

**STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION**

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**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**

**THE WHITE EARTH BAND OF OJIBWE,
RED LAKE BAND OF CHIPPEWA,
AND HONOR THE EARTH
JOINT PETITION FOR RECONSIDERATION OF
OF ORDER GRANTING CERTIFICATE OF NEED
AS MODIFIED AND REQUIRING FILINGS**

September 25, 2018

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INTRODUCTION

For the reasons below, Honor the Earth hereby respectfully petitions the Minnesota Public Utilities Commission (“Commission”) to reconsider its September 5, 2018, Order Granting Certificate of Need (“CN”) as Modified and Requiring Filings (“CN Order”), which order approved the Certificate of Need for the Line 3 Replacement Project (“Project”) under Minn. Stat. § 216B.243 and Minn. R. Ch. 7853.

Pursuant to Minn. Stat. § 216B.27, subd. 1, a party to a proceeding may apply to the Commission for a rehearing “in respect to any matters determined by the decision”, within 20 days of service of any decision constituting an order or determination.¹ Pursuant to Minn. R. 7852.3000, subp. 1, “[a] party or a person aggrieved and directly affected by a commission decision or order may file a petition for rehearing, amendment, vacation, reconsideration, or reargument within 20 days of the date the decision or order is served” A petition for rehearing or reconsideration must set forth specifically the grounds on which the applicant contends the decision is unlawful or unreasonable. Minn. Stat. § 216B.27, subd. 2; Minn. R. 7829.3000, subp. 2. Likewise, a request for an amendment must set forth the particular amendments desired and the reasons for the amendments. *Id.* To be effective, “[a] petition must be served on the parties and participants in the proceeding, Minn. R. 7829.3000, subp. 3, after which other parties may file answers within 10 days of service of the petition. Minn. R. 7829.3000, subp. 4.

¹ For the reasons described in its September 18, 2018, Response to Motion for Clarification, and those contained in the Motion for Clarification filed by Friends of the Headwaters on September 17, 2018, Honor the Earth asserts that this petition must be filed within 20 days of service of the CN Order, regardless of the fact that the CN Order states that it does not become effective until issuance of an order related to the modifications required by the Commission, because both Minn. Stat. § 216B.27, subd. 1, and Minn. R. 7829.3000, subp. 1, stat. that petitions for rehearing are due within 20 days of service, and not within 20 days of the effective date of an order. This being said, Honor the Earth anticipates that the Commission’s forthcoming order related to modifications of the CN will address a number of issues already addressed in the CN Order.

With regard to the effect of an order pending a decision on rehearing, Minn. Stat. § 216B.27, subd. 3, directs that “[n]o order of the commission shall become effective while an application for a rehearing or a rehearing is pending and until ten days after the application for a rehearing is either denied, expressly or by implication, or the commission has announced its final determination on rehearing.” Although Minn. R. 7829, subp. 2, states that “[t]he commission may vacate or stay the order, or part of the order, that is the subject of the petition, pending action on the petition,” any discretion granted by this regulation with regard to staying an order is limited by the clear language of Minn. Stat. § 216B.27, subd. 3. Thus, the CN Order will not go into effect until the Commission acts on this petition.

Should the Commission grant a rehearing, it may reverse, change, modify, or suspend its original decision if, after rehearing, it finds the original decision to be “unlawful or unreasonable.” Minn. Stat. § 216B.27, subd. 3.

I. THE CN ORDER FAILS TO INTERPRET STATE LAW TO FAVOR THE PUBLIC INTEREST AND PROTECT THE ENVIRONMENT AS AGAINST PRIVATE INTERESTS

The CN Order fails to consider state statutory requirements 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. These requirements are fully described in Honor the Earth’s Initial Post Hearing Brief at 12-14. They are significant here because:

- Minn. Stat. § 216.243 and Minn. R. 7853.0130 require that the Commission weigh both private and public interests;

- state law expressly directs that the Commission weigh the public interest more heavily than private interests;²
- MEPA requires that the Commission interpret and administer all state laws to protect the environment;³
- the record shows that the primary benefits of the Project would accrue to private interests, and include matters such as improving the adequacy, reliability, and efficiency of delivery of crude oil to all of Enbridge's customers (which are all private interests), as well as a short-term increase in employment during construction;
- the record shows that the Project would have significant and substantial adverse impacts on the public interest and the environment; and
- the Commission failed to recognize the foregoing laws or to discuss how they impact its analysis under Minn. Stat. § 216.243 and Minn. R. 7853.0130.

