

**STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION**

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John A. Tuma	Commissioner

In the Matter of the Application of Enbridge Energy, Limited Partnership, for a Certificate of Need for the Line 3 Replacement Project in Minnesota From the North Dakota Border to the Wisconsin Border	OAH 65-2500-32764 MPUC PL-9/CN-14-916
In the Matter of the Application of Enbridge Energy, Limited Partnership for a Routing Permit for the Line 3 Replacement Project in Minnesota From the North Dakota Border to the Wisconsin Border	OAH 65-2500-33377 MPUC PL-9/PPL-15-137

**INITIAL POST HEARING BRIEF
OF
HONOR THE EARTH**

JANUARY 23, 2018

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INTRODUCTION

Honor the Earth 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 Applications for a Certificate of Need and Route Permit for the proposed Line 3 Replacement Project (“Project”), filed by Enbridge Energy, Limited Partnership (“Enbridge” or “Applicant”). Honor the Earth asserts that the evidence shows that Enbridge has failed to meet its burden of demonstrating that the proposed Project is needed under Minn. Stat. § 216B.243 and Minnesota Rules 7853.0130. Since there is no need for the Project, Honor the Earth also concludes that the Commission should deny Enbridge’s application for a routing permit under Minn. Stat. Ch. 216G.

SUMMARY

The outcome of this hearing depends on the Commission’s understanding of society’s energy future and the future of the oil industry. Under the State of Minnesota’s Certificate of Need law, Minn. Stat. § 216b.243, and its implementing regulations, Minn. R. Ch. 7853, whether or not the Project is needed is based primarily on the Commission’s determination of whether or not our society has a future increased demand for crude oil.¹ Before determining its vision of the future, the Commission must consider, among other things, a 16-year forecast of society’s future demand for western Canadian crude oil provided by Enbridge.² The Commission must determine that construction of the Project would be in the future public interest. Put another way, the Commission must choose between, on the one hand, the future predicted by Honor the

¹ Minn. Stat. § 216B.243, subd. 3 (2017); Minn. R. 7853.0130.

² Minn. R. 7853.0010, subps. 9, 10; Minn. R. 7853.0130.

Earth, and on the other hand, the future predicted by Enbridge and the oil industry, because these futures are mutually exclusive.

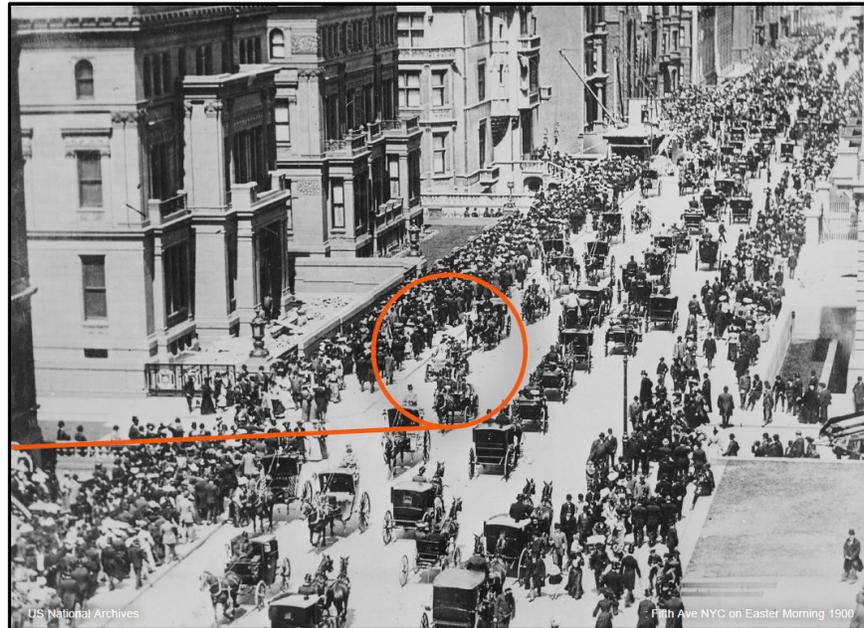
Honor the Earth's understanding that society's future need for crude oil will begin decreasing early in the forecast period is clear and supported by a preponderance of the evidence in the record. Our society stands on the cusp of a profound energy transition away from fossil fuels, including crude oil. Technological improvements in renewable energy generation, energy storage, electric and autonomous vehicle technology, and computing power are compelling this transition. Together, these advances will make electric vehicles the predominant form of personal and commercial transportation, and result in much more efficient use of energy to accomplish transportation needs. These advances will reduce society's demand for crude oil by many millions of barrels per day during and after the forecast period. As a result, demand for crude oil will drop and this will drive the long-term trend in oil price downward, below the long term average price of crude oil, which is just over \$50 per barrel.

Because tar sands crude oil is among the most expensive forms of oil to extract and prepare for refining, it will be impacted first by declining oil prices. Lower oil prices will prevent expansion of the tar sands beyond those extraction projects with pre-existing financial commitments. Once these last new projects are finished, crude oil production will drop because crude oil flow from existing extraction projects will decrease and this decrease will not be offset by new projects. The evidence indicates that western Canadian crude oil production will begin to decline by the 2022 to 2023 timeframe. Since the Project is dependent on expanded extraction of crude oil from the Tar Sands Region, the additional capacity it would provide will not be needed throughout the forecast period, much less during the Project's expected 30-plus year operational life. Moreover, low oil prices will impact the financial viability and wealth of the oil

industry and increase the risk that society will bear the costs of cleaning up contamination from stranded assets, including abandoned oil field infrastructure, oil tanks, oil refineries, and oil pipelines.

The evidence for this transition comes not from pie-in-the-sky dreams, but from the announced plans of the automobile industry and detailed analysis of industry trends by a wide-range of industry, financial, and nonprofit analysts. In addition to providing multiple links to press reports about the automobile industry's massive and expanding commitment to an electric and autonomous vehicle future, Honor the Earth's testimony attaches twelve recent studies and references six more on the coming transition to electric vehicles. The record here is replete with evidence showing that the automobile and financial industries have recognized that the transition to electric vehicles is inevitable and will accelerate rapidly in the next few years, because the global automobile and related industries are investing billions of dollars in this transition, particularly in China. These companies understand that electric vehicles are technologically superior to internal combustion engine vehicles, including with regard to manufacturing cost, fuel cost, performance, and maintenance. In 2018, electric vehicles are forecast to become less expensive than fossil fuel vehicles to buy and operate, and then, as economy of scale kicks in and technologies continue to improve, the price of electric vehicles will continue to drop. As a result, billions of individuals around the world will turn away from fossil fuel-powered vehicles and instead buy electric vehicles, because it will be in their individual best interests to do so. This movement towards electric vehicle transportation will reduce global demand for crude oil, crude oil price will drop, and on average both new and existing crude oil extraction projects in the Tar Sands Region will become uneconomical.

The following photographs demonstrate the speed with which technological change can be adopted by society. The first photograph, of 5th Avenue in New York City in 1900, shows one automobile (circled) in a road filled with horse-drawn vehicles.



The next image, of 5th Avenue in 1913, shows one horse-drawn vehicle (circled) surrounded by automobiles.



In less than 13 years, technology revolutionized transportation in the U.S. and around the world. While society continued to use horses commercially for a number of decades, industries related to the care and feeding of horses and the manufacture of horse-drawn equipment rapidly declined. The transition away from horse-drawn to fossil fuel transportation created entirely new industries and made companies that could not adapt archaic. The speed of this transition was due to the economic choices of millions of individuals worldwide. It was unstoppable. The same degree of change in transportation technology is happening now.

Another example of change, that is generally familiar to the Commission, is the ongoing downward spiral of the use of coal as an energy source, and the resulting bankruptcies of multiple major coal companies due initially to the advent of inexpensive natural gas produced by fracking. Recently, the lower costs of solar and wind generation and battery storage may have sealed the coal industry's long-term fate, because it can't compete economically with these superior and less expensive renewable energy technologies. Unlike the power sector where change requires a decades-long process of closing old power plants, change in the transportation sector can happen far more quickly, because the transportation sector is based primarily on much shorter commercial commitments to a variety of types of motor vehicles.

While the full transition to non-fossil fuel transportation technology will take decades, it will reduce global crude oil demand by millions of barrels per day starting early in the 16-year forecast period. This reduction in demand will not impact all oil companies equally. The first companies to go will be those that are based on the forms of crude oil that are most expensive to extract from the Earth. The evidence shows that the crude oil with the highest average extraction costs is tar sands crude oil from Canada. The Project is primarily based on transportation of this high-cost oil from Canada to the U.S. and overseas buyers. Thus, the coming energy transition

will inevitably kill new tar sands projects and strangle those that have already been built – as well as the pipelines that serve them.

In Honor the Earth’s forecast of the future, these market-based drivers will work in concert with increasing policy commitments by governments worldwide to reduce greenhouse gas emissions. Together, these market and policy factors will accelerate the transition away from fossil fuels and promote even more rapid adoption of renewable energy sources. As a result, greenhouse gas production will peak and begin to decline, and humanity will be on a path to preventing catastrophic climate change.

Enbridge’s vision of the future is entirely different. It is a future in which new pipeline export capacity from Canada to the U.S. is needed because the extraction of tar sands oil will increase. This can happen if and only if global oil prices increase to the point that they support new tar sands extraction projects, which will happen if and only if global demand for crude oil increases. If the rate of extraction of petroleum carbon increases, then global emissions of greenhouse gases will not decrease at anywhere near the rate required to avoid catastrophic climate change.

This is the business-as-usual future projected by the oil industry. It is reflected in the black-box forecasts produced by the Canadian Association of Petroleum Producers (“CAPP”). The oil industry cannot tell its investors that a technological revolution will reduce its sales and make its most expensive extraction projects uneconomical. While it can acknowledge that change is coming, the oil industry must argue that this change will be slow and that it will not fundamentally erode its markets, otherwise investors will continue to abandon it. Essentially, Enbridge requests that the Commission invest in a buggy whip factory just before the automobile revolution.

Enbridge's future is also a future of catastrophic climate change, in which the geophysical and ecological systems on which human society and all life are based are severely damaged. Control of greenhouse gas emissions is not logically possible in a world in which oil prices remain so high that extraction of even the most expensive and carbon intensive crude oil in the world is economically viable and politically sanctioned.

Honor the Earth does not deny that some new tar sands extraction projects will come online, due to investment decisions made years ago. Thus, there will likely be a near term desire by the Canadian oil industry for additional crude oil transportation services, but the questions then become:

- how large will the net increase in demand for crude oil transportation services be?
- how long will this net increase in demand for crude oil transportation services last?
- if the Commission rejects the Project, how would the industry adapt?
- what adverse and positive impacts might result from the industry's adaptation to rejection of the Project, including the financial cost to consumers relative to the financial cost of building the Project over time?

Honor the Earth has presented evidence showing that if the long-term average price of oil (approximately \$50/bbl) is assumed to continue, then Canadian crude oil supply will increase for only another 5 to 6 years, growing by about 550,000 bpd, but then supply will begin to decline. If the Project is denied, the oil industry would adapt to this short-term peak in supply through more efficient use of existing pipelines and greater use of rail. Enbridge agrees that if the Project is denied, then the crude oil that would be transported by the Project would be exported from Canada by other means, which it believes would be rail. However, Honor the Earth has provided evidence that Enbridge's Mainline System has some excess capacity, and also that Enbridge has

told its investors that it intends to implement a number of expansion projects that would allow increased throughput on the existing pipelines that comprise the Mainline System and Express Pipeline (which Enbridge now owns). Although some of these expansion projects relate to expansions of the new Line 3, should it be approved, a number of them are not dependent on construction of a new pipeline. If the expansion projects that are related to Line 3 are set aside, the net increase in capacity provided by these expansions could be as much as approximately 400,000 bpd – more than the net increase that would be provided by the Project. These expansion projects would be cost-effective and result in minimal environmental impacts.

The total cost of building the Project would be about \$7.5 billion. The cost of operating the Project would be the cost of paying for these construction costs over time with interest/return on investment, plus the cost of operating the Project. Given the limited duration of the coming peak in Canadian crude oil supply, Honor the Earth asserts that it would be less expensive for society to not build the Project and instead have Enbridge utilize its existing facilities more efficiently, and let rail handle any amounts of crude that remain during the short period of time of peaking Canadian crude oil supply. While railroad transportation costs more on a per-barrel basis, its upfront capital costs are lower, particularly given the large amount of under-utilized rail facilities and equipment that were constructed and bought during the Bakken boom, such that rail would be the more efficient solution than building a new pipeline, given the short duration of the coming peak in western Canadian crude oil production. Moreover, the increased costs of transporting some of the short term peak in supply by rail would be spread over all of the refineries that increase would increase use of rail, which would likely be throughout the U.S. and not just in Minnesota. Thus, in a low oil price future, rejection of the Project might result in

some short-lived and dispersed increase in transportation costs, but any new oil supply would move reliably by other means.

These limited economic impacts do not justify the damage and risks that construction of the Project would inflict on the people and environment of northern Minnesota, which risks would increase as the oil industry goes into decline. The known and potential adverse impacts on the Anishinabe peoples of northern Minnesota are partially documented via the EIS for the Project, but they are also documented via the voluminous public comments submitted by indigenous individuals. Moreover, the Commission's decision to not require a full cultural resources survey means that the Commission will not know the full impact of a decision to approve at the time it make its decision. There is a substantial risk that the impacts to Anishinaabe culture and properties will be worse than expected.

All of Enbridge's assurances that it would operate the Project safely and clean up any contamination caused by the Project assume that it and the oil industry will continue to prosper. In a low oil price future, this should not be assumed. Instead, the Commission should assume that the oil industry would be pressured by its remaining investors to cut costs by externalizing the costs of pollution and dumping these costs on society, if it can. Thus, in the future, the risk that oil will spill would likely increase, as would the risk that Enbridge Inc.'s U.S. affiliates would not have sufficient funds to clean up after a major oil spill, or to pay for mitigation needed as part of pipeline abandonment.

On balance, the lack of long-term need for the project and its risks and adverse impacts on indigenous peoples and other Minnesota citizens and on the environment of Minnesota outweigh any limited short-term benefits that the Project would provide to Enbridge, its

customers, and the other entities and individuals that would benefit from construction of the Project.

Therefore, since the Project is not needed and its construction would adversely impact society, Honor the Earth respectfully requests that the Commission deny the Applications for a Certificate of Need and Routing Permit.

LAW AND ARGUMENT

I. STATEMENT OF LAW

A. Applicable Law

Minnesota law requires that an entity that seeks to construct a large crude oil pipeline within Minnesota must apply for and receive a Certificate of Need, pursuant to Minn. Stat. § 216B.243 and its implementing regulations, Minn. R. Ch. 7853, and must also apply for and receive a routing permit, pursuant to Minn. Stat. Ch. 216G and its implementing regulations, Minn. R. Ch. 7852. A certificate of need is required for all crude oil pipeline projects with a diameter of six inches or greater and having 50 or more miles of length in Minnesota.³

Prior to making a decision on a proponent's applications, the Commission must complete and consider an environmental review prepared pursuant to the Minnesota Environmental Policy Act⁴ ("MEPA") and its implementing regulations.⁵ The only form of environmental review applicable to both a certificate of need hearing and a routing permit hearing is an environmental impact statement prepared pursuant to MEPA and Minn. R. 4410.2000-3100.⁶

³ Minn. Stat. §§ 216B.243, 216B.2421, subd. 2(4) (2017).

⁴ Minn. Stat. Ch. 116D (2017).

⁵ Minn. R. Ch. 4410 (2017).

⁶ The Minnesota Environmental Quality Board ("EQB") has approved the routing permit process under Minn. Stat. Ch. 216G as an alternative form of MEPA review under Minn. R. 4410.3600, but only for the route permit hearing itself. The EQB did not consider whether the routing permit process could serve as an alternative review for a certificate of need hearing. Moreover, a certificate of need hearing concerns environmental impacts that are different from those within a route hearing, such that the scope of a route hearing analysis cannot substitute for an

Separately, and in addition, MEPA and Minnesota Environmental Rights Act⁷ (“MERA”) prohibit the construction of any project that would cause pollution, impairment or destruction of any of the state’s natural resources “so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare of the state’s paramount concern for the protection of [its natural resources]. Economic considerations alone shall not justify such conduct.”⁸ The statutes define “pollution, impairment or destruction” to include “any conduct which materially adversely affects or is likely to materially adversely affect the environment.”⁹

The Minnesota Supreme Court has recognized that infrastructure projects, such as pipelines, are subject to the constraints of MERA. In one of the first cases under the statute, the Minnesota Supreme Court rejected the route for a highway that would have damaged a wetland where there was a less destructive alternative.¹⁰ The court cited Aldo Leopold’s description of the land ethic in *A Sand County Almanac*, an ethic which “enlarges the boundaries of the community to include soils, waters, plants, and animals or collectively: the land.” “In the Environmental Rights Act,” the Court wrote, “our state legislature has given this land ethic the force of law.”¹¹

environmental review for a certificate of need hearing. Accordingly, environmental review of a certificate of need hearing requires preparation of an Environmental Impact Statement prepared pursuant to Minn. R. 4410.2000-3100. Since the route hearing has not been approved and cannot function as an alternative form of environmental review for a certificate of need hearing, the Commission was required to prepare an environmental impact statement for the certificate of need hearing, which review is also an appropriate form of MEPA review for the routing hearing.

⁷ Minn. Stat. §§ 116B.01 to 116B.13 (2017).

⁸ Minn. Stat. § 116D.04, subd. 6 (2017); see also Minn. Stat. § 116B.03 (2017) (establishing private cause of action for pollution, impairment or destruction of natural resources).

⁹ Minn. Stat. § 116B.02, subd. 5 (2017).

¹⁰ *Freeborn Cnty. v. Bryson*, 243 N.W.2d 316 (Minn. 1976).

¹¹ *Id.* at 322.

B. Requirement to Interpret State Law to Favor the Public Interest and Protect the Environment as Against Private Interests

Minnesota law requires that the Commission interpret applicable law in light of two strong policy mandates: (1) a preference for the public interest over private interests; and (2) an overarching state policy in favor of environmental protection. The Legislature has specifically instructed that it intends for Minnesota laws to be interpreted “to favor the public interest as against any private interest.”¹² In MEPA, the legislature expressed a similar intent that the government of the State of Minnesota interpret and administer all state laws to protect the environment:

The legislature . . . directs that, to the fullest extent practicable the policies, rules and public laws of the state shall be interpreted and administered in accordance with the policies set forth in [MEPA].¹³

(Emphasis added.) Thus, the Commission, the Department of Commerce (“Department”), the Office of Administrative Hearings (“OAH”), and the State’s Courts, must interpret the Certificate of Need and Routing Permit laws so that they accomplish the policy objectives of MEPA, to the fullest extent practicable. This directive relates to both the MEPA procedural requirements contained in Minn. Stat. § 116D.04 and to MEPA’s substantive policies contained in Minn. Stat. §§ 116D.02 and 116D.03. Thus, all branches of the state government must interpret the Certificate of Need and Routing Permit statutes and regulations so that they accomplish, among others, the following substantive policies, to the fullest extent practicable, so that the agencies:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;¹⁴
- assure for all people of the state safe, healthful, productive, and aesthetically and culturally pleasing surroundings;¹⁵

¹² Minn. Stat. § 645.17(5) (2017).

¹³ Minn. Stat. § 116D.03, subd. 1 (2017).

¹⁴ Minn. Stat. § 116D.02, subd. 2(1) (2017).

- discourage ecologically unsound aspects of population, economic and technological growth, and develop and implement a policy such that growth occurs only in an environmentally acceptable manner;¹⁶
- preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever practicable, an environment that supports diversity, and variety of individual choice;¹⁷
- define, designate, and protect environmentally sensitive areas;¹⁸
- practice thrift in the use of energy and maximize the use of energy efficient systems for the utilization of energy, and minimize the environmental impact from energy production and use;¹⁹
- reduce the deleterious impact on air and water quality from all sources, including the deleterious environmental impact due to operation of vehicles with internal combustion engines in urbanized areas;²⁰
- identify and develop methods and procedures that will ensure that environmental amenities and values, whether quantified or not, will be given at least equal consideration in decision making along with economic and technical considerations;²¹
- recognize the worldwide and long range character of environmental problems and, where consistent with the policy of the state, lend appropriate support to initiatives, resolutions, and programs designed to maximize interstate, national and international cooperation in anticipating and preventing a decline in the quality of the world environment.²²

Thus, when interpreting and administering the Certificate of Need and Routing Permit laws, the Commission, Department, and OAH, must choose interpretations of law that protect the

¹⁵ Minn. Stat. § 116D.02, subd. 2(2) (2017).

