclusion is supported by Section 1.4.4.2 of the Draft Supplemental Environmental Impact Statement on the Keystone XL pipeline, which states that U.S. Gulf Coast refiners could absorb and process 1.5 to 2 million bpd of heavy crude oil.[109] Even after subtracting the capacity controlled by Mexican and Venezuelan interests cited by Ms. Denomy, there remains over 1,000,000 bpd of heavy crude oil refining capacity in the Gulf Coast that could be supplied by the proposed Project.[110]

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[104] *Id.*
[105] *See* MN350 Ex.53 at 6–10 (Denomy Rebuttal).
[106] *Id.* at 6.
[107] DOC Ex. 37 at 18 (Otis Surrebuttal).
[108] MN350 Ex.53 at 6–10 (Denomy Rebuttal).
[109] *See* DOC Ex. 37 at LBO-S-7 (Otis Surrebuttal).
[110] *Id.*

Ms. Denomy also presented an analysis of recent declines in Gulf Coast imports of crude oil in general.[111] Based on an analysis of the Department's Direct Testimony, Ms. Denomy concluded that the Department did not put declines in crude oil imports into context or attempt to analyze the reasons for these declines.[112] Ms. Denomy then offered her analysis of the decline in imports to the U.S. Gulf Coast, concluding that U.S. production increases are decreasing the need for imports in the Gulf Coast.[113] While Ms. Denomy is correct in her conclusion that U.S. production increases are decreasing the need for imports in the Gulf Coast, she did not account for the distinction between light and heavy crude oil.[114] U.S. production is increasing due to advanced drilling techniques, which allow for extraction of tight oil resources in states such as Texas and North Dakota.[115] These tight oil formations yield light crude oils that trade at a premium to heavy crude oil and would not be used as substitutes for heavy crude oil at refineries that have invested in equipment capable of refining heavier, cheaper crudes.[116] Hence, rising U.S. crude oil production is likely to only replace imports from countries that produce light grades of crude oil.[117]

4. Analysis of the Current Enbridge Mainline System's Ability to Serve Forecasted Increase in Demand and Supply for Western Canadian Heavy Crude Oil

The Department's understanding is that the crude oil market generally treats different types of crude oil differently—that is, they are priced differently, they are refined differently, they must be treated differently when being shipped, and they are marketed separately.[118] From

[111] MN350 Ex. 53 at 7–10 (Denomy Rebuttal)
[112] *Id.*
[113] *Id.*
[114] DOC Ex. 37 at 19 (Otis Direct).
[115] *Id.*
[116] *Id.*
[117] *Id.*
[118] DOC Ex. 37 at 14 (Otis Surrebuttal).

a need, or economic perspective, the differences between light crude oil and heavy crude oil indicate that the markets for these two grades of crude oil should be considered separately.[119] Although heavy and light crudes can be shipped on the same line, pipeline companies, such as Enbridge, may choose to designate entire lines to the shipment of one or the other.[120]

The Department is also aware that refiners often refine both heavy and light grades of crude oil, and that a refinery that is able to refine one-hundred percent heavy crude oil could choose to refine light crude oil instead (though it is not possible without significant investment for a refinery configured for light crude oil inputs to process heavier crude oil).[121] It is unlikely, in the Department's view, that a refinery would make a change from refining heavy to light crude oil under current transportation and crude oil prices.[122]

Regarding transportation, Enbridge testified that shipping crude oil by rail adds six dollars per barrel to the cost of transportation, while the price differential between heavy Western Canadian Select ("WCS") and light West Texas Intermediate ("WTI") has averaged $22.93 in 2014.[123] Based upon this information, even if refiners were forced to obtain heavy crude via rail, they would still receive a better margin than if they had switched to refining light crude oil.[124] Given the significant investments refiners make to refine heavy crude oil, such refiners are looking for margins to pay for the capital investments made to enable their refinery to process heavy crude oil:

> Heavy crude isn't just harder to extract, it's also harder to refine. To prepare, U.S. refiners invested some $20 billion on new equipment designed to process thicker types of oil. Then a funny thing happened: The U.S. shale boom unlocked

[119] *Id.*
[120] *Id.*
[121] *Id.* at 14–15.
[122] *Id.* at 15.
[123] *See* Enbridge Ex. 15 at NKE-R-C (Earnest Rebuttal); DOC Ex. 37 at LBO-S-1 (Otis Surrebuttal).
[124] DOC Ex. 37 at 15 (Otis Surrebuttal).