State law does not allow the Commission unfettered discretion in how it balances public and private interests, yet the CN Order entirely fails to recognize that the Commission's primary mandate is to protect the public interest and the environment rather than private interests.

II. THE CN ORDER IS IN VIOLATION OF LAW BECAUSE IT HAS NOT PROVIDED A FORECAST OF DEMAND FOR ENERGY IN COMPLIANCE WITH STATE LAW

A. Enbridge Has Not Provided a Forecast of Demand for Crude Oil Into the Record and Instead Has Provided an Assumption of Crude Oil Demand

The Minnesota legislature has required that applicants for CN provide "long-range energy demand forecasts on which the necessity for the facility is based."⁴ The Commission's

² Minn. Stat. § 645.17(5) (2018)

³ Minn. Stat. § 116D.03, subd. 1 (2018).

regulations mirror this requirement, Minn. R. 7853.0130.A(1), and state that the Commission must consider “the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility.” Both of these definitions require that a forecast be of demand for “energy.” The regulations also define the words “demand”⁵ and “forecast”⁶ as follows:

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.

Minn. R. 7853.0520 specifies the scope of forecast data that an applicant must include in its application, including:

- 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.

The foregoing laws require that an applicant for a CN provide a transparent estimate of the future demand for energy that proves that a facility is needed.

1. The CN Order Incorrectly Describes the Enbridge Muse Stancil Model as Providing a Forecast of Demand for Crude Oil

The CN Order states:

Enbridge forecasted crude oil demand over the next 15 years in the Muse Stancil Report using a model of the North American crude oil distribution system that predicts the flow of crude oil to various markets along with crude oil prices that result from such flows. The model ultimately forecasts utilization of the Mainline System,

⁴ Minn. Stat. § 216B.243, subd. 3(1) (2018).

⁵ Minn. R. 7853.0010, subd. 8 (2018).

⁶ Minn. R. 7853.0010, subd. 9 (2018).

and by extension the Project, through the forecast period. A key input into the model is the CAPP 2016 crude oil supply forecast, which predicts the supply of Canadian crude oil based on the production expectations of individual producer-members of CAPP.⁷

The CN Order is incorrect that Enbridge has “forecasted crude oil demand” using the Muse Stancil model, because this is not what the record says this model does. Instead, the evidence is clear that this model “predicts the flow of crude oil to various markets and the crude oil prices that result from such flows.”⁸ It does not generate a forecast of crude oil demand. It estimates use of transportation infrastructure based on a number of inputs/assumptions, including the following:

Crude Oil Supply – This input assumes that the forecasted supply of western Canadian and U.S. domestic crude oil will be available for sale.⁹ The model assumes that the amount of crude oil that will be transported is a combination of: (a) the Canadian Association of Petroleum Producers’ (“CAPP”) 2016 western Canadian crude supply forecast; and (b) the U.S. Energy Information Agency (“EIA”) Annual Energy Outlook supply forecast less North Dakota crude oil production.¹⁰ Neither of these forecasts are of demand, because they are both forecasts of future crude oil extraction from the Earth and the resulting quantity of marketable crude oil that results from such extraction.

Crude Oil Refining Capacity – This input variable includes the crude oil refining capacity of each refinery as well as refinery-specific constraints.¹¹ This input does not model refinery demand for crude oil based on market factors, but rather assumes that refineries will always operate at up to their maximum capacities regardless of demand for their products. The

⁷ CN Order at 13.

⁸ Ex. EN-15, Sched. 2 at 59 (Earnest Direct).

⁹ Ex. EN-15, Sched. 2 at 61 (Earnest Direct).

¹⁰ Ex. EN-15, Sched. 2 at 61 (Earnest Direct).