¹⁶ Minn. Stat. § 116D.02, subd. 2(3) (2017).

¹⁷ Minn. Stat. § 116D.02, subd. 2(4) (2017).

¹⁸ Minn. Stat. § 116D.02, subd. 2(7) (2017).

¹⁹ Minn. Stat. § 116D.02, subd. 2(9) (2017).

²⁰ Minn. Stat. § 116D.02, subd. 2(16) (2017).

²¹ Minn. Stat. § 116D.03, subd. 2(3) (2017).

²² Minn. Stat. § 116D.03, subd. 2(5) (2017).

environment, and must implement these laws consistent with such interpretations, unless doing so would be impracticable.

The foregoing policies create a duty to protect the welfare of the all of the people of Minnesota, including its indigenous citizens. They also require that the Commission, Department, and OAH, not interpret and administer state law in favor of an applicant for a certificate of need and routing permit for a private crude oil pipeline, when these agencies have a choice to instead favor the public interest and protect the environment.

In implementing these policies, the Legislature of the State of Minnesota echoes the Great Law of Peace of the Haudenosaunee, known to others as the Iroquois.²³ The Great Law of Peace created the Iroquois Confederation and dates from the 15th Century, such that it pre-dated and is understood to have influenced the structure of the U.S. Constitution.²⁴ It states, in part:

In all of your deliberations in the Confederate Council, in your efforts at law making, in all your official acts, self-interest shall be cast into oblivion. Cast not over your shoulder behind you the warnings of the nephews and nieces [youth] should they chide you for any error or wrong you may do, but return to the way of the Great Law which is just and right. Look and listen for the welfare of the whole people and have always in view not only the past and present but also the coming generations, even those whose faces are yet beneath the surface of the ground – the unborn of the future Nation.

²³ Full text of the Great Law is available at: <http://www.indigenouspeople.net/iroqcon.htm> .

²⁴ In 1987, the United States Senate acknowledged that the Great Law of Peace of the Iroquois Nations served as a model for the Constitution of the United States. U.S. S. Con. Res. 76 (Dec. 2, 1987); U.S. H. Con. Res. 331 (Oct. 5, 1988). <https://www.senate.gov/reference/resources/pdf/hconres331.pdf>

C. Burden of Proof

Enbridge generally bears the burden to prove, by a preponderance of the evidence, that it has satisfied Minnesota’s legal criteria for issuance of a certificate of need.²⁵ Minn. Stat. § 243B.243, subd. 3, states:

No proposed large energy facility shall be certified for construction . . . unless the applicant has otherwise justified its need.²⁶

(Emphasis added.) In addition, Minnesota’s Administrative Rules squarely place the burden of proof on the party proposing an action. “The party proposing that certain action be taken must prove the facts at issue by a preponderance of the evidence, unless the substantive law provides a different burden or standard.”²⁷

The only limited exception to this rule is that other parties have the burden to demonstrate by a preponderance of the evidence that a more reasonable and prudent alternative exists.²⁸ It is important to understand precisely what this limited burden shifting says and does and does not do. Minn. R. 7853.0130(B) states that the Commission must consider whether “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” This provision must be read in light of the authorizing statute and legislative intent. The Commission by regulation cannot shift this burden entirely onto parties, because the certificate of

²⁵ Minn. Stat. § 243B.243, subd. 3 (2017) (No proposed large energy facility shall be certified for construction . . . unless the applicant has otherwise justified its need.”).

²⁶ The complete language of this sentence states: “No proposed large energy facility shall be certified for construction unless the applicant can show that demand for electricity cannot be met more cost effectively through energy conservation and load-management measures and unless the applicant has otherwise justified its need.” Unfortunately, the Minnesota Legislature rather thoughtlessly included approval of crude oil pipelines within the State’s certificate of need law, Minn. Stat. § 216.243, which is written to apply to electricity generation and transmission facilities, but did so without modifying this law to recognize that crude oil pipelines are substantially different from electricity generation and transmission facilities. This legislative sloppiness means that the Commission must apply the intent of Minn. Stat. § 216B.243, particularly when reference to electricity matters makes a literal application of this statute to pipelines problematic.

²⁷ Minn. R. 1400.7300 (2017).

²⁸ Minn. R. 7853.0130(B) (2017).

need statute states that “[i]n assessing need, the commission shall evaluate . . . possible alternatives.”²⁹ (Emphasis added.) Thus, the statute on which Minn. R. 7853.0130(B) is based says nothing about placing the burden to introduce or prove an alternative on other “parties or persons.” Instead, the statute states that the Commission – and the Commission alone – bears responsibility to evaluate alternatives, regardless of whether or not a party or person proposes one. An agency may not delegate its statutorily assigned duties to citizens and private entities, absent legislative authority to do so. Here, the statute does not provide such authority.³⁰

Therefore, it is illegal for the Commission to make “parties and persons,” who have no legal duty to participate in certificate of need proceedings, and who therefore may not be present in any particular certificate of need hearing, entirely responsible for identifying and proving that an alternative is more reasonable and prudent than a proposed project. As a practical matter, such delegation would mean that the Commission would be able to ignore its duty to consider alternatives, for example in certificate of need dockets in which no party intervenes. And, as noted, the statute itself clearly states that the burden of proof remains with the applicant.³¹ A rule “adopted in pursuit of legislative goals cannot subvert the primary purpose behind the legislation.”³² “[W]hile administrative agencies may adopt regulations to implement or make specific the language of a statute, they cannot adopt a conflicting rule.”³³ Thus, to the extent that Minnesota Rule 7853.0130 appears to shift the burden of proof under Minn. R. 7853.0130(B) to

²⁹ Minn. Stat. § 216B.243, subd. 3 (2017).

³⁰ Likewise, the Commission has no authority to condition evaluation of an applicant’s forecast of energy demand (or any of the other criteria contained in Minn. Stat. § 216B.243, subd. 3) on proof provided by a party or other person. Doing so would essentially make the Commission’s exercise of statutory discretion dependent on whether or not a party or person chooses to participate in a certificate of need hearing, and the capabilities of such party or person. The law prohibits such unpermitted and indeterminate delegation of statutory authority.

³¹ Minn. Stat. § 216B.243, subd. 3 (2017).

³² *Weber v. City of Inver Grove Heights*, 461 N.W.2d 918, 922 (Minn. 1990).

³³ *Green v. Whirlpool*, 389 N.W.2d 504, 506 (Minn. 1989).

the “other parties and persons,” it is inconsistent with Minn. Stat. § 216B.243. The statutory intent must prevail.

To the extent that the Commission gives effect to this provision, at most it could be read to require that, should a party propose an alternative, it must demonstrate that such alternative exists and appears to be viable. Then, the burden would shift back to the Applicant to disprove that such alternative is superior, and to the Commission to fully evaluate such alternative relative to the four criteria contained in Minn. R. 7853.0130.B. Moreover, this provision should not be read to require that “parties or person” offer foolproof, technical evidence that alternatives are technically and financially viable and superior in all ways to a proposed project. Presenting such proof for alternatives to crude oil pipelines is practically impossible, because the applicant holds, and keeps from public view as “trade secret,” all or almost all of the information another party would need to make such showing. As practical matter, such illegal burden shifting would severely limit the Commission’s consideration of alternatives, thereby frustrating the clear legislative intent to require that the Commission evaluate alternatives. Thus, the Commission may not shift the burden of proving alternatives entirely to “parties or persons” as doing so would violate Minn. Stat. § 216B.243, subd. 3.

D. The Relationship Between the Certificate of Need and Routing Administrative Hearings and MEPA Process

Logically, if the Commission determines that there is no need for a new pipeline at all, then the determination of a route location is moot. Thus, the Commission must first evaluate whether or not a need for a new pipeline exists, and then consider possible routes only if it finds such need.

With regard to the certificate of need, routing, and MEPA administrative proceedings, it is important to note that each of these proceedings independently require consideration of

environmental and socioeconomic impacts³⁴, alternatives³⁵, and mitigation.³⁶ Further, there is no clear distinction among these analyses. For example, the impact and alternative language in the certificate of need statute and regulations does not exclude consideration of impacts and alternatives related to routes that would be considered under the routing permit laws. In contrast, the routing law is written narrowly to evaluate matters related exclusively to a pipeline's proposed route. The MEPA process is intended to support the Commission's decision making in both the certificate of need and route permit proceedings, such that the forthcoming EIS for the Project should evaluate all of the factors considered in the certificate of need docket that relate to environmental impacts (including petroleum conservation and the impact of not building a project, as well as the alternatives presented for consideration in both the route and need proceedings, and the environmental and socioeconomic impacts of denial of the Applications.

E. The Certificate of Need Analysis

1. Overall Structure of Certificate of Need Analysis

Minnesota Rule 7853.0130 outlines the criteria for determining whether a CON may be granted and requires that all four criteria weigh in an applicant's favor. It states:

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

³⁴ The requirements to consider environmental impacts in the certificate of need proceeding are contained in: Minn. R. 7853.0130.B.(3) and C(2) and Minn. Stat. § 216G.02, subd. 3(4). The requirements to consider environmental impacts in the routing proceeding are contained in Minn. R. 7852.0200, subp. 3 and 4; Minn. R. 7852.2000, subp. 2; and Minn. R. 7852.2700. The requirement to consider environmental impacts is the primary purpose of Minn. Stat. Ch. 116D (MEPA).

³⁵ The requirements to consider alternatives in the certificate of need proceeding are found in: Minn. Stat. § 216B.243, subd. 3(6) and Minn. R. 7853.0130.B. The requirements to consider alternatives in the routing permit proceeding are contained in Minn. Stat. § 216G.02, subd. 3 and Minn. R. 7852.1500, Minn. R. 7852.3100. The requirement to consider alternatives in the MEPA proceeding are contained in Minn. Stat. § 116D.03, subd. 2(4), Minn. Stat. §§ 116D.04, subd. 2a, 2a(f), subd. 5a(6), subd 6; and Minn. R. 4410.2300.

³⁶ The requirement to mitigate impacts in the certificate of need process is, with regard to mitigation on agricultural lands, is found in Minn. Stat. § 216B.243, subd. 7(b), and is otherwise implied by Minn. Stat. § 216B.243, subd 5, related to Commission authority to modify certificates of need. The requirements to mitigate impacts in the routing permit proceeding are found in Minn. R. 7852.0200, subp. 3, Minn. R. 7852.2000, subp. 2, 3, and Minn. R. 7852.2800, subp. 1. The requirement to mitigate impacts in MEPA are found in: Minn. Stat. § 116D.04, subd. 2a, Minn. R. 4410.1700, subp. 7.B, C, Minn. R. 4410.2300.G, H, and I.

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

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

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

and . . .

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

Minn. R. 7853.0130 (emphasis added). In other words, the Certificate of Need shall be granted only if all four criteria weigh in favor of an applicant. Any other reading would omit the “and” after subdivision C and thus misconstrue the plain language of rule. *See Chisholm v. Davis*, 292 N.W. 268, 270 (Minn. 1940) (construing the use of the word “and” to mean that both statutory conditions connected by the term “and” must be present in order for the exclusion to apply). As the language of the rule plainly demonstrates, Minnesota Rule 7853.0130 is not a list of factors to be weighed or balanced, but a list of criteria that must be met. As a result, if the Commission finds that any of the four criteria weigh against the Project, such as the existence of a reasonable and prudent alternative, or that the overall impact of building a project on society is negative, or that society will have sufficient access to energy supply even without a project, the Commission must deny a certificate of need for the Project. The law related to some of these sub-factors is discussed, below.

2. The Meaning of “Need”

The purpose of docket PL-9/CN-14-916 is to assess the “need” for the Project pursuant to Minn. Stat. § 216B.243 and its implementing regulations, Minn. R. Ch. 7853.³⁷ Given the presumption to favor the public interest over private interests,³⁸ the requirement in MEPA that the Certificate of Need laws be interpreted to protect the environment, and the structure of the Certificate of need regulations that require a finding that a pipeline is in society’s best interest, the term “need” cannot be interpreted to mean a private commercial need. Rather, an applicant for a certificate of need for a pipeline bears the burden of proving that the pipeline is needed by society to further the public interest consistent with the environmental protection policies contained in MEPA. If the term “need” meant that only that Enbridge and its customers (crude oil shippers) have a commercial desire for this pipeline, then all they would need to do to prove need is to say there is a commercial demand for this pipeline, and be done with it.³⁹ The Certificate of Need statute and regulations, however, do not identify commercial desire or private wealth generation as factors in determining whether or not a project should be granted a Certificate of Need. Instead, the law is clear that the Commission’s primary inquiry must focus on society’s need for a new crude oil pipeline through Minnesota.

This interpretation of law is fully supported by the language of Minn. Stat. § 216B.243, subd. 3, and Minn. R. 7853.0130, which contain the criteria that the Commission must apply to its assessment of need. Nowhere do these laws expressly state that commercial benefit to an applicant or an applicant’s customers is a factor in the Commission’s decision. The Commission

³⁷ Minn. R. 7853.0020 (purpose of rules).

³⁸ Minn. Stat. § 645.17(5) (2017).

³⁹ It may be assumed that every application for a certificate of need for a crude oil pipeline is backed by commercial desire for it. Otherwise, the applicant would not have submitted an application in the first place. If the Commission’s determination were based primarily on commercial desire, then it would of logical necessity need to approve every certificate of need application for a crude oil pipeline that was presented to it, and its determination of need would be simply a matter of verifying commercial commitments.

is not responsible for maximizing an applicant's revenue or profits. Moreover, to the extent there is any ambiguity in this statutory and regulatory language, it must be read to favor the public interest⁴⁰ and to protect the environment of all Minnesotans.

The Certificate of Need statute lists twelve factors relevant to a determination of need.⁴¹ Of those that are relevant to crude oil pipelines, none of them relate to private commercial need. Instead, they relate to either:

- confirming that an applicant's forecast of "necessity" for the facility is accurate;
- the effect of federal or state energy conservation programs on long-term energy demand;
- the relationship to "overall state energy needs;"
- an industry's activities that may have created a demand for a facility;
- the potential for a facility to "protect or enhance environmental quality " and to "increase reliability of energy supply in Minnesota and the region;"
- possible alternatives for satisfying demand that do not require construction of the facility; and
- other state, federal, and local polices, rules, and regulations.⁴²

All of these criteria relate to confirmation of societal need for energy and that conservation or other no-build alternatives cannot address future energy demands.

The Certificate of Need criteria regulations, Minn. R. 7853.0130, also contain multiple policy factors related to the broader needs of society. For example, Minn. R. 7853.0130.C

⁴⁰ Minn. Stat. § 645.17(5) (2017).

⁴¹ Minn. Stat. § 216B.243, Subd. 3 (2017).

⁴² Minn. Stat. § 216B.243, subd. 3(1), (2) (2017).

(“Criterion C”) repeatedly requires that the Commission protect society’s interests and does not identify advancing private commercial interests as a relevant factor:

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

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

Over and over again, the foregoing law is focused on overall societal needs and impacts. It says nothing about private commercial interests. Since an applicant is required to bear the burden of proof under Criterion C, as well as the other three criteria, the Commission may not approve a project if doing so would be against the best interests of Minnesota’s overall society – even if some private commercial interests would lose an opportunity to generate wealth.

The only express opportunity the Commission has under Minn. R. 7853.0130 to consider the impact of its decision on an applicant and its customers is contained in the first sentence of Minn. R. 7853.0130.A (“Criteria A”), which allows the Commission to evaluate the adverse impacts of denial of the application on an applicant and its customers and to “the people of Minnesota and neighboring states” with regard to the “future adequacy, reliability, or efficiency of energy supply” (Emphasis added.) Since the vast majority of the people in Minnesota and neighboring states have no commercial interest in a new pipeline, consideration of the “future adequacy, reliability, or efficiency of energy supply” must relate to the impacts of a lack of physical supply of energy on all of these persons and companies. Put another way, evidence

that an applicant and/or its customers would lose profits because an application is denied is irrelevant to the Commission's decision. Such private financial impact does not relate to "future adequacy, reliability, or efficiency of energy supply" and is therefore not a reason under Minn. R. 7853.0130(A) to build a pipeline. If there would be adverse impacts on "future adequacy, reliability, or efficiency of energy supply," such impacts must be considered in light of what is best for society as a whole. The public interest of the people of Minnesota and the region is in having adequate, reliable, efficient access to the energy they need. Further, this need must be large enough and of sufficient duration to justify building a new pipeline, after taking into consideration the potential for conservation to reduce any adverse impacts. Also, this need must be sufficiently substantial to justify a project's adverse impacts on the environment and society. The Commission has no statutory authority to consider whether any particular company or companies or individuals would earn less money if a project is not approved.

Moreover, none of the sub-factors that the Commission must consider as a part of Criterion A relate to the Applicant's or its customers' commercial interests. Just the opposite. The Commission is required to consider adequacy, reliability, and efficiency of supply in the context of seeking to minimize cost to society by: (a) confirming that energy demand by society likely will increase; (b) confirming that such demand cannot be satisfied via conservation; and (c) confirming that existing facilities cannot meet demand via more efficient use and upgrading. In other words, the Criterion A subfactors do not focus on the private financial impacts to an applicant and its customers. Instead, these subfactors require that an applicant prove that its forecast of need is accurate and prove that a proposed project is the only means of addressing energy demand because such need cannot be met by conservation or the more efficient use or upgrading of existing facilities.

Given that the Commission, in order to grant a certificate of need, must consider all four criteria in Minn. R. 7853.0130, and find in the Applicant’s favor with regard to each, it is clear that the Commission’s primary duty is determine whether society needs a new crude oil pipeline – not whether an applicant or its customers have a commercial desire for the Project. While the Applicant’s and the oil industry’s revenue and profit contribute to the overall economy of Minnesota and the U.S., Minn. R. 7853.0130 does not permit the Commission to give substantial weight to this private interest. Instead, state law requires that the Commission determine society’s overall energy needs and environmental protection. To the extent there is any doubt about the primacy of the requirement that the Commission focus on the public’s interest in permitting this pipeline, Minn. Stat. § 645.17(5) directs that the Commission must resolve such doubt or ambiguity in favor of the public interest,⁴³ and MEPA requires that the Certificate of Need law be “interpreted” so as to accomplish the substantive policies contained in MEPA.

3. The Scope of Analysis Related to the Effect of Application Denial on the Future Adequacy, Reliability, or Efficiency of Energy Supply to the Applicant, to the Applicant's Customers, or to the People of Minnesota and Neighboring States

Minn. R. 7853.0130.A states:

A certificate of need shall be granted to the applicant if it is determined that: A. the probable result of denial would adversely affect the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states

This rule should not be read to mean that any adverse effect – to any degree – on adequacy, reliability, or efficiency of “energy supply” means that a project must be approved, because: (a) the Commission must consider any adverse effects in light of the five sub-factors for this

⁴³ Minn. Stat. § 645.17(5) states: “In ascertaining the intention of the legislature the courts may be guided by the following presumptions: . . . The legislature intends to favor the public interest as against any private interest.”

criterion; and (b) the Commission must also consider Criteria B through D, which may result in the identification of alternatives and adverse societal impacts that require denial of a Certificate of Need. For example, the Commission must consider the degree to which an applicant's forecast of demand for "energy" is accurate, and if it appears that the forecast is overstated, the Commission may determine that potential adverse impacts are less than claimed by an applicant and subject to redress through means other than construction of a proposed project. If there are adverse impacts to energy supply, the Commission may also find under Criterion C that the adverse consequences to society of granting the certificate of need outweigh its energy supply benefits, in which case the Commission must deny an application.

Criterion A refers to the adverse effects on "the future adequacy, reliability, or efficiency of energy supply," and not to adverse economic impacts. The regulation does not list affordability or the economics of energy supply as a factor. In other words, the regulation focuses on adverse impacts to physical "energy supply" and not to the cost of delivering energy. Thus, as long as cost does not prevent an adequate supply of oil from reaching customers in a reasonably reliable and efficient way, the economic impact of denial of a permit on the revenues of a pipeline operator and its oil industry customers is not a factor for consideration under Criterion A. This being said, the economic impact on society of a more costly delivery method would be subject to consideration under Criteria B(2) and C(2).