> vast quantities of some of the best oil on earth: light, sweet crude that's easy to refine into gasoline.
>
> Just as they were arming for a future of heavy oil, refiners found themselves surrounded by some of the lightest crude on earth. It was cheap, too. There was so much oil coming out of North Dakota and west Texas that the price of domestic crude plummeted. Starting in 2011, West Texas Intermediate (WTI)—the benchmark for U.S. light, sweet crude—began trading at a discount to its international equivalent, Brent. From March 2011 to March 2013, a barrel of WTI was, on average, about $17 cheaper than a barrel of Brent.
>
> But in the last few months, the price of WTI has surged nearly 25 percent, rising from $86 a barrel in April to above $107 on Aug. 1. The discount is now under $2. All that new U.S. crude is still high quality, but it's no longer cheap. As a result, refiners are getting hungry for cheaper, heavier oil so they can finally start recouping the investment they made to take the stuff.[125]

Moreover, Environmental Intervenors witness Ms. Denomy testified that construction of the proposed Project would adversely affect fuel prices, partially due to the fact that producers of Canadian crude oil have limited access to global markets and are therefore selling their product at a discount.[126] Further, she explained that this is so because the proposed Project would contribute to rising petroleum product prices in the Midwest by exposing Midwestern refiners to international competition for heavy crude oil supplies.[127] The Department agrees that infrastructure constraints have trapped crude oil in the U.S. Midwest, resulting in discounted prices for crude oil.[128] The Department does not agree, however, with Ms. Denomy's position that this situation has benefited Midwestern consumers.[129] It has certainly benefited Midwestern

[125] DOC Ex. 37 at LBO-S-2 (Otis Surrebuttal) (quoting Matthew Philips, *Swapping U.S. Crude for Mexico's Heavy Oil Won't Really Work*, BLOOMBERG BUSINESSWEEK, Aug. 6, 2013).
[126] MN350 Ex. 53 at 23 (Denomy Rebuttal).
[127] *Id.*
[128] DOC Ex. 37 at 20 (Otis Surrebuttal).
[129] *Id.*

refiners, but there is no evidence that the cost savings have been passed on to consumers rather than increasing the profits at refineries.[130]

5. Summary

The Department concludes that, with the additional information that Enbridge provided, in particular explanation of the FERC tariffs regarding apportionment, denial of the requested Project would have a negative effect on the adequacy, reliability, or efficiency of crude oil supplies to the people of Minnesota and neighboring states.[131] That is, denial of the proposed Project may reduce the *existing* level of supplies, due to the apportionment provision in FERC tariffs.[132] Avoiding apportionment is important because such apportionment would force refiners to either reduce production of refined products or to import heavy crude oil through other means.[133] Both of these alternatives would be unreasonably inferior to the proposed Project.[134]

B. Under Minnesota Rules 7853.0130(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

Pursuant to Minnesota Rule 7853.0540, Enbridge examined several alternatives to the proposed Project and provided analyses of how each compares to the proposed Project.[135] Minnesota Rule 7853.0540 requires a petitioner for a large energy facility (LEF) CN to discuss the design, area, and estimated in-service date, method of operation, cost, economic life, and reliability of possible alternatives.[136] Minnesota Statutes section 216B.243, subdivision 3(6) also

[130] *Id.*
[131] *Id.*
[132] *Id.* at 7–8.
[133] *Id.* at 8.
[134] DOC Ex. 37 at 8 (Otis Surrebuttal).
[135] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[136] Minn. R. 7853.0540 (2013).

requires a petitioner to produce a summary of its reasons for rejecting each alternative.[137] In its Revised Application, Enbridge provided a detailed discussion of the following alternatives:

a. no action;

b. new pipeline;

c. Keystone XL pipeline;

d. trucking;

e. railroad; and

f. different pipeline route.[138]

Enbridge provided further comparison of crude oil transportation modes in Mr. Neil Earnest's Rebuttal Testimony and Mr. William Rennicke's Rebuttal Testimony.[139]

1. No Action Alternative

Enbridge rejected the no-action alternative on the basis of its assertion of a need for increased crude oil supplies to avoid apportionment on the Enbridge Mainline system (of which Line 67 is a part).[140] Enbridge asserted that no action would not ensure that refiners in Minnesota, the region, and beyond would have access to supplies of crude oil through their pipeline.[141]