¹¹ Ex. EN-15, Sched. 2 at 69 (Earnest Direct).

description of this input makes clear that the only value used for this input is the capacity of refineries, either individually or in aggregate.¹² It does not describe any capacity to reduce refinery demand based on reduced refined product demand or any other market factor. Thus, the forecasted demand for crude oil for each refinery is assumed to be simply its maximum capacity. Moreover, the Muse Stancil Report assumes that all crude oil supplied by U.S. and western Canadian crude oil fields will find a refinery to buy it, if not in the U.S. then overseas.¹³ The CN Order states that “Enbridge’s expert . . . argued that any decrease in domestic demand for refined product would not impact demand for crude oil because refineries could simply export any unsold product to overseas markets.”¹⁴ The Muse Stancil model simply assumes that demand for crude oil will be sufficient to allow purchase of any and all oil produced in western Canada or the U.S. That this is an assumption is proven by the fact that the Muse Stancil model does not forecast the total amount of crude oil that will be demanded by refineries in any region, in the U.S., or globally over time, because the model simply assumes that all available crude oil will be purchased by some refinery somewhere, if not in the U.S. then overseas.

Crude Oil Transportation Capacity – Another set of model inputs are the transportation capacities of pipelines, barges, and railroads, as well as their transportation costs.¹⁵ These inputs are used to determine the optimal routing for crude oil transportation. As stated by the Muse Stancil Report, “The model uses linear programming (LP) techniques to allocate all North American crude oil production among Canadian, U.S., Northeast Asian, European, and Indian refineries, within the confines of existing and expected pipeline, rail loading and unloading, barge, and refinery capacity constraints. . . . the model is seeking to route all North American

¹² Ex. EN-15, Sched. 2 at 69 (Earnest Direct).

¹³ CN Order at 14, citing ALJ Report Finding 594 citing Ex. EN-15, Sched. 2 at 58 (Earnest Direct).

¹⁴ CN Order at 14.

¹⁵ Ex. EN-15, Sched. 2 at 60 (Earnest Direct).

crude oil to the refineries that will pay the most for the crude oil, taking into consideration the transportation costs from the injection point to the refinery, while simultaneously having due regard for the finite capacities of the pipeline and rail routes (and the refineries themselves).”¹⁶

Thus, the Muse Stancil Report: (a) assumes that forecasted supplies of crude oil will be available; (b) assumes that refineries in the U.S. and overseas will operate at up to maximum capacity; (c) assumes that all crude oil supplies will find a market, if not in the U.S. then overseas by not limiting overseas refinery capacity; and then (d) determines the optimal markets and transportation routes for the forecasted amount of crude oil based on the cost of transportation and the value of crude oil grades.¹⁷ In other words, this is not an “energy demand forecast” model; it is a crude oil transportation services routing model. This model does not forecast how much crude oil will be demanded by refineries in the future. It models how crude oil will be routed from producer to refinery – assuming a given amount of crude oil and unlimited refinery demand for crude oil. Thus, the model does not produce a forecast of energy demand.

Since the Muse Stancil model does not calculate or estimate a forecast of how much energy (crude oil) will be demanded in the future and instead simply assumes that a certain amount of oil will be consumed during the forecast period, the model does not contain or produce a forecast of crude oil or energy demand within the meaning of Minn. Stat. § 216B.243 or Minn. R. Ch. 7853. Enbridge cannot claim that this model is based on an “energy demand forecast” as required by Minn. Stat. § 216B.243, subd. 3, nor can it claim that this model generates a forecast of “energy demand,” because the model estimates pipeline utilization given an assumed level of crude oil (energy) demand. Thus, the CN Order incorrectly states that

¹⁶ Ex. EN-15, Sched. 2 at 59-60 (Earnest Direct).

¹⁷ Ex. EN-15, Sched. 2 at 59-62 (Earnest Direct).

“Enbridge forecasted crude oil demand over the next 15 years in the Muse Stancil Report using a model of the North American crude oil distribution system” The record evidence proves that the model does no such thing. The underlying forecast of demand relied on by Enbridge is therefore not the CAPP and NEB Canadian supply and production forecasts it presented to the Commission, nor is it the model results,¹⁸ but rather an assumption that demand for crude oil will for all practical purposes be unlimited.