Further, Criterion A does not specify a particular degree of reliability or efficiency, nor does it require that the Commission ensure any particular redundancy of crude oil supply. Instead, the effect of denial on adequacy, reliability, and efficiency on the physical supply of energy is a matter of judgment for the Commission. If, for example, the Commission found that delivery of crude oil by rail would provide a physically adequate supply of crude oil with

reasonable reliability and efficiency to refineries in Minnesota and neighboring states, then the Commission should find that there would be no adverse impacts on “energy supply” – even if it resulted in a marginal increase in the cost of refined petroleum products in Minnesota and neighboring states.

Finally, the fact that Minn. Stat. § 216B.243 was written to apply to electric utilities and not to crude oil pipelines narrows the application of Minn. R. 7853.0130(A) as regards impacts on pipeline operators. Electric utility owners of transmission facilities are obligated by law to serve their customers, and they typically have a need to transmit power that they own from generation facilities that they may own to their retail customers. Thus, an owner of an electric transmission facility typically would have a legal obligation to ensure that it has adequate, reliable, and efficient access to electric energy, because it owns, sells, and is obligated to provide the energy that a new high voltage power line would transmit.

In contrast, pipeline companies do not operate crude oil extraction facilities or refineries, and do not own the crude oil that they transport. Also, Pipeline companies do not need the energy contained in the crude oil they transport, because their pumps and other equipment are electrical. Further, pipeline companies are compensated pursuant to cost-plus tariffs, such that they can operate profitably from low levels of throughput to full utilization. If an application for a pipeline is denied, a pipeline company’s refinery customers and consumers might not have adequate, reliable, and efficient access to energy, but the pipeline company itself would be able to operate its pipeline at maximum utilization, such that return on revenue for its existing pipelines would also be maximized. If a pipeline company continuously operates near or at 100% of capacity because demand for its services exceeds its capacity, it by definition has adequate, reliable, and efficient access to the type of energy it transports. This being said, a new

pipeline may operate more efficiently than an old one, such that a decision to not build a pipeline could mean that efficiency of transportation is not improved.

4. The Scope of Analysis Related to the Accuracy of a Forecast of Demand for Crude Oil

Perhaps the most important factor in the Minn. R. 7853.0130(A) analysis is the first related to the accuracy of an applicant's forecast, because under Minn. Stat. § 216.243, subd. 3(1), an applicant's forecast is the evidence "on which the necessity for the facility is based." (Emphasis added.) The Commission is required to consider "the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility" ⁴⁴

(Emphasis added.) This language is similar but not identical to the statutory language on which it is based. Under the statute, the Commission is required to "evaluate . . . the accuracy of the long-range energy demand forecasts on which the necessity for the facility is based" ⁴⁵

(Emphasis added.) Together, these provisions require that the Commission:

- (1) evaluate the accuracy of the long-range energy demand forecast;
- (2) that an applicant offers to prove the need for its proposed facility;
- (3) but only for the type of energy that would be supplied by the proposed facility.

The rule clarifies and narrows the statutory language to the extent that it focuses more closely on the "applicant's forecast of demand," and not other energy demand forecasts that may be prepared by other entities. This narrowing indicates that Commission understands that many types of forecasts may relate to energy demand, but that its analysis will focus on the forecast prepared by an applicant. In other words, an applicant cannot merely refer to generic demand forecasts for energy. Instead, it must prepare a forecast that justifies its particular project. This

⁴⁴ Minn. R. 7853.0130(A)(1).

⁴⁵ Minn. Stat. § 216B.243, subd. 3(1) (2017).

interpretation is reinforced in that the rule also requires that the Commission focus on the “type of energy” transported by a pipeline, rather than more general energy needs.

The following definitions in Minn. R. 7853.0010 are relevant to the analysis required by Minn. R. 7853.0130(A)(1):

Subp. 8. Demand. "Demand" means that quantity of a petroleum product from the applicant's facilities for which there are willing and able purchasers, or the burden placed upon the applicant's interim storage facilities and production processes resulting therefrom.

Subp. 9. Forecast. "Forecast" means a prediction of future demand for some specified time period.

Subp. 10. Forecast years. "Forecast years" means the 16-year period consisting of the year in which an application is filed plus the next 15 years.

(Emphasis added.) Thus, a “forecast” is a prediction of demand by purchasers over time for the specific petroleum product or products to be transported by a particular proposed project. These definitions also clarify that a forecast of demand must be specific to a particular facility and product or products, and they also require forecasts for particular years. This specificity implies that the forecast relied on by the Commission must be prepared by the applicant.

The nature of required forecasts is further defined by Minn. R. 7853.0520, which describes mandatory components of applicant forecasts. These include:

- A. a list of the categories of petroleum products the applicant expects to transport or distribute in that geographical area during the first six forecast years, the 11th forecast year (the tenth year after the year of the application), and the 16th forecast year;
- B. for each category of petroleum product listed in response to item A and for each of the first six forecast years, the 11th forecast year, and the 16th forecast year, a list of the annual and peak day quantities expected, using the appropriate units of measure;
- C. a discussion of the methods, assumptions, and factors employed for purposes of estimation in response to items A and B;

- D. a discussion of the effect on the forecast of possible changes in the key assumptions and key factors requested in item C; and
- E. considering the forecast, a discussion of other facilities, if any, planned by the applicant to supply the forecast demand.

Although the Commission has some discretion to interpret the foregoing requirements, the specificity of the foregoing language means that an applicant must prepare a forecast for its particular facility that complies with the following minimum standards, including:

- identification of the types of products to be transported;
- quantification of product volumes “using the appropriate units of measure;”
- identification of the “methods, assumptions, and factors” used to quantify forecasted product volumes;
- consideration of changes in “key assumptions and key factors;” and
- consideration of other facilities planned by the applicant to meet forecast demand.

The rule requires that applicants provide a quantified forecast and include data and information used to prepare the forecast and also provide its forecast methodology, assumptions, and factors, so that the Commission can consider how these might impact the forecast in light of possible changes in “key” assumptions and factors.

The word “accuracy,” which is used in both the statute and rule,⁴⁶ is not defined by the statute; therefore, its common meaning applies. The Merriam-Webster Dictionary (online) defines “accuracy” as:

- 1 : freedom from mistake or error : correctness
- 2 a : conformity to truth or to a standard or model : exactness
- b : degree of conformity of a measure to a standard or a true value
- compare precision 2a⁴⁷

⁴⁶ Minn. R. 7853.0130(A)(1).

⁴⁷ <http://www.merriam-webster.com/dictionary/accuracy>

Since the Commission has not created a standard or model against which to assess the accuracy of long-range forecasts for crude oil pipelines, the statute requires that the Commission evaluate the correctness of an applicant's forecast methodology and the precision and exactness of its forecasts by analyzing the data, information, methodology, assumptions, and factors used to create the forecast.

The word "accuracy" is important. It is not possible to evaluate the accuracy of a quantified forecast without also quantifying the assumptions and factors used in the methodology that generates the forecast. To evaluate "accuracy," the Commission must know more than the final forecast numbers themselves and a general description of how they were developed, because such limited knowledge simply does not allow the Commission to evaluate in any meaningful and quantified manner the correctness, exactness, or precision of the forecasted volumes. A methodology that takes data and converts it into a forecast may sound reasonable, but this does not mean that the data to which a methodology is applied are correct or accurate.

The Commission must evaluate the actual numbers in the source data used by an applicant to generate a forecast, because it is simply impossible to determine if an applicant's final demand forecast numbers are accurate absent knowing the source of these numbers. For example, it is entirely possible that an applicant could make a mistake in calculations used to adapt general petroleum demand and supply data into a forecast for a particular project. Given the complexity of energy supply and demand data, it is also possible that an applicant could rely on inappropriate or inapplicable data or simply could fail to include data that has a substantial impact on a forecast. Should an applicant provide only the final numbers generated by a multifactor forecast analysis – and not provide critical source numbers that have a substantial impact on the forecast – it would be impossible for the Commission to determine the accuracy of

the final generated forecast numbers. Thus, both Minn. Stat. § 216B.243, subd. 3(1) and Minn. R. Chapter 7853 require that the Commission examine the source material for an applicant's forecast.

With regard to the definition of “demand,” this definition must be based in part on an assessment of the amount of crude oil supply that is available to serve demand, because purchasers are not “able” to buy crude oil that is not available for transportation by an applicant's pipeline. When demand for crude oil transportation services is limited by supply, both in terms of volume and duration of supply, it would be unreasonable to assume that a facility is needed.

Moreover, the mere fact that a pipeline company's customers have entered into contracts to support a pipeline does not excuse a hard look into an applicant's forecast of demand, because the regulations do not recognize the existence of commercial contracts as a factor in determining need or the accuracy of a forecast of demand. Customers have no magic ball to tell the future. Pipeline customers are also private commercial entities, such that their motivation is in their private financial interests and not in the public interest. As demonstrated by the Sandpiper Pipeline Project termination, a pipeline company's customers can base their contractual decisions to support a new pipeline on incorrect assumptions and withdraw their support for a project. Thus, the Commission may not substitute evidence of customer contractual commitments for a hard look at an applicant's forecast of demand and the overall impacts of a project on society.

5. The Requirement to Evaluate the Impact of Conservation Programs

Both Minn. Stat. § 216B.243, subd. 3(2), and Minn. R. 7853.0130(A)(2) require that the Commission, in its assessment of need, evaluate the impact of conservation programs on crude oil demand. Minn. Stat. § 216B.243, subd. 3(2) states, in relevant part: “the commission shall evaluate: . . . the effect of existing or possible energy conservation programs under . . . federal or

state legislation on long-term energy demand” (Emphasis added.) This requirement is reinforced by the first sentence of Minn. Stat. § 216B.243, subd. 3, which states, in relevant part: “No proposed large energy facility shall be certified for construction unless the applicant can show that demand . . . cannot be met more cost effectively through energy conservation . . . measures and unless the applicant has otherwise justified its need.” (Emphasis added.) Together, these provisions require that the Commission consider the impact of energy conservation measures on consumer demand for the energy that a proposed facility would transport. Honor the Earth understands that this is how the Commission has consistently interpreted this section as it relates to electric transmission facilities. Interpreting it differently with regard to crude oil transmission facilities would be arbitrary, capricious, an abuse of discretion, and in violation of these laws.

Minn. R. 7853.0130(A)(2) reflects the foregoing statutory requirement, in that it requires consideration of the impact of “state and federal conservation programs” related to crude oil demand. Since the efficiency of the electric motors that pump oil through a pipeline have no impact on societal demand for crude oil, consideration of electric pump efficiency cannot substitute for consideration of measures intended to conserve crude oil.

Consideration of conservation impacts is also related to Minn. Stat. § 216B.243, subd. 3(3), which requires that the Commission “evaluate . . . the relationship of the proposed facility to overall state energy needs, as described in the most recent state energy policy and conservation report prepared under section 216C.18” (Emphasis added.) The report required by Minn. Stat. § 216C.18 is generally referred to as the “Energy Policy and Conservation Quadrennial Report,” (“Quadrennial Report”) the most recent of which was

published by the Department in 2016.⁴⁸ Although the Commission’s regulations do not include consideration of this report, Minn. Stat. § 216B.243, subd. 3(3), nonetheless requires its consideration, such that it cannot be ignored. The Quadrennial Report at pages 60 to 64 identifies a number of petroleum conservation measures including the use of biofuels and the increasing market for electric vehicles. Therefore, the Commission must consider these conservation factors in its analysis.

Finally, Minn. Stat. § 16C.137 requires that each state department use less petroleum. This requirement is echoed in Governor’s Executive Order 11-13 at page 3, which requires that “State agencies shall establish interagency teams to develop state department and agency sustainability goals and implement sustainability programs and policies, as well as augment existing programs, that: . . . reduce petroleum consumption by state vehicles.” On page 5 the Executive Order also establishes a goal a 50% reduction in state fleet gasoline use, and a 25% reduction in petroleum-based diesel fuel use, by 2015 from 2005 usage levels. Thus, it is State of Minnesota policy that its agencies conserve petroleum-based fuels through the use of conservation and efficiency measures.

Ultimately, conservation programs and measures are intended to reduce future demand for refined petroleum products, which in turn reduces future demand for crude oil consumption, and therefore also on demand for crude oil transportation services. As such, consideration of the impact of petroleum conservation measures is a necessary part of forecasting future demand for crude oil and crude oil transportation services. Therefore, petroleum conservation must be considered by the Commission when considering the accuracy of Enbridge’s forecast of demand under Minn. R. 7853.0130.A(1). Minn. R. 7853.0130.A(2) simply expands such consideration to the effect of state and federal petroleum conservation programs.

⁴⁸ <http://mn.gov/commerce-stat/pdfs/quad-report-2016.pdf>

For example, market trends and programs that accelerate the adoption of electric vehicles have the potential to impact demand for both crude oil and crude oil transportation services. As such, the Commission must consider the impacts of electric vehicle markets and programs on demand for the crude oil transportation services that would be provided by the Project. A failure by the Commission to consider the potential for petroleum conservation resulting from the adoption of new transportation technology to impact demand for crude oil transportation services would be arbitrary and capricious, an abuse of discretion, and in violation of law.

6. The Ability of Current Facilities and Planned Facilities Not Requiring Certificates of Need, and to Which the Applicant Has Access, to Meet Future Demand

Minnesota’s certificate of need regulations require that the Commission consider: “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”⁴⁹ In turn, this regulation is based on Minn. Stat. § 216B.243, subd. 3(6), which states more strongly: “In assessing need, the commission shall evaluate: . . . (6) possible alternatives for satisfying the energy demand or transmission needs including but not limited to potential for increased efficiency and upgrading of existing energy . . . transmission facilities” Due to the word “shall,” this analysis is not optional. Together, these laws require that the Commission evaluate whether an applicant can meet some or all of a proven energy demand through:

- unused capacity on an applicant’s existing facilities;
- more efficient use of an applicant’s existing facilities;
- new facilities that an applicant is planning to construct; or
- an applicant’s ability to “upgrade” its existing facilities.

⁴⁹ Minn. R. 7853.0130.A(4).

If evidence in the record indicates that an applicant has the potential to meet some or all of a proven demand for energy through upgrading facilities and using them more efficiently, then the Commission must independently evaluate this potential. In this case, an applicant bears the burden of proving that it cannot meet energy demand through any of the foregoing means. To the extent that the Commission's regulations purport to require that it consider only facilities that are "planned" by an applicant, such requirement is in conflict with the statute, because it would be a simple matter for an applicant to hide any plans it might have for future upgrades and/or allege that it has no current plans. Such intentions are difficult if not impossible to disprove. Thus, the law requires that the Commission protect the public interest by independently evaluating whether an applicant can meet energy demand in whole or in part through upgrading existing facilities and/or making more efficient use of them – so that is what the Commission must do.

The foregoing analysis is critical for a number of reasons. First, future net demand for additional crude oil transportation capacity is equal to a proven forecast of demand minus the ability of current facilities to meet this demand. It simply is not logically possible to evaluate future demand for crude oil transportation services without knowing how much existing capacity is currently available but unused. Second, it is not possible to forecast adverse impacts to "future adequacy, reliability, or efficiency of energy supply" without knowing how unused capacity, more efficient use of existing pipelines, upgrades to existing pipelines, and planned facilities, might affect such impacts. Third, it is not possible to understand the "consequences to society" of denying an application absent consideration of these factors, which consequences must be assessed pursuant to Minn. R. 7853.0130.C. And finally, Minnesota's policy with regard to determining need for energy transmission services requires that the Commission investigate

whether lower cost options exist to meet demand for energy transmission services, particularly through using existing facilities more efficiently and through upgrading existing facilities, both of which are typically less expensive than the construction of entirely new facilities.

With regard to which “upgrades” would not require a certificate of need, Enbridge is required to submit an application for a certificate of need for “any project that, within a period of two years, would expand an existing large petroleum pipeline in excess of either 20 percent of its rated capacity or 10,000 barrels per day, whichever is greater.”⁵⁰ Thus, Enbridge may undertake a construction project that incrementally expands one of its pipelines by less than 20% of its rated capacity without applying for a certificate of need, and then it may further expand capacity on the same pipeline after waiting two years. Efforts to use existing facilities more efficiently through changes in operational practices would not require a certificate of need.

7. The Relationship Between Consideration of Alternatives under Minn. R. 7853.0130(B) and Consideration of the Consequences of Denying a Certificate of Need under Minn. R. 7853.0130(C) (the No-Action Alternative)

Criterion B of Minn. R. 7853.0130 must be considered in light of Criterion C, which relates to the consequences of denying a Certificate of Need. Essentially, Criterion C requires that the Commission consider the impacts of what, under MEPA, is termed the “no-action” alternative. Under Criterion C, the Commission must consider what would happen if it denied a Certificate of Need. This would include possible industry responses to increase throughput on existing crude oil pipelines through more efficient use or expansion of existing pipeline capacity, provided that such efforts do not require Commission approval. Put another way, the analysis required by Criterion A(4), related to the ability to use existing and planned facilities more efficiently, is a necessary part of analyzing the impact of denial of a Certificate of Need under

⁵⁰ Minn. R. 7853.0030.

Criterion C. As such, efficiency and upgrade projects should not be considered alternatives under Criterion B, because the Commission has no authority to approve such projects.

Since efficiency and upgrade projects that do not require Commission approval are cognizable under Criterion C, it follows that Criterion B relates only to alternatives that require Commission approval. This also means that consideration by the Commission of efficiency and upgrade projects is not dependent on whether “parties or persons” have demonstrated by a preponderance of the evidence that they are a reasonable and prudent alternative. Further, it follows that efficiency and upgrade projects are not “alternatives” within the meaning of 7853.0120, which allows the Commission to consider only those alternatives that are “proposed before the close of the public hearing and for which there exists substantial evidence on the record with respect to each of the criteria listed in part 7853.0130.”

The Commission must consider the likely impact of efficiency and upgrade projects on both the forecast of demand for crude oil transportation services, as well as their ability to mitigate potential adverse impacts from denial of a certificate of need. Put another way, the Commission must consider how Enbridge and its customers would respond to a denial of Enbridge’s application, including by possibly by increasing throughput on existing pipelines, at least with regard to pipelines within Enbridge’s control. Further, such consideration is not prevented by the requirement of Criterion B that “parties or persons” demonstrate an alternative, or by the requirement of Minn. R. 7853.0120 that the Commission consider alternatives for which substantial evidence has been presented with respect to each of the criteria in Minn. R. 7853.0130. Should the Commission refuse to consider efficiency and upgrade projects because they have not been demonstrated by “parties or persons” other than an applicant, the effect would be that the Commission’s consideration of such projects would be entirely dependent on whether

or not parties or person have intervened in a certificate of need proceeding, as well as on whether or not such party or person had the capability and knowledge of such projects to present data on them under all of the Minn. R. 7853.0130 criteria. Since knowledge of efficiency and upgrade projects would lie almost exclusively within the knowledge of an applicant for a certificate of need, treating these projects as alternative would as a practical matter mean that the Commission would rarely, if ever, be able to consider them. As previously discussed, the Commission may not delegate its statutory duties to indeterminate private parties absent statutory authorization to do so. Therefore, treatment of efficiency and upgrade projects as “alternatives” would frustrate the Commission’s obligation to consider such projects under Minn. Stat. § 216B.243, subd. 3(6), and Minn. R. 7853.0130.A(4) and C, and be in violation of law.