The reasonableness of the no-action alternative speaks to the overall need of the proposed Project.[142] As indicated above, the Department concludes that Enbridge has met its burden of

[137] Minn. Stat. § 216B.243, subd. 3(6) (2012).
[138] *See* Enbridge Ex. 1 at 7853.0540 (Revised Application).
[139] Enbridge Ex. 7 at 36–39 (Muse Stancil Benefits Analysis), Ex. 15 at 21–22 (Earnest Rebuttal), Ex. 20 (Rennicke Rebuttal).
[140] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[141] *Id.*
[142] DOC Ex. 35 at 30 (Otis Direct).

proof of showing that the project is needed in Minnesota, neighboring states, or the region.[143] Therefore, the no action alternative is not a reasonable alternative to the proposed Project.

2. Pipeline Alternatives, Including the Keystone XL Pipeline

Enbridge considered two pipeline alternatives.[144] The first was a new twenty-four inch pipeline capable of accommodating the 230,000 bpd capacity requested in the Revised Application.[145] This new line would run parallel to the existing Line 67 and would be operated by Enbridge.[146] The other pipeline alternative considered by Enbridge was to use the proposed Keystone XL pipeline, which is not operated by Enbridge, but by TransCanada.[147] Enbridge, however, rejected the new pipeline alternative on the basis of a comparison between the proposed Project and the twenty-four inch pipeline alternative.[148] The points of comparison Enbridge discussed are: (1) environmental; (2) cost; and (3) flexibility.[149] Enbridge indicated that a new pipeline (rather than the Keystone XL pipeline) would require major construction along the entire 990 mile route from Hardisty, Alberta to Superior, Wisconsin.[150] This construction would impact the environment to a much greater extent than the proposed Project.[151] Enbridge also indicated that the costs would be substantially higher for this option.[152] Enbridge acknowledged that a new line would be a more flexible and scalable option, but

[143] *Id.*
[144] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[145] *Id.*
[146] *Id.*
[147] *Id.*
[148] *Id.*
[149] *Id.*
[150] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[151] *Id.*
[152] *Id.*

ultimately rejected the new pipeline option on the basis of the greatly increased environmental disruption and cost burden.[153]

Constructing a new pipeline as an alternative would pose a greater impact on the environment than merely upgrading the existing Line 67.[154] Table 7853.0600-1 in the Applicant's filing compared the various impacts on the natural environment to Enbridge's proposed pump station upgrade.[155] This table shows that the impacts on the natural environment by the proposed Project would be a fraction of those of a new pipeline.[156]

It is the Department's understanding that Line 67 was originally specified, constructed, and tested to operate at its ultimate planned capacity of 800,000 bpd for heavy crude oil.[157] According to the original site permit, Line 67 was constructed in 2008 at, or above, building requirements.[158] Being relatively new, Line 67 should not have a high probability of spills.[159] A newer line may have a slightly lower probability of oil spills, particularly because the Pipeline Safety Act of 2011 may impose higher safety standards on a new pipeline, but any improvement is not expected to make an appreciable difference for purposes of this analysis.[160] As shown by Enbridge, this alternative is not a reasonable alternative because of the additional costs associated with the alternative and the increased impacts to the natural environment.[161]

Enbridge also considered the Keystone XL pipeline as an alternative.[162] The Keystone XL is a proposed 1,179 mile pipeline running from Hardisty, Alberta to Steele City, Nebraska

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[153] *Id.*
[154] DOC Ex. 35 at 31 (Otis Direct).
[155] Enbridge Ex. 1 at 7853.0600 (Revised Application).
[156] *Id.*
[157] DOC Ex. 35 at 32 (Otis Direct).
[158] *Id.*
[159] *Id.*
[160] *Id.*
[161] *Id.*
[162] Enbridge Ex. 1 at 7853.0540 (Revised Application).

that would carry 830,000 bpd of crude oil,[163] of which approximately 730,000 bpd would be heavy crude.[164] Enbridge, however, rejected the Keystone alternative for two reasons: 1) availability of capacity on Keystone XL; and 2) Keystone XL serves different U.S. crude oil markets than the proposed Project would serve.[165] Enbridge also rejected the Keystone XL alternative because industry forecasts from the Canadian Association of Petroleum Producers have estimated growth in Canadian oil production of more than 1.9 million bpd by 2020.[166] This projected increase in the growth of Canadian oil production means that the 830,000 bpd of incremental capacity proposed to be provided by Keystone XL would be insufficient to accommodate the projected increase.[167] Enbridge believes that the Keystone XL project alone will not provide sufficient takeaway capacity to move all Canadian heavy oil production by 2020.[168]