The assumption of unlimited demand for crude oil is logically necessary to the Commission’s finding that the forecasts of Canadian crude oil production and supply provided by Enbridge accurately reflect future demand for crude oil, because a supply forecast can be assumed to be the same as a demand forecast if and only if supply – and not demand – is the limiting market factor. However, in the absence of evidence proving that supply and not demand is the limiting factor, it is not reasonable to so assume. In any case, Minnesota law does not allow an applicant for a CN to base need on an assumed demand for energy, such that Enbridge’s forecasting methodology is in violation of law.

2. DOC-DER Witness Dr. Fagan’s Criticisms of the Muse Stancil Report Are Evidence that the Muse Stancil Model Does Not Provide a Forecast of Demand for Crude Oil

DOC-DER witness Dr. Fagan’s analysis of the Muse Stancil Report made the following findings:

An outlook for demand for refined products by end-users (in Minnesota, PADD II, or at any other level of aggregation) is not an

¹⁸ As recognized by the Commission, the Muse Stancil model is not a model of demand for energy, but a model that “predicts the flow of crude oil to various markets along with crude oil prices that result from such flows.” CN Order at 13. An energy demand model would examine the factors that tend to increase or decrease demand for crude oil, such as crude oil price, population growth, trends in vehicle miles travelled, and the impact of technology that suppresses demand (e.g., electric and higher efficiency vehicles). The model here considers none of these factors. It merely assumes that global demand will be sufficient to allow sales of all of the Canadian crude oil that CAPP forecasts will be available for export, and then predicts how it will flow to market given available and potential transportation options. In other words, it’s a model of crude oil flows and not a model of crude oil demand.

element of the Muse Stancil analysis. Nothing in the assumptions or the model allows consumer demand for refined products to increase or decrease. Thus, it appears that the analysis implicitly assumes that demand for any individual refined product and for refined products as a whole is unchanged from current trends, despite the long time scale of the forecast (2019-2035). The model seems to allow unconstrained exports of refined products from PADD 2, and from the US overall.

* * *

Rather than demand for refined products, the model is driven by demand for crude oil by refineries, which is used as an input for the forecast. For the US, explicit assumptions for refinery capacity are shown on pages 48-55 of the Muse Stancil Report. The assumptions allow for crude oil exports, as the model can allocate crude to modelled refineries in Northeast Asia, Europe, and India (as well as Canada and the US). It does not appear to include potential crude exports to refineries in Mexico or Latin America.¹⁹

(Footnotes omitted.) Dr. Fagan further described her concerns in her Surrebuttal Testimony, in which she states:

To clarify, LEI's critique of lack of role for refined product demand in the Muse Stancil Report is based on the potential for weaker demand, not in Minnesota per se, but broadly in the US and globally, to impact prices of refined products. With very few exceptions, no one consumes crude oil except a refinery; and a refinery does not consume crude oil unless refined products are expected to be sold profitably. Demand for refined products drives demand for crude oil, and is therefore a driver of the price of crude oil. Weak demand for refined products can lead to low prices for refined products; low prices of refined products can lead to lower refinery margins (lower profitability), which impacts the viability of some refineries, which in turn can lead to lower refinery demand for crude oil. This is not a local issue, but a global one.²⁰

In her oral testimony, Dr. Fagan clarified how the Muse Stancil model works as follows:

the way the Muse Stancil model works is that if there's a weakness in U.S. demand, any extra crude is automatically exported. In effect, this export safety valve allows crude oil pipelines to still flow at high levels even if demand for refined products is weak.

¹⁹ Ex. DER-4, attached report at 17 (Fagan Direct).

²⁰ Ex. DER-7, attached report at 5 (Fagan Surrebuttal).

And as LEI noted, this is not an issue if in the real world we can assume that any extra crude oil that's not needed in the United States . . . can be easily exported. But the real world has sometimes seen global gluts of refined products and these have led to reduced refinery operations. It's a mistake to ignore global refined product demand.²¹

Thus, Dr. Fagan confirms that the Muse Stancil model does not have the capacity to adjust total refinery demand for crude oil downward based on market conditions, but rather assumes that crude oil not demanded by U.S. refineries is “automatically exported.” Her testimony confirms the assumption by the Muse Stancil model assumes that if oil can be produced from the ground it will always find a refinery customer, regardless of possible impacts related to global demand for refined products.