II. ENBRIDGE HAS FAILED TO MEET ITS BURDEN TO PROVE THAT THE PROJECT IS NEEDED BY SOCIETY

A. The Evidence Shows that Denial of the Applications Will Not Adversely Impact the Adequacy, Reliability, or Efficiency of Energy Supply to Enbridge, its Customers, the People of Minnesota or Neighboring States

Minn. R. 7853.0130(A) is primarily concerned with ensuring an adequate, reliable, and efficient supply of energy to society, and not with ensuring that Enbridge maximizes its throughput of crude oil or providing the oil industry has any quantity of crude oil that it wants for any purpose. It is entirely possible for the energy supplied to Minnesota, neighboring states, and the U.S. as a whole to be adequate, reliable, and efficiently provided, and still not satiate the demands for the oil industry for greater access to oil as a marketable commodity. The record evidence shows that:

- demand for crude oil in Minnesota is down 19% from historical highs;
- regional demand is nearly stagnant;

- the oil industry is not planning any significant expansion in refinery capacities in Minnesota, the region, or the U.S. as a whole because U.S. consumer demand is not currently growing substantially;
- due to the impact of adoption of electric vehicles and other conservation measures, consumer demand will likely begin to decrease within 5 to 6 years;
- increasing supplies of domestically produced oil will more than meet any future short-term demand increases for crude oil and petroleum products in Minnesota, the region, or the U.S.;
- net increases in the supply of crude oil to U.S. refineries will be primarily used to produce petroleum products for export, which in the long run will reduce the adequacy and the reliability of the supply of crude oil and petroleum products that will be available to Minnesotans, the region, and the U.S. as a whole; and
- to the extent that oil industry demand for Enbridge’s transportation services increases, the industry has a number of options for transporting crude oil to meet this demand that are reasonably efficient and reliable, including more efficient use of existing pipelines and use of railroads.

The facts show that the U.S. is flooded with crude oil to the point that overseas exports of crude oil and petroleum products from the U.S. have spiked to over 6 million barrels per day (“bpd”), while at the same time the auto industry is investing billions of dollars in electric vehicle development and manufacture, yet the oil industry claims that supplies of crude oil to Minnesota and the mid-continent will become inadequate, unreliable, and inefficiently provided, if the Project is not approved. The adverse effects claimed by the oil industry are not related to the physical supply of crude oil needed to meet consumer demand, but rather to the profitability of

Enbridge and the Canadian oil industry, which private interests may not, under Minnesota law, justify construction of a new crude oil pipeline through Minnesota. As such, if the requested permits are denied, crude oil will continue to be provided adequately, reliably, and efficiently to the people of Minnesota, the region, and the U.S. as a whole. Not building the Project might restrict the oil industry's capacity to transport oil from a foreign country (Canada) to and through the U.S., thereby slowing the growth of overseas exports of petroleum products and Canadian crude oil, but under Minnesota law such restriction is a private commercial concern that does not justify the Project

1. Enbridge's Forecast of Demand Is Unreasonable, Inaccurate, Without Foundation, Biased, and in Violation of Law

a. Description of Enbridge's forecast

Enbridge and the Shippers for Secure, Reliable and Economical Petroleum Transportation ("Shippers") primarily rely on the western Canadian crude oil supply forecasts produced by the Canadian Association of Petroleum Producers ("CAPP") as part of its annual Crude Oil Forecast, Markets and Transportation Report, which reports are produced each June.⁵¹ Initially, Enbridge relied on the CAPP 2016 forecast, but Enbridge and the Shippers have adopted the CAPP 2017 forecast as their forecast of crude oil supply for this hearing.⁵² In addition, Enbridge compares the CAPP forecast to forecasts prepared by the National Energy Board of Canada ("NEB")⁵³ and the Alberta Energy Regulator ("AER")⁵⁴ in an effort to prove that the CAPP supply forecast is reasonable.

⁵¹ Ex. EN-15 at 16-19, Sched. 2 at 43, 87 (Earnest Direct); Ex. EN-37, at 3 and Sched. 2 at 76 (Earnest Rebuttal). Ex. SH-1 at 12 (Shippers Direct); Ex. SH-2 at 20 (Shippers Rebuttal).

⁵² Ex. SH-1 at 12 (Shippers Direct). A copy of the 2017 CAPP Report is included in the record as Ex. HTE-2, Sched. 5 (Stockman Direct).

⁵³ Ex. EN-15, Sched. 2 at 43-46 (Earnest Direct).

⁵⁴ Ex. EN-15, Sched. 2 at 46-47 (Earnest Direct).

CAPP's June 2017 report is slightly higher than the CAPP 2016 forecast.⁵⁵ The 2017 CAPP Forecast predicts that overall western Canadian crude oil production (gross production) will grow from 3,637,000 bpd to 4,932,000 bpd in 2030, an increase of 1,295,000 bpd.⁵⁶ This projected increase is driven by a 53-percent rise in forecasted production from the Tar Sands Region.⁵⁷ Since tar sands oil cannot be shipped without processing, CAPP also provides a supply forecast, which shows the volume of crude oil "that is delivered to the end-use market."⁵⁸ CAPP predicts that crude oil supply from western Canada will increase from 3,915,000 bpd to 5,445,000 bpd by 2030, an increase of 1,530,000 bpd.⁵⁹ Of this amount, western Canadian conventional crude oil production is forecast to drop from 901,000 bpd to 815,000 bpd by 2030, but western Canadian tar sands crude oil production is forecast to increase from 3,014,000 bpd to 4,630,000 bpd, which is an increase of 1,616,000 bpd.⁶⁰ Over the 14 years of this forecast, this amounts to an average increase of approximately 115,000 bpd each year.⁶¹

To put the magnitude of the increase into context, the Project would initially add 370,000 bpd of new nameplate capacity to the Mainline System, but Enbridge would almost certainly increase this amount by another 155,000 bpd, for a total maximum net increase of 525,000 bpd.⁶² In comparison, the proposed Keystone XL Project would have a capacity of 830,000 bpd.⁶³ Thus, if the CAPP 2017 forecast is correct, the Canadian oil industry would need to construct more than the equivalent of both of these pipelines in order to export CAPP's forecasted increase in western Canadian crude oil supply by pipeline. The very large increase in crude oil supply

⁵⁵ Ex. EN-37, Sched. 2 at 76 (Earnest Rebuttal).

⁵⁶ Ex. SH-1 at 12 (Shippers Direct).

⁵⁷ Ex. SH-1 at 12 (Shippers Direct).

⁵⁸ Ex. HTE-2, Attach. LS-5 at 10 (Stockman Direct).

⁵⁹ Ex. HTE-2, Attach. LS-5 App. A.2 (pdf page 50) (Stockman Direct).

⁶⁰ Ex. HTE-2, Attach. LS-5 App. A.2 (pdf page 50) (Stockman Direct).

⁶¹ Ex. HTE-2, Attach. LS-5 App. A.2 (pdf page 50) (Stockman Direct).

⁶² Ex. EN-1 at 8-3 (Certificate of Need Application).

⁶³ Ex. HTE-2 at 31 (Stockman Direct).

that is forecasted by CAPP drives all of Enbridge's justification for the Project, and indicates why it is critical that the Commission carefully consider the accuracy of the CAPP 2017 forecast.

It should also be noted that Enbridge's apportionment forecast is based entirely on the CAPP 2017 supply forecast. As such, this apportionment forecast is not a separate forecast, but rather a different way of expressing the CAPP forecast.

b. Enbridge's Forecast Lacks Transparency, Is Biased, and Fails to Comply with the Requirements of Minn. R. 7853.0520

The reason that the Commission should not rely on the CAPP 2017 Report forecasts is that CAPP does not disclose any of the actual calculations used to produce either the production or supply forecasts.⁶⁴ While CAPP claims to consider many factors, the Commission does not know if these factors had any quantified impact on the CAPP forecast, or if they did, what this impact might be. Enbridge and the Shippers essentially ask that the Commission trust the oil industry's judgment about the future of Canadian crude oil production and supply.

To produce its production and supply forecasts, CAPP relies primarily on a survey of its oil producing members.⁶⁵ None of the oil price or other market assumptions used by these members in predicting their commercial future are disclosed by CAPP. Next, CAPP staff "risk" the results of this survey "based on each project's stage of development while giving consideration to each company's past performance for previous phases of projects relative to public announcements."⁶⁶ However, CAPP does not disclose any information about how this risking process impacts its forecast, and Enbridge and the Shippers have provided no quantified data related to such risking. CAPP also says that "[t]he reasonableness of the overall forecast

⁶⁴ Ex. HTE-2 at 21-22 and Attach. LS-5 (Stockman Direct).

⁶⁵ Ex. HTE-2 at 21-22 and Attach. LS-5 at 3 (Stockman Direct).

⁶⁶ Ex. HTE-2, Attach. LS-5 at 3 (Stockman Direct).

was then assessed against historical trends during a final review.”⁶⁷ Again, neither CAPP nor Enbridge nor the Shippers provide qualitative or quantitative information about how this “reasonableness” review impacted its 2017 production and supply forecasts. Moreover, CAPP provides no information about how it quantitatively converts its production forecast into a supply forecast, such that it is not in the record.

In a more general tone, CAPP also states that its 2017 Report:

has been produced as challenges to industry competitiveness continue to arise and temper growth prospects for oil sands development in the long term. In addition to continuing low prices, Canadian producers will need to contend with carbon pricing and cumulative impacts from other federal and provincial climate change policies, which their competitors in the U.S. may not be facing. Protectionist policies that may be pursued by the current U.S. administration are also a cause for concern.⁶⁸

This statement, however, does not say that the CAPP forecasts themselves were prepared to account for these factors, much less disclose how these factors might have impacted either the surveyed members’ forecasts or CAPP’s “risking” or “reasonableness” reviews. Instead, the factors identified in the above quote are commonly known challenges to the future of oil production in Canada that CAPP’s members must believe they can overcome. The market challenges related to tar sands crude oil are described in detail in Mr. Stockman’s Initial Testimony,⁶⁹ and the Canadian climate policy challenges are the subject matter of the Initial Testimony of Mr. Swift.⁷⁰ The fact that CAPP acknowledges these challenges says nothing about how they impacted CAPP’s 2017 production and supply forecasts. Thus, the CAPP forecasts should be seen for what they are: the Canadian oil industry’s black box estimate of its own future oil production. As such, the Commission should find that this forecast is profoundly

⁶⁷ Ex. HTE-2, Attach. LS-5 at 3 (Stockman Direct).

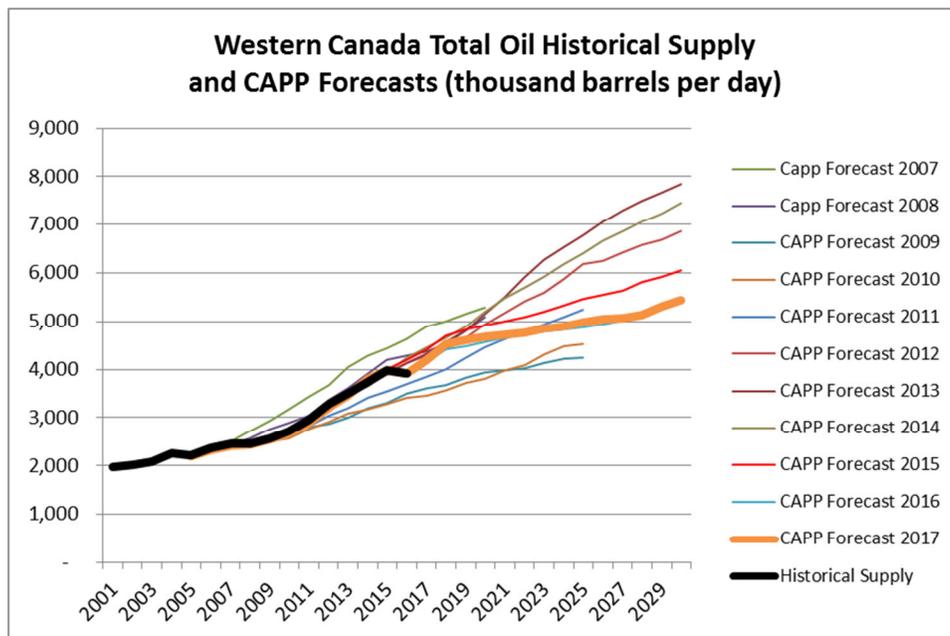
⁶⁸ Ex. HTE-2, Attach. LS-5 at 1 (Stockman Direct).

⁶⁹ Ex. HTE-2 at 4-27 (Stockman Direct).

⁷⁰ Ex. YC-1 (Swift Direct).

biased towards a future in which all of the challenges faced by this faltering industry are overcome. Adoption of the CAPP 2017 forecasts by the Commission would essentially mean that it blindly trusts the judgment of the oil industry about its own future need for additional pipeline capacity based on generic descriptions and bland assurances.

That the CAPP forecasts are unreliable is demonstrated by the tremendous variability in past CAPP forecasts. The following chart⁷¹ shows the CAPP forecasts going back to 2007. Importantly, the range of the past six forecasts (2012 to 2017) is remarkable, amounting to a total variation in 2030 of over 2.4 million bpd.



As described by Mr. Stockman: “[t]hese are not minor forecasting variations. Instead, the wide variations indicate that CAPP forecasts are not accurate.”⁷² While forecasting is always challenging, this extreme variation suggests that CAPP in fact does not account for long-term market trends, but rather reflects its members’ annual commercial aspirations.

⁷¹ Ex. HTE-2 at 23 (Stockman Direct).

⁷² Ex. HTE-2 at 23 (Stockman Direct) (references omitted).

It could be argued that these forecasts are reasonable because some of them have proven to be higher and some lower than actual Canadian crude oil output. While some of the forecasts immediately after the global financial crises were lower, the forecasts from 2012 to 2015 were all much higher than the CAPP 2017 forecast, reflecting a downward trend in forecasting. But, the sheer magnitude of the reduction is also important. It could also be argued that the substantial reductions from prior forecasts means that the challenges faced by the industry have been properly risked. No doubt the industry thinks so. If CAPP is correct, then it is assuming, among other things, that: (a) climate change policy does not stop massive development of new projects in the carbon-intensive Tar Sands Region; (b) electric vehicle market advances have no global impact on demand for petroleum, such that demand continues to rise; and (c) global demand for fossil fuels rises to a degree that supports substantial increases in crude oil price. If all of these assumptions come true, then the world would be on a path to catastrophic climate change. Yet, neither CAPP nor Enbridge nor the Shippers discuss the climate implications of the CAPP forecasts.

Enbridge attempts to resuscitate the credibility of the CAPP forecasts by comparing them to the NEB and AER forecasts.⁷³ This effort fails because Enbridge has provided no meaningful information about the sources of information, assumptions, or factors used in preparing these forecasts, no mathematical description of these agencies methodologies, and no source data used by these agencies related to future oil production. It is entirely possible that both the NEB and AER based their forecast on data provided by CAPP or on the same sort of industry survey that CAPP conducts of its members. In this case, one would expect that the NEB, AER, and CAPP forecasts would be similar (except for the secret sauce assumptions used by each). But, the

⁷³ Ex. EN-37 at 18 (Earnest Rebuttal).

record simply does not identify the source of or provide the underlying numbers for these agencies' forecasts.

This being said, the NEB's most recent production forecast, the October 2016 Canada's Energy Future Update, provides oil price assumptions and production forecasts for its reference, high, and low cases for total (eastern plus western) Canadian crude oil production. It does not provide a low-case production forecast for western Canada alone – just for the reference case. In the low oil price case, total (eastern and western) Canadian oil production growth peaks in 2026 with a maximum net increase over 2016 levels of 779,100 bpd. Thereafter, total Canadian oil production falls steady. This forecast is roughly similar to the Rystad Energy projection of western Canadian crude oil production assuming a long-term average crude oil price of \$50 per barrel.⁷⁴

Importantly, the oil price assumption for the NEB reference case, which Enbridge says is comparable to the CAPP 2017 forecast,⁷⁵ assumes that average oil prices steadily increase from \$50 per barrel in 2017 to \$85 per barrel in 2030 (a sustained 70% increase in oil price) and to \$90 per barrel in 2040 (a sustained 80% increase in oil price).⁷⁶ Similarly, the Rystad Energy base case projection, which is higher than the CAPP 2016 forecast,⁷⁷ assumes that oil price increases from about \$51 per barrel in 2017 to about \$74 per barrel in 2030 (a 45% increase).⁷⁸

Thus, the Commission should assume that the CAPP 2017 forecast is also based on an

⁷⁴ Ex. HTE-4 at 15 (Stockman Surrebuttal).

⁷⁵ Ex. EN-37, Sched. 1 at 19 (Earnest Rebuttal). Enbridge made a similar comparison between the June CAPP 2016 forecast and the February 2016 NEB forecast. Ex. EN-15 at 17 (Earnest Direct).

⁷⁶ Ex. HTE-3, Attach. LS-45 at pdf page 49-50 (Stockman Rebuttal).

⁷⁷ Ex. EN-37, Sched. 2 at 61-63 and Figure 15 (Earnest Rebuttal). Enbridge mischaracterizes the Rystad Energy base case as an opinion by Rystad Energy that its “base case” is the case it believes will happen. Rystad Energy's UCube Database is a tool that allows users to investigate possible future scenarios, such that the term “base case” is not an opinion about the most likely future.

⁷⁸ Ex. HTE-3 at 9 (Stockman Rebuttal); Ex. HTE-4 at 14 (Stockman Surrebuttal).

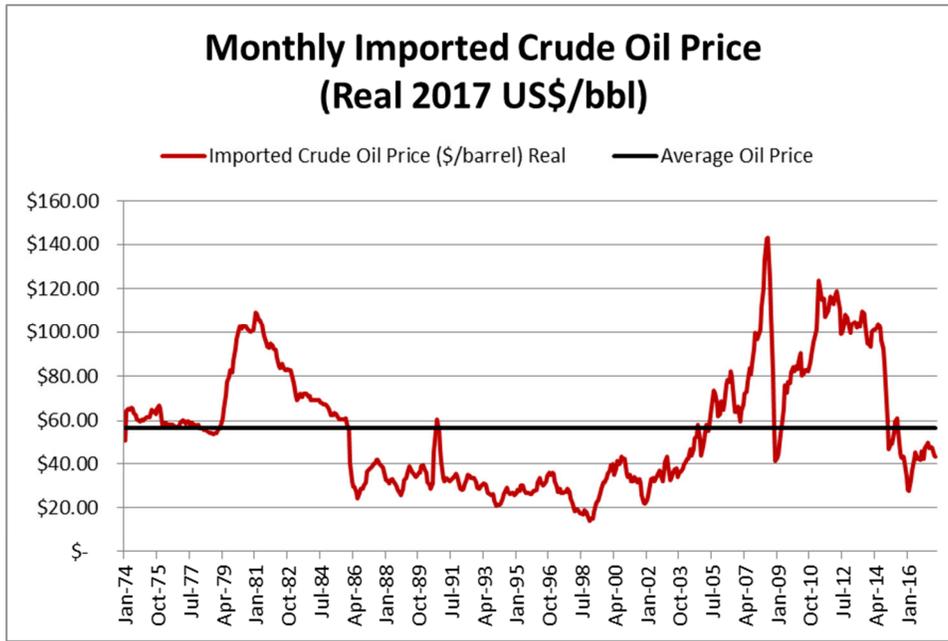
assumption of a long-term rise in crude oil price, which in turn must logically be based on assumptions that:

- there will be continuing increases in demand for crude oil sufficient to justify oil price increases;
- electric vehicle and autonomous vehicle technology advances will have no substantial impact on demand for crude oil; and
- global climate change policy will fail to limit exploitation of the tar sands.

Honor the Earth asserts that the foregoing assumptions are unreasonable. In contrast, Honor the Earth's analysis has assumed that global oil prices would remain at the long-term average oil price, which multiple sources have calculated as being just over \$50 per barrel.⁷⁹ The following chart of EIA data show the inflation-adjusted price of crude oil since 1974, and the average price is \$56.74 per barrel.⁸⁰ The chart does not show any long-term trend toward increasing crude oil price.

⁷⁹ Ex. HTE-2 at 10 (Stockman Direct); Ex. HTE-3 at 5-6 (Stockman Rebuttal).

⁸⁰ Ex. HTE-3 at 5-6 (Stockman Rebuttal).



It shows that oil prices greater than \$50 per barrel have never been sustainable and are followed by a crash in oil price. Similarly, a Morgan Stanley analyst calculated the 100-year inflation-adjusted price to be just over \$50 per barrel and describes this price as “normal”.⁸¹ Given this historical data, it is reasonable to assume that the long-term average price of oil will continue to be just above \$50 per barrel, and unreasonable to assume that average crude oil price will rise by 45% or 70% or 80%.