Whether the Keystone XL pipeline is a reasonable alternative to the proposed Project also depends upon whether the Keystone XL pipeline would alleviate historical and forecasted apportionment at Midwestern refineries and would serve Midwestern refineries' increase in capacity to refine heavy crude oil.[169] As indicated above, the Department's review of the NEB data suggests that the NEB expects Canadian heavy crude oil available for export to increase significantly, by 1.4 million bpd between 2012 and 2020.[170] Even after accounting for the 120,000 bpd that the Phase I upgrade is designed to accommodate, and a possible 730,000 bpd of capacity that may be served by Keystone XL, there remains over 500,000 bpd of heavy crude

[163] *Id.*
[164] *Id.*; DOC Ex. 35 at 32 (Otis Direct).
[165] Enbridge Ex. 1 at 7853.0540 (Revised Application); *see also* Trial Tr. vol. 1, 102–103, 207, Apr. 8, 2014.
[166] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[167] *Id.*
[168] *Id.*
[169] DOC Ex. 35 at 33–35 (Otis Direct). As indicated above, the Department relied upon historical apportionment and announced heavy crude refinery upgrades in analyzing whether the proposed Project is needed.
[170] DOC Ex. 37 at 17 (Otis Surrebuttal).

production that would be available for other transport methods, such as by rail or by the proposed Project.[171] As a result, the Department concludes that this information indicates that the NEB forecasts anticipate growth in Canadian heavy crude oil available for export to the U.S. and that the Keystone XL pipeline is not, by itself, a reasonable alternative to the proposed Project.[172]

3. Non-Pipeline Alternatives: Trucking and Railroad Transport

Enbridge discussed several problems with truck and rail alternatives for heavy crude oil transportation.[173] Enbridge's concerns are: 1) cost; 2) projected in-service date; 3) environmental/social issues; 4) infrastructure; and 5) reliability concerns.[174]

The Department has determined that both truck and rail alternatives would have significant costs, both fixed (upfront capital expenditures on rail cars or trucks, loading and unloading facilities, and rail tracks and road upgrades) and variable (maintenance and labor from engineers, drivers, and loading crews) over the economic life of the project that would make these alternatives to the proposed Project unreasonable.[175] As Enbridge indicated, an example of the fixed costs associated with the trucking option include the construction of loading and unloading facilities in Hardisty, Alberta and Superior, Wisconsin, along with acquisition of the 8,280 tank trucks required to move the daily capacity proposed in the instant project.[176] Similar fixed costs would accompany the railroad option.[177] Additional rail loading and unloading

[171] *Id.*
[172] *Id.*
[173] Enbridge Ex. 1 at 7853.0540 (Revised Application); *see also* Enbridge Ex. 7 at 36–39 (Muse Stancil Benefits Analysis), Ex. 15 at 21–22 (Earnest Rebuttal), Ex. 20 (Rennicke Rebuttal).
[174] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[175] DOC Ex. 35 at 35 (Otis Direct).
[176] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[177] *Id.*

facilities would also need to be constructed in Hardisty and Superior.[178] Enbridge indicated that it would have to acquire 13,824 tank cars and new above-ground rail lines would need to be constructed to accommodate the surge in rail traffic between Hardisty and Superior.[179] In terms of ancillary costs associated with the trucking option, the general public would have to bear significant costs associated with the need to repair or expand public roadways along the route used by the trucks.[180]

The projected in-service date for the trucking alternative is difficult to estimate because, as Enbridge notes, there is no crude oil trucking operation in existence that handles the capacity contemplated by the proposed Project.[181] Enbridge stated that it would be very difficult to construct the necessary loading and unloading terminals on an acceptable timeline, and that it is impossible to guess how long it would take to acquire the necessary truck fleet, hire and train drivers, and perform necessary road upgrades.[182]

For the rail alternative, the same timing concern with construction of loading and unloading facilities exists.[183] Due to increased rail transport of crude oil in recent years, Enbridge provided information about the timeline for acquisition of tank cars—the increase in rail transport of crude has led to one hundred percent use of tank car manufacturing capacity and a backlog of over 70,000 cars, a situation that is expected to persist through 2015.[184] The wait