3. The Testimony of Enbridge's Modelling Witness, Mr. Earnest, Indicates that the Model's in Fact Assumes that Global Crude Oil Demand Will Never Decrease and that a Willing Buyer Is Assumed to Exist for All Oil That Is Forecast to Be Extracted from the Ground in the U.S. and Western Canada

Nowhere does Mr. Earnest provide quantitative evidence that global crude oil or refined product demand will increase during the forecast period to the degree sufficient to consume all forecasted increases in western Canadian and U.S. domestic crude oil supply. He provides no crude oil demand forecasts by government agencies or private entities, and he does not conduct any estimate himself of future demand for crude oil based on key factors. In defense of his model, Mr. Earnest merely states that:

Dr. Fagan does offer a rather apocalyptic scenario whereby U.S. refined product demand is weak, refined product cannot be easily exported, and there is a simultaneous glut of refined products globally, all of which may reduce demand for crude oil transportation via the Enbridge Mainline (Fagan pg. 30). Dr. Fagan offers no probability of such a scenario occurring. I believe that such a scenario persisting over an extended period of time is very

²¹ Evid. Hrg. Tr. Vol. 9B (Nov. 15, 2017) at 16-17 (Fagan).

unlikely, and it can be dismissed as a plausible scenario that warrants analysis.²²

Thus, the sum total evidence in the record supporting the assumption that crude oil demand will meet or exceed U.S. and Canadian crude oil supply during the forecast period is Mr. Earnest's bare opinion that a global reduction in refined product and crude oil demand would be "apocalyptic" and "very unlikely."

Mr. Earnest states that refined product demand is irrelevant to his modelling because "the Company did not need to provide a forecast of refined product demand, since the Enbridge Mainline transports crude oil, not refined product, and it is the future demand for crude oil that will drive the utilization of the Enbridge Mainline."²³ (Emphasis added.) Later in his report, Mr.. Earnest repeats this argument:

Dr. Fagan is correct that the demand for refined product does not play a role in the analytical modeling for assessing utilization of the Enbridge Mainline. This is fundamentally because the Enbridge Mainline transports crude oil, not refined product, and it is the demand for crude oil that will drive the utilization of the Enbridge Mainline, not refined product.²⁴

What Mr. Earnest does not say is that "future demand for crude oil" is also not forecast by his model, because the amount of future crude oil demand is an input that is equal to future western Canadian and U.S. domestic crude oil supply. Although Mr. Earnest prepared a "lower refined product demand outlook," based on electric vehicle adoption²⁵ this outlook addressed only lower U.S. domestic refined product demand resulting from electric vehicles. It did not analyze lower global demand for crude oil resulting from adoption of electric vehicles on a global basis. Therefore, these lower refined product demand model runs also assume that if U.S.

²² Ex. EN-37 at 7, 46 n. 42 (Earnest Rebuttal); ALJ Report Finding 596.

²³ Ex. EN-37 at 5 (Earnest Rebuttal).

²⁴ Ex. EN-37, Schedule 1 at 46 (Earnest Rebuttal) (footnotes omitted).

²⁵ Ex. EN-37, Sched. 1 at 8, 41 (Earnest Rebuttal).

demand for refined products decreases due to electric vehicles, global demand will absorb any excess. Yet, the record shows that electric vehicle adoption, and its displacement of petroleum as a fuel source, will be a global phenomenon.

Mr. Earnest attempts to confuse the obvious relationship between global refined product demand and global crude oil demand by focusing on dynamics within regional markets rather than the global market as a whole. He analytically mixes apples and oranges. Essentially, he implies that because there is not a direct connection between refined product demand and crude oil demand within particular regional markets, due to refined product imports and exports, that therefore there is also no relationship between global refined product demand and global crude oil demand. Mr. Earnest cannot expressly state that there is no relationship between global crude oil demand and global refined product demand, because such claim would be ridiculous.

In the Muse Stancil model, “demand for crude oil” is a modelling assumption, not a model output. As such, the CN Order on page 13 incorrectly states that Mr. Earnest’s model produces a forecast of crude oil demand, when the record clearly shows it does no such thing. Enbridge’s forecast of demand for energy is simply an assumption that all forecast U.S. and Canadian crude oil supply will find a “willing and able purchaser” at all times during the forecast period. Thus, Enbridge provides no “long-range energy demand forecast” as this term is used by Minn. Stat. § 216B.243, subd. 3(1). The CN Order’s reliance on Enbridge’s forecast is, therefore, a violation of law, arbitrary, capricious, and an abuse of discretion.