Given the lack of quantified information about the CAPP forecasts, they do not comply with Minn. R. 7853.0520, which describes mandatory components of applicant forecasts. Specifically, the CAPP forecasts are not accompanied by any meaningful discussion of the mathematical methodology used by CAPP or its members; a quantification of the assumptions used by CAPP and its members; or a meaningful discussion about the factors employed in creating the forecast. It is simply impossible for the Commission to know how changes in key

⁸¹ Ex. HTE-2 at 10 (Stockman Direct) (referencing analysis by Morgan Stanley).

assumptions and key factors would quantitatively impact the CAPP forecasts. As such, the CAPP forecasts do not comply with the minimum requirements of Minn. R. 7853.0520.

For example, one of the key assumptions in determining a crude oil production or supply forecast is future crude oil price. Yet, neither Enbridge, nor the Shippers, nor CAPP, nor CAPPs members have provided the Commission with any of the oil price assumptions used to produce the CAPP forecast. In contrast, Honor the Earth has provided a projection of western Canadian crude oil production by Rystad Energy, an independent Norwegian consulting firm, which projection expressly assumes a fixed oil price of \$50 per barrel over the forecast period.⁸² Honor the Earth provided this projection because it is approximately the average long-term price of oil.⁸³ It shows a 2022 to 2023 peak in western Canadian crude oil production.⁸⁴ To provide more detail, Honor the Earth has also provided a forecast of total western Canadian crude oil production by oil type assuming a fixed \$50 per barrel price.⁸⁵ This projection was not prepared by Rystad for Honor the Earth or Mr. Stockman, but rather is part of its commercially available UCube Database, which is also available to Enbridge, the Department, the Commission, and any other entity that wishes to purchase access to it. The UCube Database is a “bottom up” model based on data from over 65,000 oil and gas projects, which are assessed given their costs, taxes and royalties, markets, geology and technological development.⁸⁶ It is intended to be used by energy industry and financial experts worldwide.⁸⁷ The Rystad UCube Database is evidence that it would be entirely possible for Enbridge and/or the Shippers to provide an objective independent forecast of crude oil supply that would allow the Commission to test key

⁸² Ex. HTE-2 at 26-27, data in Attach. LS-22 (Stockman Direct).

⁸³ Ex. HTE-2 at 26 (Stockman Direct).

⁸⁴ Ex. HTE-2 at 26 (Stockman Direct).

⁸⁵ Ex. HTE-4 at 14-15 (Stockman Surrebuttal).

⁸⁶ Ex. HTE-3 at 7 (Stockman Rebuttal).

⁸⁷ Ex. HTE-3 at 7 (Stockman Rebuttal).

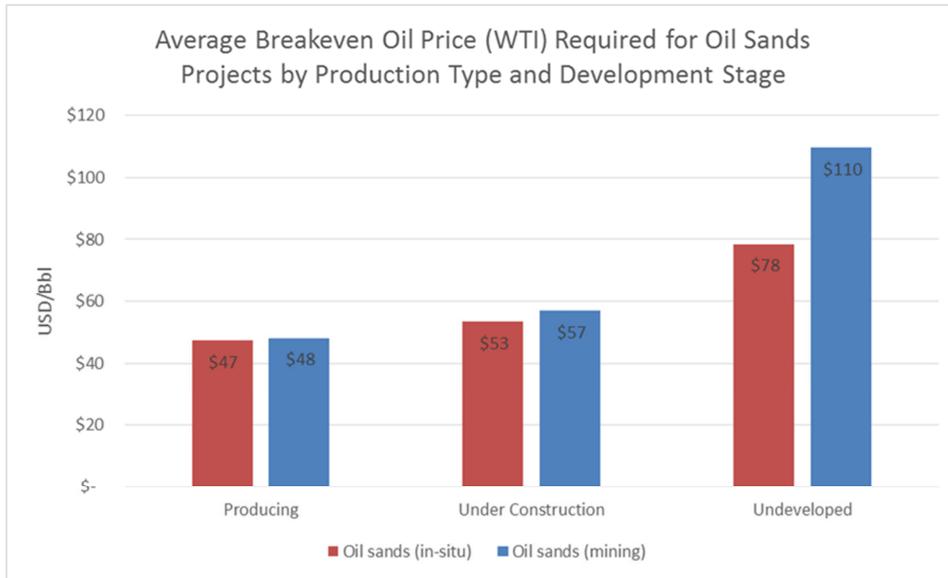
assumptions and factors. Nothing less is allowed by law. Instead, Enbridge and the Shippers have offered only a black box forecast that is profoundly biased towards their commercial interests and completely unverifiable as regards its quantified inputs, methodology, or output. As such, the Commission should reject the Certificate of Need Application, because the forecast provided by Enbridge fails to comply with state law and is demonstrably inaccurate.

c. Enbridge’s Forecast of Demand Is Unreasonable and Inaccurate Because It Fails to Take Into Account that Future Tar Sands Projects Will Not Be Economically Viable, Thus Limiting the Supply of Crude Oil Available for Export from Canada

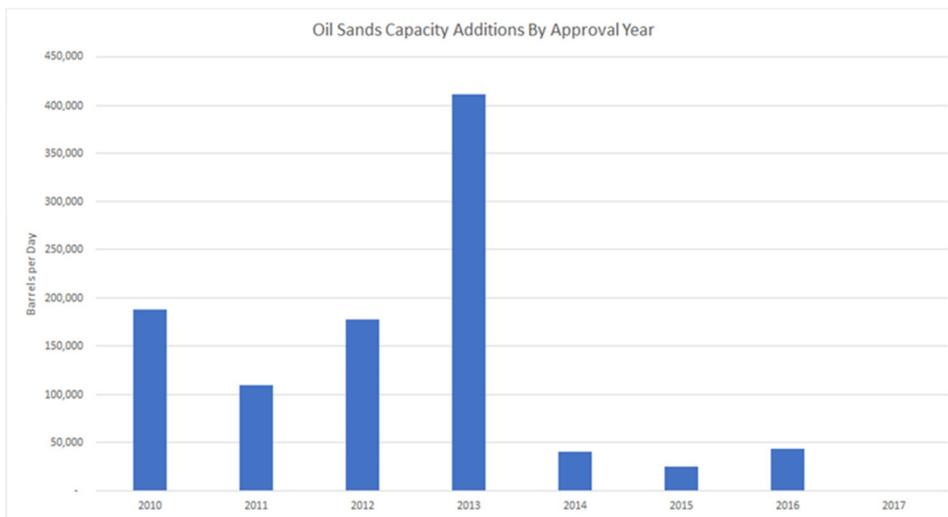
The record shows that new project development in the tar sands of western Canada has stopped, except for a few extraction projects that were sanctioned and began construction during the period of high oil prices from 2011 through 2014. Development has essentially stopped due to the fact that oil prices were at or below \$50 per barrel from 2015 through most of 2017.⁸⁸ New projects will be economically viable only if oil prices increase dramatically. The Rystad UCube Database, which is a “bottom up” model based on data for over 65,000 oil production projects world-wide, including all of the current and proposed tar sands projects in Canada, estimates that the breakeven price for *in situ* tar sands projects (those that melt bitumen underground and then pump it out) is \$78 per barrel; and the breakeven price for mining projects (those that extract bitumen via strip mining) have a breakeven price of \$110 per barrel.⁸⁹

⁸⁸ Ex. HTE-3 at 6 (Stockman Rebuttal).

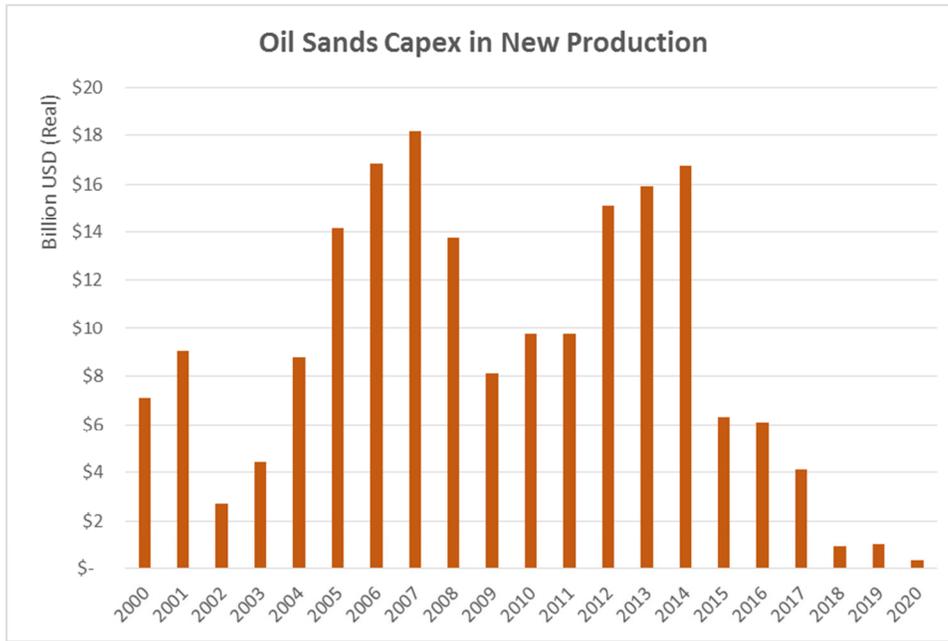
⁸⁹ Ex. HTE-4 at 19-20 (Stockman Surrebuttal). Similar but slightly older figures are provided in Ex. HTE-2 at 8-9 (Stockman Direct). These prices are expressed in term of the price of West Texas Intermediate crude oil, the most common U.S. benchmark crude oil, and the one typically reported as the U.S. crude oil price by industry and news outlets.



Low oil prices have resulting in a crash in investments in new tar sands projects, both in terms of crude oil barrel-per-day capacity additions and dollar investments.⁹⁰



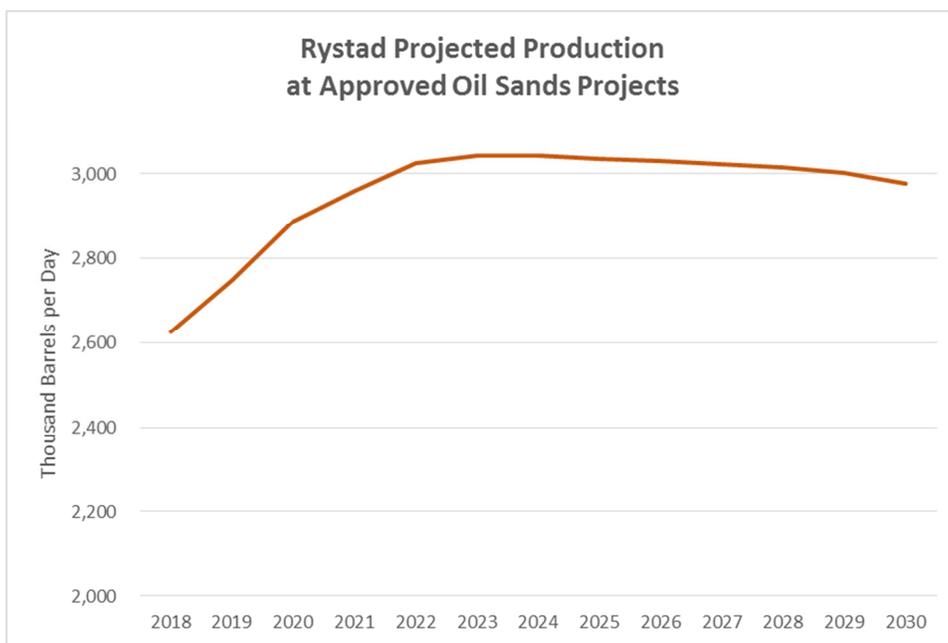
⁹⁰ Ex. HTE-2 at 13-15 (Stockman Direct).



A return to the rapid growth in tar sands production and supply forecasted by CAPP in its 2017 report requires that these investment trends reverse. This will happen if and only if crude oil price increases to breakeven levels and remains high. If oil prices remain near the long-term historical average, then few if any new tar sands projects (those not already under construction) will be approved by the oil industry.

To investigate future western Canadian crude oil production assuming that oil remains near its long-term average of just over \$50 per barrel, Honor the Earth provided the following chart from the UCube Database, which shows that production from all existing and approved but not yet completed tar sands projects will peak in 2022, adding a maximum of approximately 400,000 bpd of new tar sands production during this time.⁹¹

⁹¹ Ex. HTE-2 at 17-18 (Stockman Direct).



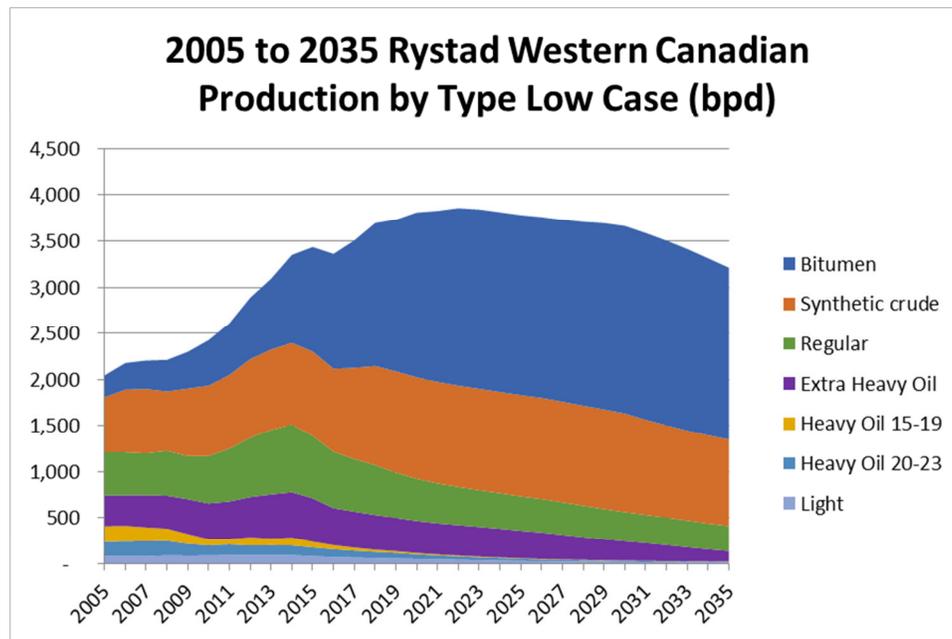
The purpose of the foregoing chart is not to assert that no new tar sands projects will come online, but rather to show what crude oil production from these facilities would be if no new projects are built.

The breakeven oil price figures provided by Rystad are averages; therefore, it is possible that some new tar sands projects may come online. Since the UCube Database is a project-level tool that estimates the economic viability project-by-project, it anticipates that this will happen and Honor the Earth has provided UCube Database data showing this.⁹² The UCube Database projection provided below does not restrict new development to only projects that have been approved or are under construction; instead, it includes production from all existing, approved, and under construction projects, as well as all projects that (a) have been proposed by the tar sands industry and (b) which are economically viable at an oil price of \$50 per barrel.⁹³ In other words, the projection looks at all existing, under construction and possible projects, determines

⁹² Ex. HTE-4 at 15 and Attach. LS-46 (Stockman Surrebuttal).

⁹³ Ex. HTE-4 at 15 and Attach. LS-46 (Stockman Surrebuttal).

whether they will be viable at \$50 per barrel, and if so includes their crude oil production in the data.



It shows that at \$50 per barrel, western Canadian crude oil production would increase from 4,276,000 bpd in 2016 (last year) to a peak of 4,861,000 bpd sometime in 2022 or 2023, an increase of 585,000 bpd, and decline thereafter.⁹⁴ The capacity additions offered by new projects would be partially offset by capacity reductions that result as existing crude oil extraction facilities loose production, such that at an average price of \$50 per barrel overall western Canadian crude oil production would begin to drop in 2023.⁹⁵ Due to these reductions, Canadian production would fall back to 2016 levels in approximately 2033⁹⁶; however, this does not mean that the maximum net increase would exist for this entire time period.

The Rystad Energy data about the relationship between oil price and western Canadian crude oil production is clear and convincing evidence that the CAPP 2017 forecasts are based on the unreasonable assumption that oil prices will increase to levels similar to those from 2011 to

⁹⁴ Ex. HTE-4 at 15 and Attach. LS-46 column “Total Production (no bio)” (Stockman Surrebuttal).

⁹⁵ Ex. HTE-4 at 15 and Attach. LS-46 (Stockman Surrebuttal).

⁹⁶ Ex. HTE-4 at 15 and Attach. LS-46 (Stockman Surrebuttal).

2014 that allowed substantial amounts of new tar sands projects to be sanctioned and built.

While some new oil projects may come online as oil prices fluctuate, overall at an average oil price of around \$50 per barrel, western Canadian crude oil production will likely peak sometime in 2022 or 2023. Moreover, if electric vehicle adoption increases and global demand for oil drops and international climate policy limits production from carbon-intensive oil fields such as those in the Tar Sands Region, then oil prices may fall below \$50 per barrel and not recover. If this happens, then the Rystad Energy \$50 per barrel production projections would be too high and oil production from Canada would likely peak sooner and drop faster.

2. Denial of the Certificate of Need Application Would Not Create Adverse Effects Because the People of Minnesota, Neighboring States, and the U.S. Do Not Have a Demand for Increased Imports of Canadian Crude Oil

The following discussion reviews the evidence in the record related to historical demand for crude oil and petroleum products and finds that recent trends do not show that Minnesota, neighboring states or the US as a whole have a future need for additional imported Canadian crude oil.

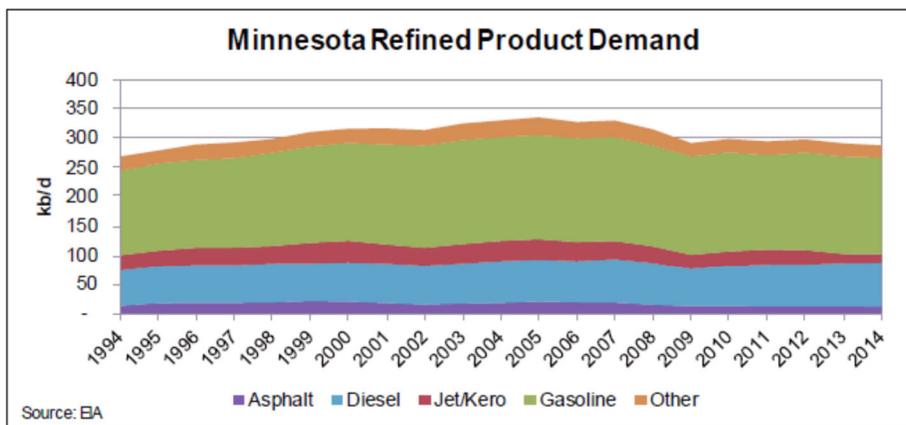
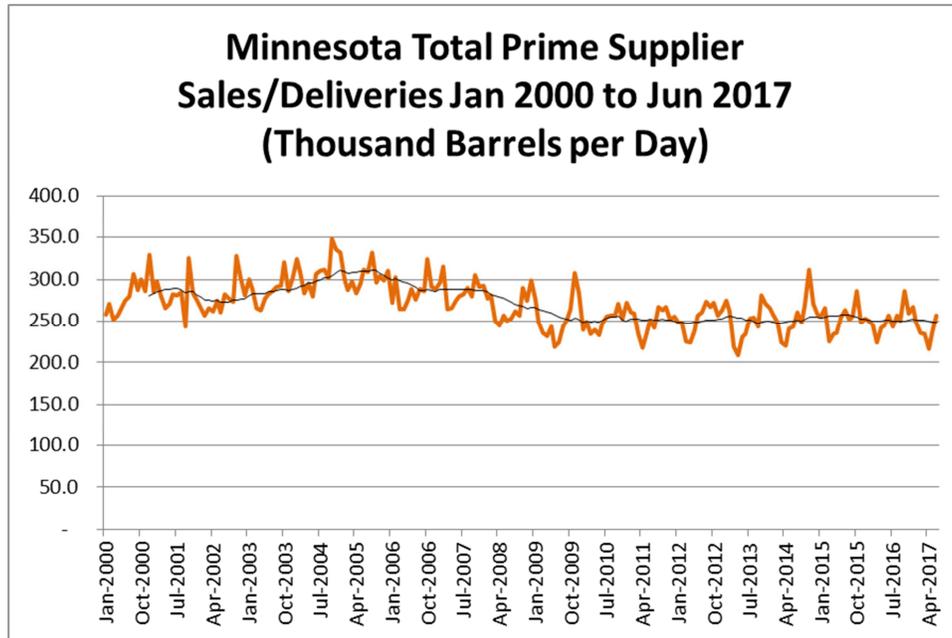
The best evidence available showing consumer demand for petroleum products in Minnesota is the U.S. Energy Information Agency (“EIA”) “prime supplier” data, because this data set is the federal data showing consumer demand for petroleum at a state level and is intended by the EIA to be the data set showing sales of petroleum fuels into local markets.⁹⁷ In addition, the EIA provides state-level data through its State Energy Data System, much of which is based on the prime supplier data.⁹⁸ In contrast, refinery crude oil demand and output data is

⁹⁷ Ex. HTE-2 at 37-38 (Stockman Direct). Although prime supplier data is limited to petroleum fuels and does not include industrial and specialty products, petroleum fuels constitute the vast majority of petroleum product consumption.