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[178] *Id.*
[179] *Id.* Enbridge witness William Rennicke testified at the evidentiary hearing that if the proposed Project is not approved, at least eight additional trains per day would be moving heavy crude oil in Minnesota from western Canada. Trial Tr. vol 1, 143, Apr. 8, 2014. Each train has approximately 100 tank cars. *Id.* at 147.
[180] DOC Ex. 35 at LBO-5 (Otis Direct).
[181] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[182] *Id.*
[183] *Id.*
[184] *Id.*; Chester Dawson, *Oil Boom Heats Up the Rails*, THE WALL STREET JOURNAL (July 18, 2013), http://online.wsj.com/news/articles/SB10001424127887324263404578612151990815338.

for tank cars and the construction timeline for new loading and unloading facilities push the in-service date for the rail alternative past the projected in-service date for the proposed Project.[185]

Enbridge also attempted to quantify the economic damage to Minnesota refiners should they be forced to use rail as an alternative to pipeline to ship heavy crude oil.[186] According to Mr. Earnest, the cost to Minnesota refiners could exceed seventy-five million dollars per year.[187] The basis for this conclusion is that it could cost Minnesota refiners an extra six dollars per barrel to ship heavy crude oil.[188] Enbridge's witness concluded that one of the economic effects of shipping oil by rail, rather than by pipeline, if a refiner is apportioned could cause consumer prices to slightly rise.[189]

Truck and rail alternatives also pose substantial environmental disadvantages.[190] Environmental disadvantages to the trucking and rail alternatives generally come in a few forms.[191] First, both truck and rail transport result in more emissions from transport per barrel shipped.[192] Second, the construction of loading and unloading facilities and possible expansion of roads or railways would require new land acquisition and potentially disrupt local wildlife.[193] Third, increased overland traffic on road or rail routes would increase disturbances to wildlife living in the vicinity.[194] The social disadvantages due to the trucking or rail alternatives are

[185] Enbridge Ex. 1 at 7853.0540 (Revised Application).
[186] Enbridge Ex. 15 at 22 (Earnest Rebuttal).
[187] *Id.*
[188] *Id.*
[189] *Id.* at 23.
[190] DOC Ex. 35 at 36 (Otis Direct).
[191] *Id.*
[192] *Id.*
[193] *Id.* at 36–37.
[194] *Id.* at 37.

caused by the disturbances from increased truck or rail traffic: traffic congestion, increased exhaust emissions, and noise pollution.[195]

Enbridge provided information regarding overall safety of rail transport of crude oil compared to the proposed Project in Table 7853.0250-A-3 of the Revised Application.[196] This data can be linked back to data from the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA).[197] The information provided clearly shows that both road and rail transport of hazardous materials result in greater incident rates than pipeline transport.[198] Trucks and railcars are also susceptible to delays due to poor weather conditions.[199] In the event of severe weather, roads and railways can be rendered impassable for days at a time, halting any crude oil shipments.[200] On the contrary, the proposed Project is unlikely to be affected by weather conditions.[201]

4. Summary

Regarding the alternative transportation methods, with the exception of the Keystone XL alternative, all of the options considered should be rejected on the basis of higher costs, increased environmental disruptions, and extended in-service dates.[202] The Keystone XL alternative should also be rejected as a substitute for the need to be served by Enbridge's proposed Project because Canadian oil production increases over the next decade are expected to far exceed the

[195] *See id.* at LBO-6.
[196] Enbridge Ex. 1 at 7853.0250 (Revised Application).
[197] *Id.*
[198] *Id.* Road transport of crude oil has resulted in 650.6 incidents per billion ton miles shipped, rail transport has resulted in 20.5 incidents per billion ton miles shipped, and pipeline transport has resulted in 0.61 incidents per billion ton miles shipped.
[199] *Id.*
[200] *Id.*
[201] *Id.*
[202] DOC Ex. 35 at 38 (Otis Direct).

additional capacity provided by the Keystone XL pipeline.[203] In addition, the Keystone XL pipeline would not likely serve Minnesota or Chicago area refinery markets.[204]

C. Minnesota Rules 7853.0130(C): The Consequences to Society of Granting the Certificate of Need Are More Favorable Than the Consequences of Denying the Certificate

This section contains the Department's analysis of the positive and negative consequences to society resulting from the proposed Project as identified by Enbridge.

1. The Relationship of the Proposed Facility, or a Suitable Modification of it, to Overall State Energy Needs

While the proposed increase in crude oil capacity on Line 67 as a result of the Phase II upgrade may not serve capacity increases at Minnesota refiners, the increased capacity would likely diminish the risk of apportionment and subsequent decreases in heavy crude oil available to Minnesota refiners.[205] Other indirect benefits to Minnesota's energy needs derive from the smoothing effect available supply from other states has on price and supply in Minnesota in the event of local refinery outages.[206]

The Department's review of the information in this proceeding did not find evidence indicating that construction of the proposed Project would negatively impact the price or availability of heavy crude oil to local refineries or negatively impact price or availability of refined petroleum products to the Minnesota public.[207]

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[203] *Id.*
[204] *Id.*
[205] *Id.* at 39.
[206] *Id.*
[207] *Id.*

2. 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

a. Impacts on the Natural Environment

If the proposed Project is not built and there is not any demand for the volumes it would have transported, there will be not be an impact on the natural or socioeconomic environment beyond any impact the existing Line 67 imposes.[208] If there is demand, however, the effects on the environment will vary depending on which transportation method is used.[209] Any of these alternative transportation methods would have greater negative impact on the environment than the proposed Project.[210]

The Department's Division of Energy Resources does not have particular expertise in evaluating the effects of pipeline projects on the natural environment.[211] The Department notes, however, that the pipeline already exists; the proposal is to increase the size of the existing pipeline capacity by adding new pumping stations and associated facilities.[212]

The Revised Application discusses three categories of disruption: 1) effects due to land development; 2) effects due to construction activities; and 3) effects resulting from operation of Line 67 at the new higher capacity.[213] Enbridge cited possible natural environmental impacts, including:

i. Disruption due to land development would include loss of forest, wetland, and grassland habitat at new station sites;

[208] DOC Ex. 35 at 40 (Otis Direct).
[209] *Id.* The alternative that is used will most likely be rail according to section IV of the Revised Application.
[210] *Id.* at 41.
[211] *Id.*
[212] *Id.*
[213] Enbridge Ex. 1 at 7853.0620 (Revised Application).

ii. Construction activity may disrupt plants and animals in the immediate vicinity due to increased traffic and human activity;

iii. The presence of construction equipment and construction commuting activity will increase fugitive air emissions during construction;

iv. The use and discharge of water for pump testing;

v. Small increases in gaseous emissions from the pumps; and

vi. Increased electric power consumption.[214]

While Ms. Otis does not have experience in evaluating pipeline incident probabilities, the Department's witness thoroughly reviewed available literature in this area, which indicates a slight increase in the risk of incidents as the amount of product transported increases.[215] The Department also investigated the nature of the hydrostatic testing conducted before Line 67 entered service.[216] The evidence of this testing, and its acceptance by the Pipeline and Hazardous Materials Safety Administration, indicate that Line 67 can accommodate the higher operating pressures sought in the proposed Project.[217] Of course, Enbridge must also abide by permit requirements of agencies that are involved in such activities.

Notably, Enbridge proposes a program to mitigate negative impacts on the natural environment under the proposed Project.[218] In the Revised Application, Enbridge discusses the following:

[214] *Id.*
[215] DOC Ex. 35 at 42 (Otis Direct).
[216] *Id.* at LBO-7.
[217] *Id.* at 42.
[218] Enbridge Ex. 1 at 7853.0630 (Revised Application).

i. Enbridge's neutral footprint program (the Department supports this program but notes that there is no evidence that the conservation activities are guaranteed to take place in the areas affected by the project); and

ii. Plans, policies, and systems Enbridge has in place to prevent, contain, and control incidents on Line 67.[219]

Enbridge witness Mr. Curwin also testified that one of the most important operational changes that Enbridge has made since the 2010 Kalamazoo River incident near Marshall, Michigan is that one operator now has the ability to shut down a pipeline from the control center when a pipeline's service is interrupted (*e.g.*, any anomaly, like a rupture) while bringing a pipeline back online requires far more input and testing than was previously the case.[220] In addition, Enbridge has increased the amount of emergency response trailers that it positions throughout Minnesota, which Enbridge uses to respond to any pipeline emergencies.[221] Mr. Curwin also testified that Enbridge has updated its emergency response procedures and online training tools for emergency responders since the Kalamazoo River spill.[222]

b. Impacts on the Socioeconomic Environment

If there is not any need for the additional crude oil, the socioeconomic environment would benefit from denial of the CN due to decreased noise and traffic during the construction period, but would lose out on an increase in jobs and tax revenue.[223] If an alternate transportation method is used, socioeconomic effects would likely vary depending on transport mode.[224]