⁹⁸ Ex. En-15, Sched. 2 at 8 (Earnest Direct).

not a reliable indicator of state-level consumer demand, because refineries may serve multiple states and even ship product outside of the region.⁹⁹

Both the EIA prime supplier data and its State Energy Data System show that demand for refined products in Minnesota peaked in 2004 and has been static since 2010.¹⁰⁰ The following charts, the first by Mr. Stockman and the second by Mr. Earnest, demonstrate this fact.

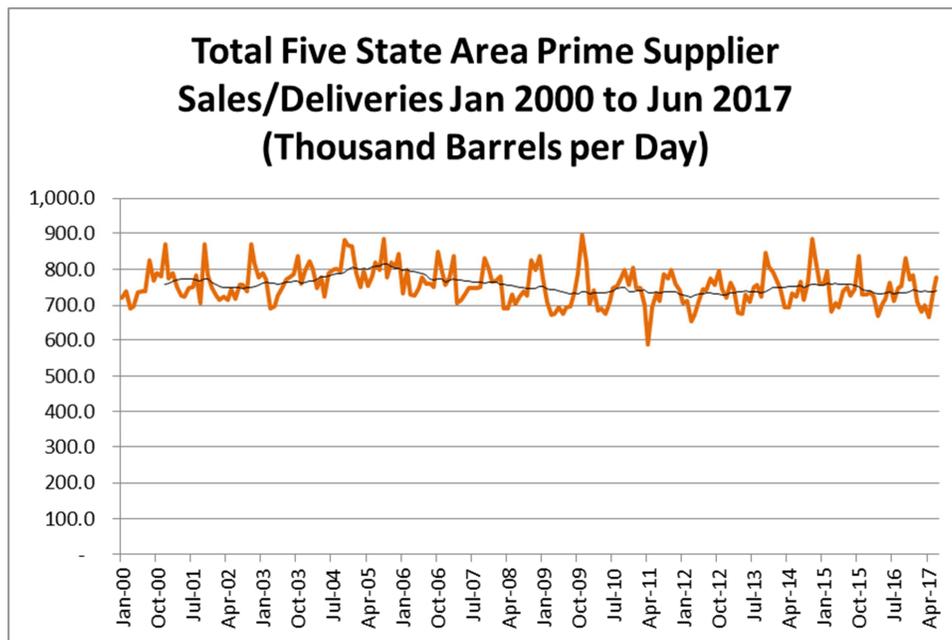


⁹⁹ Ex. En-15, Sched. 2 at 7 (Earnest Direct).

¹⁰⁰ Ex. HTE-2 at 39-40 (Stockman Direct); Ex. En-15, Sched. 2 at 8 (Earnest Direct).

In quantitative terms, the prime supplier data shows that demand for petroleum fuels in Minnesota is down by 19% from Minnesota’s 2004 peak demand, which averaged 311,300 bpd.¹⁰¹ Thus, the data available in the record show that Minnesota consumer demand for petroleum is not increasing, such that Minnesota consumers also do not require that greater volumes of crude oil be transported to Minnesota to meet their demand for refined petroleum products.

The same EIA data is available for the five-state area (Minnesota, Iowa, North Dakota, South Dakota, and Wisconsin) – Minnesota’s neighboring states. The following chart by Mr. Stockman shows that demand in the five-state area also is not increasing.¹⁰²

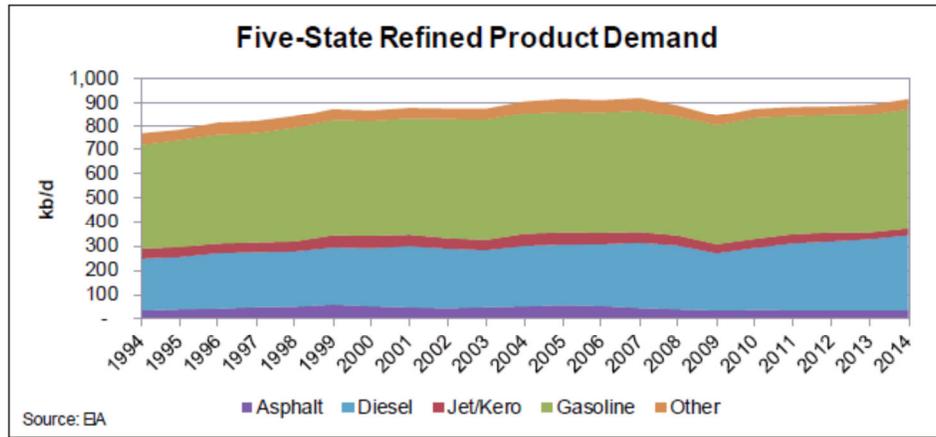


In contrast, the older chart by Witness Earnest shows demand increasing through 2014, but it has subsequently decreased.¹⁰³

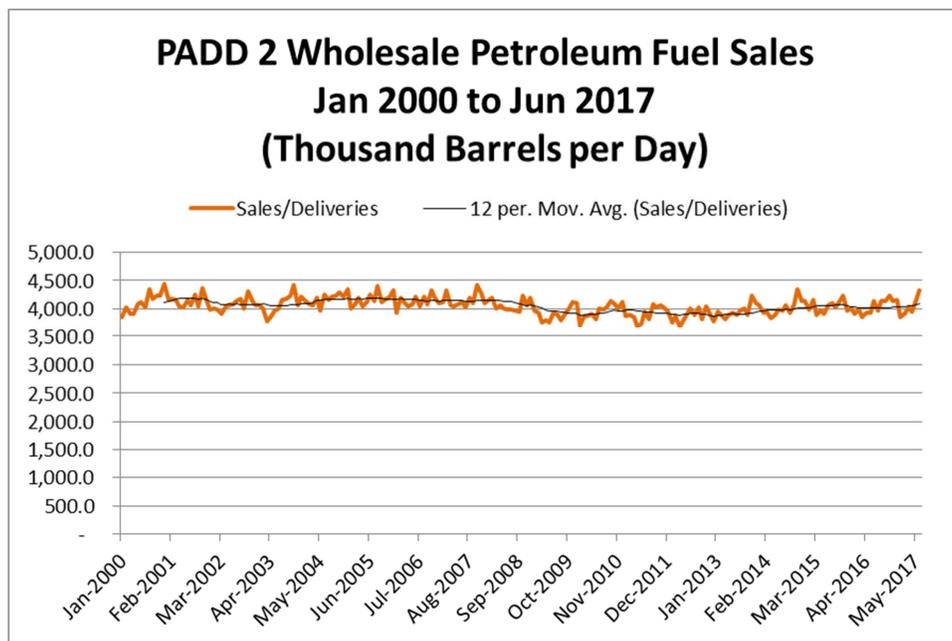
¹⁰¹ Ex. HTE-2 at 39 (Stockman Direct).

¹⁰² Ex. HTE-2 at 38-39 (Stockman Direct). Mr. Stockman also provided individual prime supplier charts for each of these five states. *Id.* at 40-44. These charts show that the only state that has substantially increased sales of petroleum fuels over the past five years is North Dakota, due to the fracking boom, but as the boom has busted, these sales, too, have declined. *Id.* at 41.

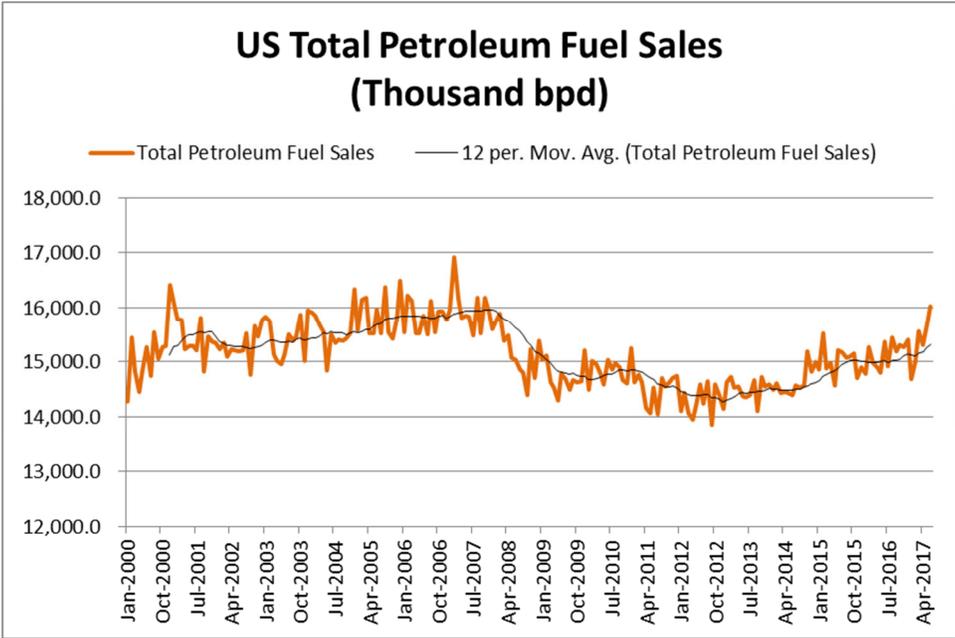
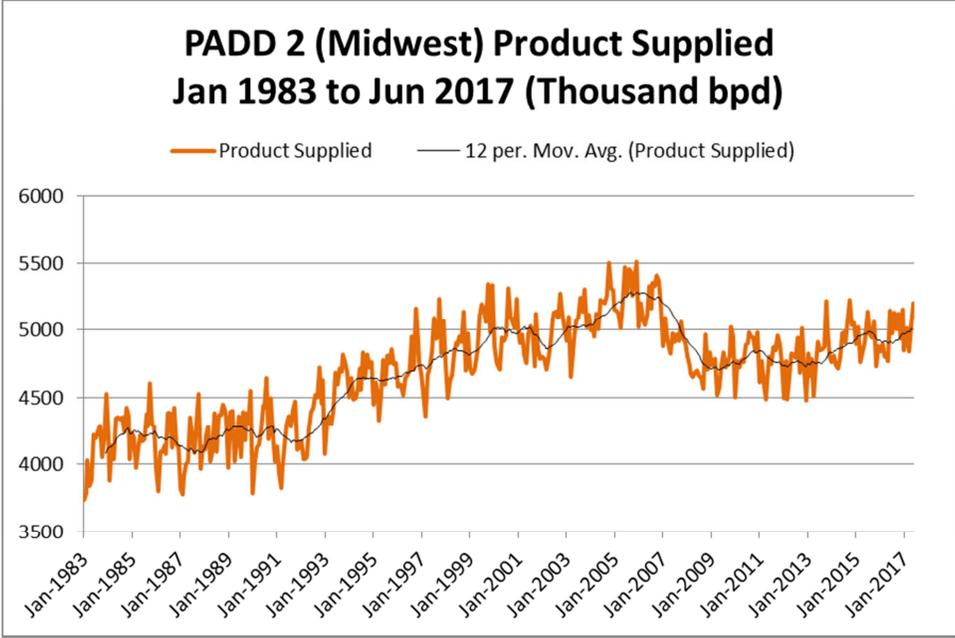
¹⁰³ Ex. En-15, Sched. 2 at 9 (Earnest Direct).

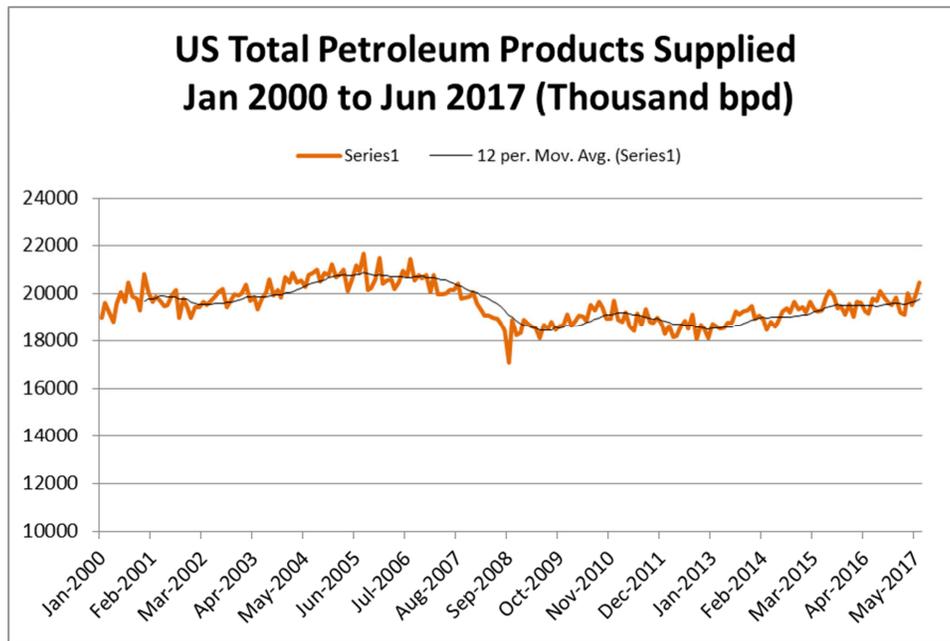


The prime supplier data, as well as the EIA “product supplied” data shows that consumer demand for petroleum products in the Midwest (Petroleum Area Defense District 2, hereafter “PADD 2”) and the US as whole is not increasing substantially, especially relative to increasing U.S. crude oil production. The following charts show consumer demand for petroleum products in PADD 2 and the U.S.¹⁰⁴



¹⁰⁴ Ex. HTE-2 at 45, 50-52 (Stockman Direct).





These charts show slow growth in U.S. petroleum product demand,¹⁰⁵ but such limited growth must be considered in light of increasing U.S. crude oil production, which has increased by approximately 4 million bpd.¹⁰⁶ Thus, the historical domestic consumer demand data for the Midwest and U.S. as a whole does not indicate a need for additional crude oil supply from Canada.

In his Direct Testimony, Mr. Earnest argues that refinery runs have increased, even as consumer demand has stagnated, such that additional crude oil supply is needed.¹⁰⁷ At the same time, he admits that “U.S. crude oil runs have been increasing because of rising volumes of refined product exports” and that “an increase of throughput on crude oil pipelines, such as the Enbridge Mainline System, is not limited to just the amount required to satisfy an increase in regional or national refined product demand.”¹⁰⁸ Thus, Enbridge’s witness agrees that the

¹⁰⁵ Ex. HTE-2 at 51-52 (Stockman Direct).

¹⁰⁶ Ex. HTE-2 at 52 (Stockman Direct).

¹⁰⁷ Ex. EN-15, Sched. 2 at 56-58 (Earnest Direct).

¹⁰⁸ Ex. EN-15, Sched. 2 at 56, 58 (Earnest Direct).

primary cause of increased demand for crude oil in the U.S. has not been domestic demand, but increasing exports.

In his Rebuttal Testimony, Mr. Earnest argues that static domestic demand is not meaningful, because (a) Canadian crude oil is needed to reduce imports of crude oil from overseas suppliers, and (b) if the Project is not approved, the Canadian oil will be transported anyway, just by rail instead of pipeline.

With regard to his first argument, as discussed below, Mr. Earnest provides no evidence indicating that increased imports of Canadian crude oil have reduced imports of overseas crude oil into the U.S., and instead provides just a single import number for June 2017, which provides no trend information. Moreover, consumer demand is meaningful under the Minnesota Certificate of Need laws, as it is related to whether or not past demand provides evidence of increasing need for crude oil, which in turn is related to whether future supply of crude oil will be adequate, reliable and efficient for the people of Minnesota and neighboring states. Here, the available data shows that refineries that serve the five-state area have adequate access to crude oil via existing crude oil pipelines. With regard to North Dakota's increased demand for crude oil and petroleum fuels, its approximately 50,000 bpd increase in demand, which has dropped back to an approximate 30,000 bpd increase, is dwarfed by the output of crude oil in the region, and particularly from the Williston Basin (Bakken Formation).

With regard to Mr. Earnest's second argument, that the oil will move by other modes of transportation, that this may happen is not related to the need by Minnesotans and the residents of neighboring states for an adequate, reliable, and efficient supply of crude oil. If anything, it demonstrates that the adequacy and reliability of supply is assured, even if the Project application is denied so the industry turns to other forms of crude oil transportation.

3. Denial of the Certificate of Need Application Would Not Have an Adverse Effect Because a Lack of Planned Refinery Capacity Increases in MN, the Five-State Area, and the U.S., Is Evidence of a Lack Of Need for Additional Crude Oil Supply

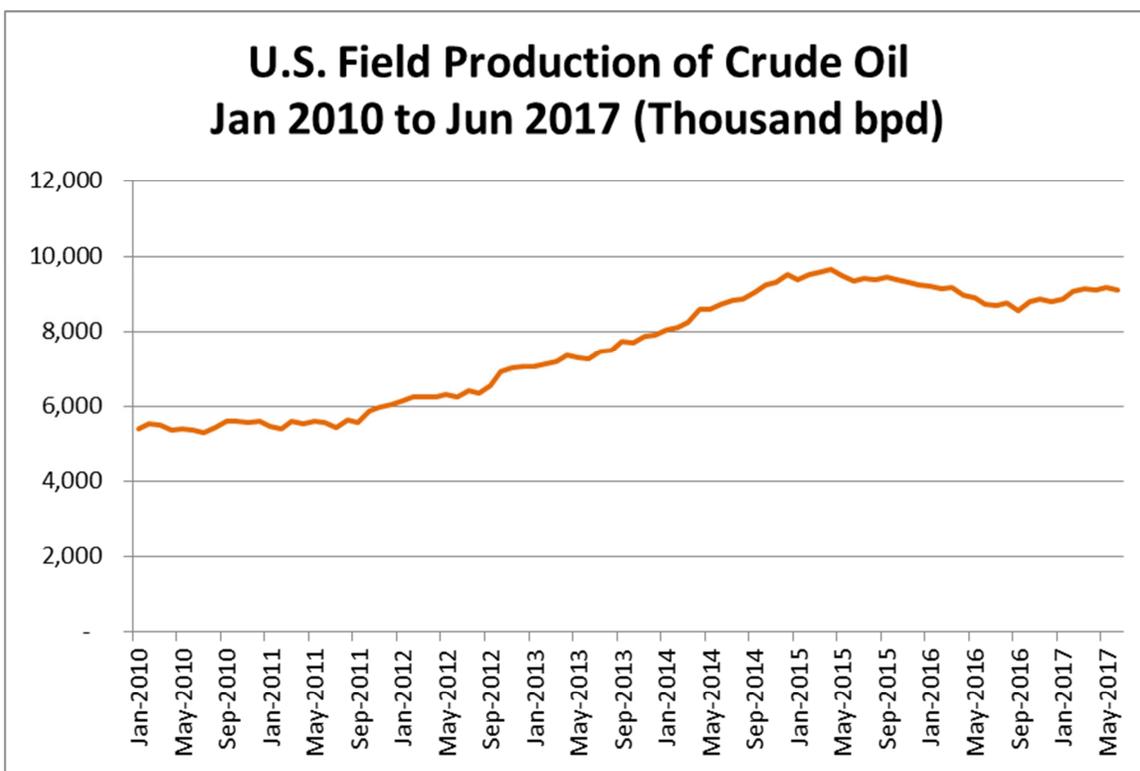
Enbridge has identified only one refinery that plans a future expansion of its overall refining capacity, the Robinson Refinery in southern Illinois, which has planned to expand its light crude oil refining capacity by 30,000 bpd.¹⁰⁹ They only other evidence of a future refinery expansion relates to the purported expansion of the Flint Hills Refinery, which a public comment revealed is not intended to increase overall capacity and at best would result in “annual utilization improvements” that are estimated to be at most 22,000 bpd “based on maximum theoretical stream day utilization increases,” which improvement would result from the installation of self-cleaning equipment.¹¹⁰ This dearth of refinery expansions is evidence of the fact that domestic demand for refined petroleum products is at best currently growing very slowly. Significantly, Enbridge has not identified any substantial heavy crude oil refinery expansions, which is almost exclusively the type of oil that the Project would import from Canada. This lack of heavy crude oil refinery expansions indicates that the primary purpose of the Project is not to serve U.S. markets, but rather to allow increased exports of refined petroleum products and U.S. and Canadian crude oil. Thus, the Project is not needed to ensure an adequate, reliable, and efficient supply of crude oil for Minnesota or neighboring states, nor even for U.S. domestic consumer demand, but instead is intended to serve the commercial export desires of the oil industry.