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[219] *See* Enbridge Ex. 1 at 7853.0270, 7853.0630, Ex. E (Revised Application).
[220] Trial Tr. vol. 1, 300–301, Apr. 8, 2014.
[221] *Id.* at 194.
[222] *Id.* at 300.
[223] DOC Ex. 35 at 43 (Otis Direct).
[224] *Id.*

According to Enbridge, the proposed Project could have both positive and negative effects on the socioeconomic environment.[225] The proposed Project would negatively affect the natural and socioeconomic environments of Minnesota due to increased traffic and noise during construction and some loss of natural habitat.[226] The proposed Project would, however, positively impact the socioeconomic environment of Minnesota through increased jobs and tax revenues.[227] In fact, the proposed Project likely would create "a fairly significant amount" of temporary union jobs in Minnesota.[228] Denial of the Enbridge's request for a CN would be better for the natural environment (as long as no other mode of transporting crude oil through the state supplanted the proposed Project), but would make the socioeconomic environment worse off economically despite decreasing what appear to be minimal and temporary negative impacts due to construction externalities.[229]

3. The Effect of the Proposed Facility, or a Suitable Modification of it, on Inducing Future Development

Induced development includes construction or expansion of existing infrastructure resulting from completion of the project in question.[230] Infrastructure expansions that would fall under the scope of induced development could include utilities (water, electric, natural gas), roads, or even housing or agriculture due to displacement of housing units or agricultural lands to accommodate a project.[231]

[225] Enbridge Ex. 1 at 7853.0600 (Revised Application)
[226] *Id.*
[227] DOC Ex. 35 at 44 (Otis Direct).
[228] Trial Tr. vol. 1, 180, Apr. 8, 2014.
[229] DOC Ex. 35 at 44 (Otis Direct).
[230] *Id.*
[231] *Id.*

Enbridge discussed five possible areas of induced development: 1) utility; 2) water; 3) vehicular traffic; 4) agriculture; and 5) relocation of persons.[232] Enbridge stated in its Revised Application that power consumption would increase at each of the seven pump stations, but the increases would be minimal.[233] The only water use anticipated by Enbridge is the 21,000 to 28,000 gallons used at each pump station for hydrostatic testing, which are amounts small enough to be serviced by existing infrastructure.[234] As discussed above, Enbridge anticipates temporary increases in traffic at each rural station site during construction.[235] Enbridge does not expect that the increase would have a noticeable effect on local commute times.[236] Regarding agricultural effects, Enbridge stated that construction of the Donaldson station would take approximately fifteen acres of land out of agricultural production.[237] The proposed Project would be constructed on sites that do not contain housing; therefore, no person would be required to move to a new home.[238]

The Department concludes that the effect of the proposed Project on inducing development would be minimal.[239] No relocation of human populations would be necessary, and water and road use would be limited to the construction period and would appear to be minimal enough to be serviced by existing infrastructure.[240] Some farmland is expected to be lost, but the

[232] Enbridge Ex. 1 at 7853.0640 (Revised Application).
[233] *Id.*
[234] *Id.*
[235] *Id.* at 7853.0600.
[236] *Id.*
[237] *Id.* at 7853.0640.
[238] Enbridge Ex. 1 at 7853.0640 (Revised Application).
[239] DOC Ex. 35 at 46 (Otis Direct).
[240] *Id.*

area lost would be minimal.[241] Based on its analysis of the data provided by Enbridge, the Department concludes that the proposed Project is not likely to not induce future development.[242]

4. Socially Beneficial Uses of the Output of the Proposed Facility, Including its Uses to Protect or Enhance Environmental Quality

The proposed Project is designed to ship heavy crude oil sourced from the Alberta oil sands region of Canada to refinery markets in the United States.[243] The crude oil associated with the proposed Project would be used by refiners as a feedstock to produce refined petroleum products such as gasoline, medicines, health and safety products, and agricultural products.[244]