¹⁰⁹ Ex. EN-15, Sched. 2 at 50 (Earnest Direct). The testimony also mentions modest expansions at the Canton and Catlettsburg Refineries in Ohio and Kentucky, respectively, but these expansions have already been completed and relate to light crude oil.

¹¹⁰ Comments by Kathy Hollander (Nov. 12, 2017) at 7 (eDocket No. 201711-137296-01 (CN)) (Data from attachment entitled *Technical Support Document for Air Emission Permit No. 03700011-101*, which describes the expansion of the Flint Hills Refinery on its page 18 (pdf page 45).

4. Denial of the Application for a Certificate of Need Would Not Have Adverse Effects Because Growing US Crude Oil Supply Can Support Any Near-Term Increases in US Demand for Petroleum Products

The need for the crude oil transportation services that would primarily be provided by the Project (importing heavy Canadian crude oil) must also be considered in light of U.S. domestic crude oil production, which the evidence shows has increased dramatically in the past decade. The following chart of EIA data shows that U.S. production of crude oil has increased by nearly 4 million bpd since 2010.¹¹¹



This net increase in U.S. crude oil production totals more than all crude oil imports from Canada combined, which averaged approximately 3.7 million bpd in the first half of 2017.¹¹²

The massive increase in U.S. domestic crude oil production in combination with a massive

¹¹¹ Ex. HTE-2 at 53 (Stockman Direct).

¹¹² Imports from Canada in the first half of 2017 by pipeline averaged 3,537,952 bpd and by rail averaged 145,113 bpd. Ex. HTE-2 at 53 and Attach. LS-24 (Stockman Direct); HTE-3 at 20-23 and Attach. LS-43 (Stockman Rebuttal).

increase in imports from Canada has resulted in glut of crude oil in U.S. markets.¹¹³ Yet, at the same time U.S. domestic demand for petroleum products is down from peak levels and is barely growing.¹¹⁴ Thus, any near-term growth in U.S. domestic demand for petroleum products can be satisfied by use of U.S. crude oil, such that there is no need for additional imports of Canadian crude oil.

5. Enbridge’s Forecast of Demand Is Unreasonable and Inaccurate and the Project Is Not Needed Because a Forecast Rapid Increase in Electric Vehicle Market Share Will Result in Conservation of Petroleum Fuels and a Significant Reduction in Demand for Petroleum Products in the U.S. and Globally

Minn. R. 7853.0130(A)(2) requires that the Commission consider the effects of state and federal petroleum conservation programs on the need for the Project. This requirement derives from Minn. Stat. § 216B.243, subd. 3(2). While it can be argued that the auto industry’s dramatic increase in its commitment to produce electric vehicles is not a “program,” it is true that the our federal, state, and local governments have had multiple programs to encourage the development and adoption of electric vehicles over at least the past three decades, such that the market forces that are now driving their adoption are the result of such programs. Although the wording of the regulations is awkward because it refers to state electricity conservation programs that do not apply to petroleum fuels, the underlying intent of the legislature with regard to consideration of conservation is to require evaluation of the effects of conservation measures on future energy demand. In any case, the Commission must also consider the impact of expanding electric vehicle market share on the accuracy of Enbridge’s demand forecast, because the use of electric vehicles reduces demand for petroleum fuels, and it would be unreasonable to consider the effect of such market forces on the accuracy of Enbridge’s forecast of demand.

¹¹³ Ex. HTE-2 at 53- 59 (Stockman Direct).

¹¹⁴ Ex. HTE-2 at 45, 50-52 (Stockman Direct).

Honor the Earth has included a very large amount of information about electric and autonomous vehicles in the hearing record, including press reports regarding statements from major international automobile manufacturers stating intentions to offer many more models of electric and plug-in hybrid vehicles, and even to fully electrify their vehicle offerings.¹¹⁵ While some of the analysis offered by Honor the Earth was prepared by nonprofits, the vast majority of it was prepared by other types of entities, including government agencies (International Energy Agency, International Renewable Energy Agency, OPEC); industry think tanks (Edison Electric Institute); banks (UBS Evidence Lab, JP Morgan, ING); investment companies (Blackrock, Morgan Stanley, Goldman Sachs); insurance companies (DNV GL); and industry consultants (Bloomberg New Energy Finance, The Brattle Group, Fung Global Retail & Technology, RethinkX).¹¹⁶ The trends toward accelerated adoption of electric and autonomous vehicles are clear and undeniable.

According to *Rethinking Transportation 2020-2030*, by RethinkX, electric vehicles have many fewer moving parts so will be easier and cheaper to manufacture to maintain.¹¹⁷ This study also states that coming changes in transportation will result in electric vehicles that cost 70% less to fuel as compared to internal combustion engine vehicles.¹¹⁸

The record contains evidence from Bloomberg New Energy Finance that growth in electric vehicles will reduce crude oil demand by approximately 1 million bpd by 2025, and by approximately 3 million bpd by 2030.¹¹⁹ Since the oil price drop in 2015 was related to a 2 million bpd oversupply of crude oil, the adoption of electric vehicle technology is likely to begin

¹¹⁵ Ex. HTE-2 at 60-65 and Attach. LS-32 and LS-33 (Stockman Direct); Ex. HTE-3 at 14-18 and Attach. LS-41 and LS-42 (Stockman Rebuttal).

¹¹⁶ Ex. HTE-3 at 14-18 and Attach. LS-41 and LS-42 (Stockman Rebuttal).

¹¹⁷ The drive train of an EV typically has 20 moving parts, whereas internal combustion engines typically have over 2,000. RethinkX estimates that the cost of maintenance of electric vehicles will be 80% less than internal combustion engine cars. Ex. HTE-3, Attach. LS-41, Part 2, Report Page 37 (Stockman Rebuttal).

¹¹⁸ Ex. HTE-3, Attach. LS-41, Part 2, Report Page 37 (Stockman Rebuttal).

¹¹⁹ Ex. HTE-2 at 64 (Stockman Direct).

weakening crude oil markets and putting downward pressure on crude oil prices in the near-term.¹²⁰

Other analysts have focused directly on the impact of electric vehicle technology on the oil industry and predict that this technology will have a profound impact. For example, DNV GL, a global quality assurance and risk management company produced a major analysis of the coming energy transition and predicted that global oil demand will peak in 2022 due to this transition.¹²¹ Tony Seba from RethinkX, an expert in technology disruption, predicts that global demand for crude oil will peak at 100 million bpd in 2020 and fall to 70 million bpd by 2030, driving down oil prices to about \$25 per barrel and making most tar sands projects and their related pipelines uneconomical.¹²² In a note released on Monday, August 21, 2017, a JP Morgan analysis stated that adoption of electric vehicles would create many “losers,” including vehicle dealerships, vehicle repair and maintenance businesses, and oil companies.¹²³ It calculated that electric cars could take 35% of the global car market by 2025 and 48% by 2030. This does not include the impact on oil demand from electrification of other vehicles such as scooters, delivery vehicles, and heavy trucks.

Thus, the auto industry itself and many analysts agree that the future of transportation will be electric, and the only question that remains relates to the speed of this transition. The evidence provided proves that this transition is starting now and will have an increasingly negative impact on global demand for crude oil throughout the forecast period. This trend away from oil-powered transportation does not support the CAPP 2017 forecast, which depends on increasing global crude oil and petroleum product sales and rising crude oil prices. Therefore,

¹²⁰ Ex. HTE-2 at 64 (Stockman Direct).

¹²¹ Ex. HTE-3 at 17 (Stockman Rebuttal).

¹²² Ex. HTE-3, Attach. LS-41, Part 2, Report Page 42-47 (Stockman Rebuttal).

¹²³ Ex. HTE-3 at 15 (Stockman Rebuttal) (report referenced in link which has changed to:

<https://www.cnbc.com/2017/08/22/jpmorgan-thinks-the-electric-vehicle-revolution-will-create-a-lot-of-losers.html>).

because it fails to take account of the transition to electric vehicles and other advanced transportation technologies, the CAPP 2017 forecast is unreasonable and inaccurate.

6. Denial of the Application for a Certificate of Need Would Not Result in Adverse Effects Because Enbridge’s Current Pipeline Facilities Have the Capacity to Meet a Substantial Proportion of a Reasonable Forecast of Demand

Minn. Stat. § 216B.243, subd. 3(6) and Minn. R. 7853.0130.A(4) require that the Commission analyze whether Enbridge can meet some or all of a proven demand for additional crude oil via:

- unused capacity on Enbridge’s existing crude oil pipelines;
- more efficient use of Enbridge existing pipelines;
- new facilities that Enbridge is planning to construct; or
- Enbridge’s ability to “upgrade” its existing crude oil pipelines.

Honor the Earth continues to assert that Enbridge has not proven a need for society to import more Canadian crude oil. However, in the event that the Commission finds that society does need such imports, Honor the Earth has presented evidence indicating that Enbridge has the ability to meet some or all of this future need for crude oil transportation services through better use of its existing pipelines. This evidence includes:

- data provided by Enbridge to FERC showing average utilization of Enbridge’s existing Mainline System pipelines, which data indicates that Enbridge operated its Mainline System at 89% of its nominal capacity in 2017 Q1 and 86% of nominal capacity in 2017 Q2, such that Enbridge has had unused capacity on its Mainline System;¹²⁴

¹²⁴ Ex. HTE-2 at 29-30 and Attach. LS-24 (Stockman Direct) (columns headed “Enbridge Mainline” and adjacent column headed “% Utilization Based on Nominal Capacity at Specific Time (see formula)”; Ex. HTE-4 at 34 (Stockman Surrebuttal).

- data provided by Enbridge to FERC showing average utilization of Enbridge’s existing Express Pipeline, which data indicates that Enbridge currently has unused capacity on this pipeline;¹²⁵ and
- presentations provided by Enbridge to its investors showing that it has the ability to upgrade and/or more efficiently use its existing Mainline System pipelines and Express Pipeline to transport additional crude oil from Canada to the U.S.¹²⁶

With regard to current unused capacity, this amount depends on assumptions about Enbridge’s maximum effective capacity. Enbridge claims that it cannot utilize its Mainline System at greater than 92% efficiency, whereas CAPP assumes that Enbridge can utilize this system up to 95% of nominal capacity.¹²⁷ Since the existing Mainline System pipelines have a combined nameplate import capacity of 2,850,000 bpd, each 1% of capacity equals 28,500 bpd. Thus, if Enbridge is operating its Mainline at 89% of capacity, then it would have either 3% (85,500 bpd) or 6% (171,000 bpd) of unused capacity, depending on the assumption about Enbridge’s maximum effective capacity. While these amounts are not large in an absolute sense, they nonetheless amount to a substantial portion of the net capacity addition that would be offered by the Project (370,000 bpd).¹²⁸ In any case, the law requires that the Commission determine whether the Mainline System has any excess capacity.

With regard to Enbridge’s capacity to use its existing Mainline System Pipelines more efficiently or “upgrade” them, Honor the Earth has put into evidence slides presented by

¹²⁵ Ex. HTE-2 at 29-30 and Attach. LS-24 (Stockman Direct) (columns headed “Express” and adjacent column headed “% Utilization Based on Nominal Capacity of 280,000 bpd.”)

¹²⁶ Ex. HTE-2 at 32-36 (Stockman Direct).

¹²⁷ HTE-4 at 34 (Stockman Surrebuttal). It should also be noted that the Mainline System’s pipelines have a maximum design (daily) capacity that is approximately 10% higher than its nominal capacity, or 3,135,000 bpd. Thus, the calculation of nominal capacity already provides for 10% loss of capacity due to inefficiency. Enbridge’s claim that it can operate its system at only 92% of nominal capacity further reduces the effective nominal capacity to only 84% of the systems maximum daily capacity.

¹²⁸ Ex. EN-1 at 8-3 (Certificate of Need Application).

Enbridge to its investors between February 2015 and June 2017,¹²⁹ as well as Enbridge's descriptions of these slides (provided in response to Honor the Earth information requests).¹³⁰ Although Enbridge's descriptions of these projects are somewhat cryptic, it should be noted that it has described these projects as being "low cost phased expansions" that are "attractive in a low crude price environment,"¹³¹ and "low cost, highly executable, staged expansions to match supply."¹³² Enbridge may claim that none of these projects may be undertaken without construction of Line 3. However, its February 17, 2017, presentation to the New York Stock Exchange shows that Enbridge intends to expand the Mainline System in 2017 and 2018 (before the projected start of the new Line 3 in 2019) via "Enbridge System Optimization" projects.¹³³ Also, some of the upgrade and efficiency projects appear to have no connection to construction of a new Line 3 pipeline. Enbridge has also asserted that these upgrade and efficiency projects cannot serve as "alternatives" to the Project because no single one of them has the same proposed net capacity increase as the Project, and/or because a project may not serve the same markets.¹³⁴ Regardless of whether these projects are characterized as "alternatives," the Commission is required to consider whether one or more of these projects might serve part of a proven need for additional crude oil transportation services. Before subjecting landowners, indigenous rights holders, and Minnesota's environment to the risks of a new pipeline, the Commission must confirm that no efficiency or upgrade options exist.

The full list of these upgrade and efficiency projects are shown in the following table.¹³⁵

¹²⁹ Ex. HTE-2 at 32-36 (Stockman Direct).

¹³⁰ Ex. HTE-4 at 34 and Attach. LS-52 (Stockman Surrebuttal).

¹³¹ Ex. HTE-2 at 32 (Stockman Direct).

¹³² Ex. HTE-2 at 35 (Stockman Direct).

¹³³ Ex. HTE-2 at 34 (Stockman Direct).

¹³⁴ *E.g.*, Ex. HTE-4, Attach. LS-52 at pdf page 52, Response "a" (Stockman Surrebuttal).

¹³⁵ Ex. HTE-2 at 32-36 (Stockman Direct).

Expansion Project	Net Capacity Increase Range (Kbpd)	Related to Line 3?
Projects Identified in Feb, Mar, Jun, and Dec 2015 Presentations		
Sandpiper Expansion/Bakken Interconnect Idle	170	No
Line 2A/LSR (Line 65) Expansion	100	No
Line 2B/4 Capacity Recovery	120	No
Line 3 at 760	370	Yes
Projects Identified in Jul, Sep, Nov 2016 and Jan 2017 Presentations		
Line 3 Restore Capacity	400	Yes
Line 4 Rate Optimization	50	No
Line 2 Eliminate ND Receipts	150	No
Line 65 Additional Pumping	100	No
Line 3 Additional Pumping	100	Yes
Projects Identified in Jun 2017 Presentation		
System DRA Optimization	75	In part
BEP Idle	100	No
System Station Upgrades	100	Yes

Line 4 Capacity Restoration	75	No
Line 13 Reversal	150	No
Express Pipeline Expansion	100 ¹³⁶	No

Given the variability of descriptions provided by Enbridge, it is difficult to know for certain how much capacity Enbridge might add to its Mainline System without building Line 3, but it is clear that it has the potential to substantially increase throughput on the Mainline System relative to the proposed increase in capacity that would be provided by the Project. For example, Enbridge has repeatedly said to its investors that by not transporting crude oil from North Dakota to Cromer, Manitoba, on the Bakken Expansion Pipeline (“BEP”) and instead diverting Bakken crude through the Dakota Access Pipeline or other Bakken pipelines, it could import up to 150,000 bpd more crude oil from Canada on the Mainline System. Also, Enbridge has proposed to reverse Line 13, which currently ships diluent north from Illinois to Alberta, so that it delivers crude oil to Illinois, and that this would increase import capacity by 150,000 bpd. And, Enbridge stated in response to an Honor the Earth information request that it could expand the capacity of the Express Pipeline¹³⁷ (which it owns and to which it has access) by “less than 100,000 bpd.” Thus, together these projects could provide up to 400,000 bpd of new import capacity. This does not include projects related to expansion of pumping capacity on Line 65 (+100,000 bpd) or optimization of Line 4 (+50,000 to +75,000 bpd). Enbridge’s witnesses have attempted to explain these projects away, but their testimony is in conflict with the 2017-2018 “Enbridge

¹³⁶ Ex. HTE-4, Attach. LS-52 at pdf page 52, Response “a” (Stockman Surrebuttal).

¹³⁷ The Express Pipeline enters the U.S. in Montana and delivers crude oil to parts of PADD 4 (the Mountain States), and via the Platte Pipeline (which Enbridge also owns) to Illinois. Ex. HTE-2, Attach. LS-05 (CAPP 2017 Report), App. C (map of Canadian and U.S. Crude Oil Pipelines). Thus, the Express Pipeline has the capacity to serve some of the same markets as the Project and any expansion of it would likely be used by Enbridge’s customers and the Canadian oil industry as a whole to export crude oil.

System Optimization” capacity increase shown in its February 2017 presentation.¹³⁸ Moreover, if the net capacity increases quantified in these investor presentations would not in fact increase import capacity, it would appear that Enbridge is misleading its investors.

Honor the Earth asserts that the foregoing presentations are evidence that Enbridge would not respond to a denial of the Project Applications by sitting on its hands. Instead, it is more likely that it would accelerate implementation of these “low cost,” “highly executable” projects that are “attractive in a low crude price environment.” Even if just one of these projects could be implemented, when combined with full utilization of the Mainline System pipelines, these projects could provide capacity close to that offered by the Project and thereby substantially limit the need for shipments by rail, should the Project’s applications be rejected.

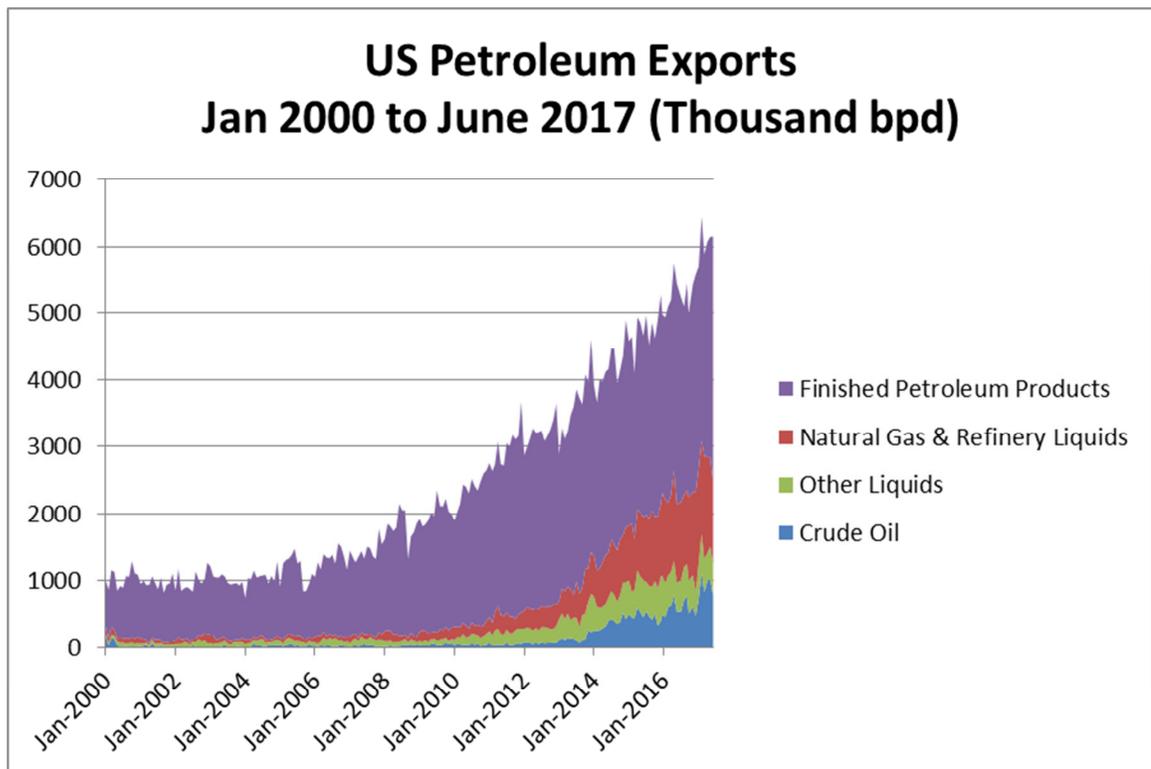
Because it appears that Enbridge can use its existing pipelines more efficiently and/or upgrade some of its pipelines, the Commission should take account of these efficiency and upgrade projects when considering potential adverse impacts on Enbridge, its customers, and the people of Minnesota and neighboring states and the U.S. as a whole.