Enbridge did not show any direct uses of the proposed Project's output that would protect or enhance environmental quality.[245] In response to Department discovery, however, Enbridge mentioned the environmental benefits from the shipment of crude oil via pipeline as opposed to other methods of crude oil transportation.[246] This information does not speak to the effect of the output (crude oil or refined petroleum products) on protecting or enhancing environmental quality.[247] The Department found no indication that the proposed Project's output could be used to protect or enhance environmental quality.[248]

The Department concludes that the output of the proposed Project, while not enhancing environmental quality, would provide a benefit to society by providing an essential feedstock used by refineries to produce products with transportation, medical, and agricultural applications that may benefit society.[249] After analyzing all pertinent data and information, the Department

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[241] *Id.*
[242] *Id.*
[243] *Id.*
[244] *Id.* at 47
[245] DOC Ex. 35 at 47 (Otis Direct).
[246] *Id.* at LBO-8.
[247] *Id.*
[248] *Id.*
[249] *Id.* at 47.

concludes that the positive consequences to society of granting the CN outweigh the negative consequences.[250]

D. Minnesota Rules 7853.0130(D): It Has Not Been Demonstrated on the Record that the Design, Construction, or Operation of the Proposed Facility Will Fail to Comply With Those Relevant Policies, Rules, and Regulation or Other State and Federal Agencies and Local Governments

This section discusses all relevant policies, rules, and regulations of federal, state, and local governments and agencies having jurisdiction over any part of the proposed Project and includes the Department's analysis of whether it has been demonstrated that the proposed Project would fail to comply with any applicable policies, rules, or regulations.[251]

In its Revised Application, Enbridge identified policies, rules, and regulations that are relevant to the design, construction, and operation of the proposed Projection, which can be found in Table 7853.0230-2 of the Revised Application.[252] The information in the table includes the names of all agencies or authorities with whom the Applicant must file, the titles of permits or certificates Enbridge must obtain for the Project along with filing and anticipated decision dates.[253]

In response to Department discovery, the Applicant provided ongoing updates on the status of the permits and approvals listed in Table 7853.0230-2.[254] At the time the Department filed its Direct Testimony, the information indicated that the proposed Project has not received the following permits or approvals:

i. Presidential Permit;

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[250] *Id.*
[251] DOC Ex. 35 at 48 (Otis Direct).
[252] Enbridge Ex. 1 at 7853.0230 (Revised Application).
[253] *Id.*
[254] DOC Ex. 36 at LBO-9 (Otis Direct). Enbridge provided an update of Table 7853.0230-2 to all of the parties on April 3, 2014, when Surrebuttal Testimony was filed, but this updated table was not included in the record at the evidentiary hearing.

ii. Section 404 Permit (Individual Wetland Permit);

iii. Section 7 Consultation (federal endangered species) (consultation complete but may require inter-agency consultation);

iv. NPDES Construction Storm water General Permit—Tribal Lands and General;

v. Certificate of Need (to be determined in the instant docket);

vi. Water Appropriation Permit (trench dewatering);

vii. State Endangered Species Permit (consultation complete but may require inter-agency consultation);

viii. § 401 Water Quality Certification;

ix. Section 106 Consultation (consultation complete but may require inter-agency consultation); and

x. Wetland Conservation Act Utility Exemption (from both Red Lake County and the Red Lake Soil and Water Conservation District).[255]

As of this date, the record in this proceeding provides no information that the final design, construction, or operation of the proposed Project will fail to comply with relevant policies, rules, and regulations of other local, state, and federal governments.[256] The Department's recommendation that the Commission issue a CN for the proposed Project is based upon the expectation, and assumption, that Enbridge will seek and receive all required permits and approvals from all federal, state, and local government entities.

CONCLUSION

The Department concludes that after analysis of the record under Minnesota Rules 7853.0130 and Minnesota Statutes section 216B.243, subdivision 3, the proposed Project is

[255] *Id.*
[256] *Id.* at 50.

needed in Minnesota, neighboring states, and the region because denial of the requested Project would have a negative effect on the adequacy, reliability, or efficiency of heavy crude oil supplies. Therefore, the Department recommends that the Commission approve the proposed Project with the understanding that Enbridge will obtain all permits and approvals from local, state, and federal government agencies that are required for the proposed Project.

Dated: April 29, 2014

Respectfully submitted,

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