7. Denial of the Project Applications Would Not Have Adverse Effects Because the Underlying Purpose of the Project Is to Further Increase Exports of U.S. Crude Oil and Refined Petroleum Products to Overseas Customers, Which Exports Are Already at Record Levels

Faced with nearly stagnant U.S. consumer demand for crude oil products, booming U.S. crude oil production, and growing Canadian tar sands production, the oil industry began exporting petroleum products from U.S. refineries to overseas buyers in approximately 2007, and then, once the U.S. crude oil export ban was lifted, it also began exporting U.S. crude oil to

¹³⁸ Ex. HTE-2 at 34 (Stockman Direct).

overseas buyers.¹³⁹ The following chart of EIA data shows that exports of petroleum products and crude oil from the U.S. have grown rapidly over the past 10 years.¹⁴⁰



Most of these exports are from the U.S. Gulf Coast (PADD 3), including particularly from the ports of Houston/Galveston and Port Arthur, to which crude oil may be shipped using the Enbridge Mainline and related downstream pipelines, such as the Flanagan South and Seaway Pipelines.¹⁴¹ The data shows that 74% of the output from refineries near these ports is exported.¹⁴² It is true that it is difficult to predict where the Canadian crude oil that would be imported by the Project would be refined; but, regardless of where it would be refined, it would contribute to the overall pool of crude oil available to U.S. refineries. Assuming continued limited growth in domestic U.S. demand for crude oil, then the only option available to the oil

¹³⁹ Ex. HTE-2 at 66-70 (Stockman Direct).

¹⁴⁰ Ex. HTE-2 at 67 (Stockman Direct).

¹⁴¹ Ex. HTE-2 at 67-70 (Stockman Direct).

¹⁴² Ex. HTE-2 at 69 (Stockman Direct).

industry would be to continue increasing exports of crude oil and petroleum products from the U.S. to overseas customers.¹⁴³ While such overseas demand falls within the definition of “demand” provided in Minn. R. 7853.0010, subp 8, it is not demand by Minnesotans, the residents of neighboring states, or even the citizens of the U.S. Therefore these exports are not needed to ensure the adequacy, reliability, or efficiency of energy supply to Minnesota, its neighboring states, or the U.S. as a whole. Instead, such exports have the long-term effect of reducing the amount of crude oil that would be available for future generations of Americans, thereby decreasing future energy supply adequacy and reliability. Since the underlying commercial purpose of the project is to use Canadian crude oil to increase exports of crude oil and petroleum products from the U.S., which purpose harms the public interest to the benefit of a private commercial interest, denial of the Project applications would be in the public interest.

8. Use of Railroads to Transport Some or All of the Likely Short-Term Net Increase in Canadian Crude Oil Supply Is Appropriate and Would Not Substantially Adversely Affect the Adequacy, Reliability, or Efficiency of Crude Oil Supply

Railroad transportation of crude oil can reliably supplement pipeline transportation of crude oil to ensure that Minnesotans and citizens of neighboring states and the U.S., and the refineries that serve them, have adequate and reliable access to crude oil. Currently, there are 754,000 bpd of crude oil railroad loading facilities in Canada, and many possible customers in the U.S. that can accept crude-by-rail shipments.¹⁴⁴

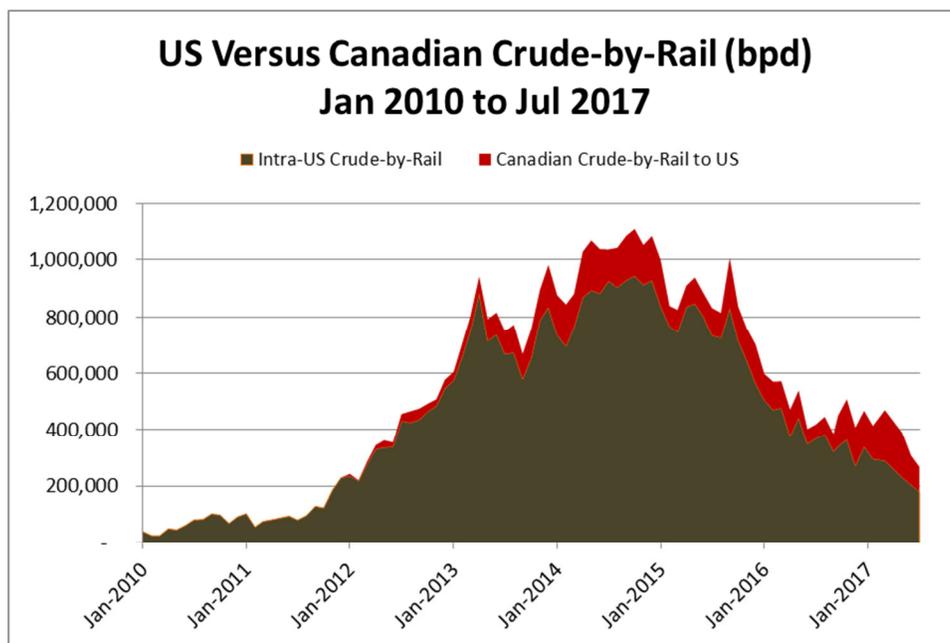
While railroad transportation of crude oil is not as efficient as pipeline transportation of crude oil on a per barrel basis, railroad transportation can nonetheless be an important part of the overall crude oil transportation system. In particular, railroad transportation of crude oil allows

¹⁴³ Ex. HTE-2 at 70 (Stockman Direct).

¹⁴⁴ Ex. HTE-4 at 35 and Attach. LS-53 (Stockman Surrebuttal).

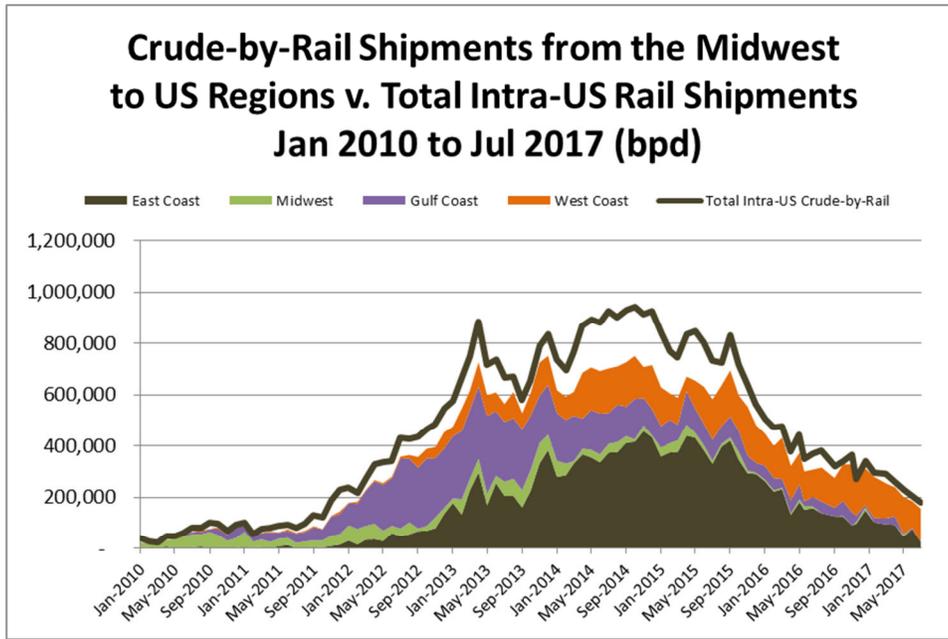
greater flexibility of delivery to refineries throughout the U.S., including those not served by pipelines, and it requires lower capital investment so it is economically more efficient in meeting short-term peaks in demand for crude oil transportation.¹⁴⁵

Enbridge’s data about current movements of crude oil by rail is years out-of-date and does not reflect the current limited use of rail to transport crude oil.¹⁴⁶ The following chart of EIA data shows combined intra-U.S. crude-by-rail movements, as well as imports of crude oil by rail from Canada.¹⁴⁷ It shows that the volume of crude oil shipments by rail have dropped dramatically.

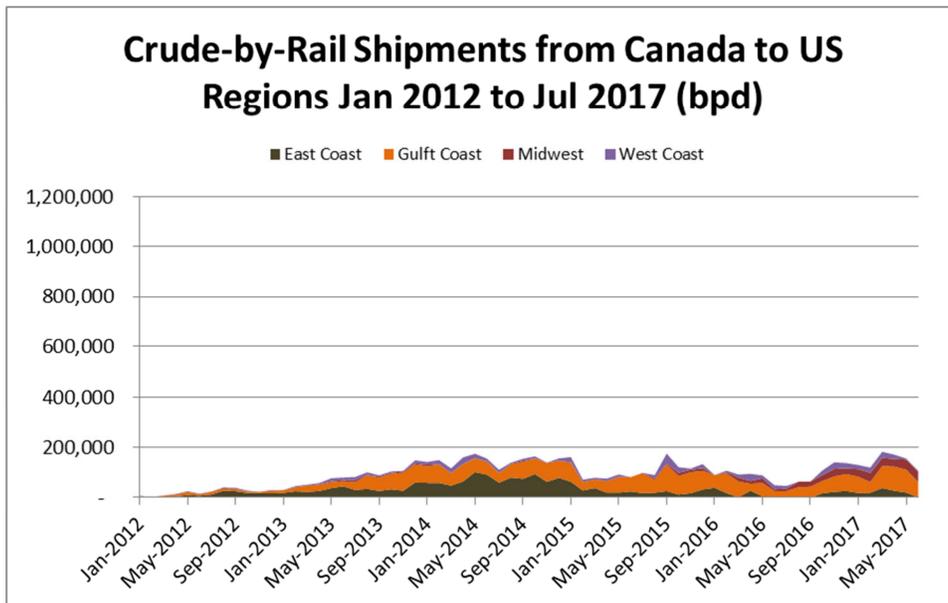


Moreover, relatively little crude oil is shipped by rail through Minnesota. The following chart of EIA data shows that most of the current intra-U.S. shipments by rail are to the U.S. West Coast, and therefore do not pass through Minnesota.¹⁴⁸

¹⁴⁵ Ex. HTE-4 at 35 (Stockman Surrebuttal).
¹⁴⁶ Ex. HTE-3 at 20-22 (Stockman Rebuttal).
¹⁴⁷ Ex. HTE-3 at 20-22 (Stockman Rebuttal).
¹⁴⁸ Ex. HTE-3 at 22 (Stockman Rebuttal).



Although relatively modest amounts of crude oil are imported by rail from Canada, not all of these shipments necessarily pass through Minnesota, because some go to the West Coast and there are railroad routes to the Gulf and East Coasts that do not pass through Minnesota.¹⁴⁹



Enbridge also fails to recognize that about half of the crude oil that the oil industry is currently importing by rail is very thick to the point that the rail cars must be heated on arrival at a refinery

¹⁴⁹ Ex. HTE-3 at 23 (Stockman Rebuttal).

so that the oil can be emptied, such that much of this ultra-heavy oil presents limited risk of spilling or harm in the event of a derailment.¹⁵⁰ It is entirely possible that the oil industry, to the extent it uses rail to import crude oil from Canada, will ship even higher percentages of this ultra-heavy crude oil and use pipelines for lighter and more flammable grades of crude oil.

The foregoing data show that the crude-by-rail situation has changed dramatically, such that it does not create congestion, has little current impact on Minnesota relative to recent years, and can be shipped in safer forms.

A reasonable forecast of Canadian crude oil transportation shows a peak in Canadian crude oil production in 2022 to 2023 and decline thereafter, essentially creating a peak in demand for transportation services that is relatively short compared to the projected operational life of the Project.¹⁵¹ Should more efficient use and upgrading of Enbridge's existing pipelines prove inadequate to meeting future peaking demand for crude oil transportation services, it would be reasonable for the Canadian oil industry to rely on its past investments in rail loading and unloading infrastructure to move this crude oil.¹⁵² Moreover, any increased cost resulting from such limited use of rail would not be borne by Minnesotans alone, and its incremental cost would likely not impact consumer fuel prices substantially.

9. Minnesotans and Americans Will Not Be “Adversely Affected” with Regard to the Future Adequacy, Reliability, or Efficiency of Energy Supply Should the Project Not Be Approved

The evidence shows that Minnesotans and Americans currently have an adequate supply of crude oil, and their demand will drop due to the adoption of electric and advanced technology vehicles and climate policies aimed at reducing combustion of petroleum. Moreover, these same

¹⁵⁰ Ex. HTE-4 at 38-39 (Stockman Rebuttal). No crude oil is risk free, but ultra-heavy crude oil does not pose the same degree of risk of explosion as the light Bakken crude oil that exploded at Lac Megantic.

¹⁵¹ Ex. HTE-4 at 15 and Attach. LS-46 (Stockman Surrebuttal).

¹⁵² Ex. HTE-2 at 71 (Stockman Direct).

factors mean that western Canadian crude oil production will become increasingly uneconomic, such that crude oil supply from Canada will peak early in the forecast period, such that the Canadian oil industry will not have a long-term need for a new crude oil pipeline. Should the Project not be approved, the refineries in Minnesota and the rest of the U.S. will continue to have an adequate and reliable supply of crude oil, because the industry will have access to domestic crude oil, and it would adapt to such denial by using existing pipelines more efficiently and relying for a limited time on its existing and underutilized railroad infrastructure. Such adaptation would use existing transportation infrastructure more efficiently and not adversely impact consumers with regard to the adequacy or reliability of supply, or with regard to a substantial impact on petroleum product prices.

10. Denying a Certificate of Need for the Project Would Not Adversely Affect the Adequacy, Reliability, or Efficiency of Energy Supply Available to Enbridge

Denying the Application for a Certificate of Need would not adversely impact Enbridge as regards the adequacy or reliability of its access to energy, within the meaning of the Certificate of Need laws. Enbridge does not own, refine, or sell products made from the crude oil it would transport. Thus, Enbridge itself, would not be adversely impacted if its customers cannot ship crude oil on pipelines owned by Enbridge. Instead, Enbridge would be able to operate its existing pipelines at or near their capacity, and recover a return on revenue as per its federal tariffs. The fact that Enbridge would not gain the financial benefits that would derive from increasing its share of the oil transportation market is not a factor for consideration under the Certificate of Need laws. Also, Enbridge does not need the additional energy that would be supplied by the Project for operation of its pipelines and other equipment, because these are powered by electricity. Enbridge can operate its existing pipelines near or at their effective

maximum capacity without the need for a greater supply of energy. Thus, denial of the Certificate of Need would not adversely impact Enbridge as regards the adequacy and reliability of the energy that Enbridge needs for operation of its pipelines. Not building the Project would mean that Enbridge would not be allowed to expand the size and revenue generated from its operations, but the Certificate of Need law does not allow the Commission to approve a project because it would expand a utility's business, revenue, or market share.

The only adverse impact of denial that Enbridge has identified with regard to its own interests is that asserts that the proposed new pipeline would have newer pumps and therefore operate more efficiently than the existing Line 3. This is just one factor for the Commission to consider when determining if the Project is in the public interest.

11. Enbridge's Customers May Not Have as Much Crude Oil as They Wish to Export, But this Interest Should Not By Itself Be the Basis for a New Crude Oil Pipeline

The Canadian crude oil industry believes that happy days will return again in the form of crude oil prices that will over time rise to a level that results in the construction of many new crude oil extraction projects in the Tar Sands Region. The evidence in the record indicates that such rising oil prices are unlikely. Instead, the evidence indicates that there will be a near-term peak in crude oil production in Canada, followed by a steady decline. In such market environment, construction of a new pipeline would be economically wasteful and increase the industry's transportation expenses. Since it would be more economically efficient to use existing pipelines more efficiently and to upgrade them were possible, and to use existing railroad infrastructure to address a short-term need for increased crude oil transportation services, denial of the Project would not adversely affect Enbridge's customers.

B. Due to a Lack of Need for the Project, Consideration of Alternatives Is Not Warranted

Honor the Earth asserts that there is no need for the Project, such that there is also no need for alternatives to the Project. Honor the Earth understands that pipeline efficiency and upgrade projects and possible increased limited term use of railroad are not an alternatives to the Project, but rather identify options available to Enbridge and the Canadian crude oil industry in the event that the Commission denies the Project's applications. Accordingly, the Commission must consider these options pursuant to Minn. R. 7853.0130(C).

To the extent that the Commission chooses to consider a combination of pipeline efficiency and upgrade projects and increased use of rail as an alternative under Minn. R. 7853.0130(B), Honor the Earth asserts that there is substantive evidence in the record supporting such alternative and that such alternative would:

- be more appropriately sized and timed than the Project, particularly given the likely near-term peak in Canadian crude oil production and supply;
- be less expensive to implement and operate than the Project, particularly because it would use existing infrastructure more efficiently and avoid a long-term commitment of resources to construction of a pipeline that will become a stranded asset;
- have substantially less adverse impacts on the natural and sociological environments than the Project, because it would not require construction of a substantial amount of new infrastructure through Minnesota's tribal resources and pristine lake country; and
- deliver needed crude oil with reasonable reliability.

C. Denial of the Application for a Certificate of Need Would Be More Favorable to Society Than Granting It

Honor the Earth also asserts that the consequences of granting the certificate of need would not be more favorable than the consequences of denying it, because:

- our society does not have a need for additional crude oil supplies and existing crude oil transportation facilities are sufficiently reliable and adequate to meet any likely future demand;
- the Project would have substantial and unmitigable impacts on Minnesota's indigenous citizens and their inherent and federally protected rights, which rights and impacts are described and discussed in the Initial Briefs of the Fond du Lac Band of Lake Superior Chippewa, Mille Lacs Band of Ojibwe, Leech Lake Band of Ojibwe, White Earth Band of Ojibwe, and Red Lake Band of Chippewa, which discussions are incorporated herein by reference;
- the Project would have substantial and unmitigable impacts on the climate of Minnesota by inducing additional development in the Tar Sands Region and thereby worsening carbon emissions and climate change, as well as through the Project's direct emissions, which climate impacts are discussed in the Initial Brief of the Youth Climate Intervenors and incorporated herein by reference;
- the Project would have substantial and unmitigable impacts on and put at risk the waters and lands of Minnesota, including but not limited to the Mississippi River and Lake Superior, which impacts are discussed in the Initial Briefs of Friends of the Headwaters and incorporated herein by reference; and
- the short-term economic benefits that would accrue to a limited number of residents of the State of Minnesota due to construction of the Project, as well as

the economic benefits of operating the Project, do not justify the risks and impacts of the Project.

Therefore, the Commission should find that the Project is not in the public interest and instead find that its construction would harm society.

III. THE LACK OF NEED FOR THE PROJECT REQUIRES THAT THE COMMISSION DENY THE APPLICATION FOR A ROUTING PERMIT

Honor the Earth asserts that the Project's Application for a Certificate of Need be denied. Since there is no need for the Project, there is also no need for a route for the Project. Therefore, the Commission should also deny the Application for a Route Permit.

CONCLUSION

For the foregoing reasons, Honor the Earth requests that the Commission deny Enbridge's Applications for a Certificate of Need and a Routing Permit.

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Respectfully submitted,

/s Paul C. Blackburn
Paul C. Blackburn
MN Bar No. 0391685
P.O. Box 17234
Minneapolis, MN 55417
612-599-5568
paul@paulblackburn.net
Attorney for Honor the Earth