4. The ALJ Rejected Mr. Earnest’s Argument that Refined Product Demand Has No Impact on Crude Oil Demand, But Failed to Balance the Weight of the Evidence Related to the Likelihood of Unlimited Future Crude Oil Demand

The ALJ made the following foundational findings related to the forecast of demand:

- “[i]t is Applicant’s burden to establish, by a preponderance of the evidence, that its long-range forecast for demand for Canadian crude oil is accurate.”²⁶
- “Applicant’s case for need relies upon projections contained in Mr. Earnest’s report entitled, “Enbridge Line 3 Replacement Project Market Analysis” (Muse Stancil Report).²⁷
- “[t]he Model does not take into account demand for refined product. Rather, it only looks to the supply forecast of crude oil, and not to demand for the end product (i.e., refined product).²⁸

But, she should have also found that:

- the list of inputs into the Muse Stancil model does not include a forecast of demand for crude oil;
- the model assumes that crude oil supply forecasts are the equivalent of a demand forecast; and
- the model itself does not generate a forecast of demand for crude oil, because unlimited demand for crude oil is an unstated modeling assumption.

The ALJ, not once but twice, expressly rejected Mr. Earnest’s argument that there is no causal relationship between refined product and crude oil demand, and she also rejected Mr. Earnest’s opinion that a global reduction in crude oil and refined product demand was an “apocalyptic” scenario that was “very unlikely.”²⁹ The ALJ found:

It is commonsense that reduced demand for refined products would impact the price, supply, and profitability of crude oil. By ignoring

²⁶ ALJ Report Finding 547.

²⁷ ALJ Report Finding 549.

²⁸ ALJ Report Finding 553.

²⁹ ALJ Report at Findings 585, 596-598.

the demand for refined products -- and focusing only on the supply of Canadian crude -- Mr. Earnest's analysis ignores an important factor in forecasting the need for additional transportation of crude.³⁰

(Emphasis added.) Thus, the ALJ recognized that there is a relationship between global demand for refined products and global demand for crude oil. What the ALJ failed to recognize is that by finding that Mr. Earnest "ignored" global demand for refined products as a factor, this also means that Mr. Earnest failed to provide an estimate of future global demand for crude oil, because a forecast of global demand for crude oil cannot be assessed independently of data showing demand for refined petroleum products. For example, if a forecast of global demand for refined petroleum product consumption dropped by 20%, it would be patently unreasonable for a forecast of crude oil to ignore such refined product consumption trend and instead assume continuing growth in crude oil demand.

The ALJ also did not address the question of whether Minnesota law allows an applicant to assume a particular level of energy demand or whether it must instead provide a forecast of energy demand that analyzes the factors that contribute to future energy demand. Certainly, Commission practice with electric generation and transmission facilities has been to require that utilities analyze future demand based on key factors and variables to produce a forecast of energy demand. For example, electric utilities estimate future demand based on population growth, changes in the rate of air conditioner use, residential, commercial, and industrial consumption trends, the impact of electricity conservation measures, the development of new major industrial facilities, and a variety of other factors. That is, the Commission requires that electric utilities actually calculate a forecast of demand for energy based on key factors that impact energy demand. Doubtless, electric utilities would be very interested in precedent

³⁰ ALJ Report Finding 585.

suggesting that they can base a forecast of demand for an electric generation facility on an assumption that all of the output from the facility will be demanded. The assumption that if you build it, they will come may work for romantic movies, but it should not serve as the basis for a determination of need under Minnesota law.

The ALJ also erred in that she failed to correctly balance the evidence in support of Enbridge's assumption of unlimited crude oil demand growth in comparison to the evidence that demand growth will drop. In fact, the only evidence in the record that global demand growth will increase to a degree sufficient to allow consumption of all forecasted increases in western Canadian and U.S. domestic demand is Mr. Earnest's bald-faced statement that a decrease in crude oil demand would be "apocalyptic" and "very unlikely," which raw opinion is completely unsupported by any record evidence. Mr. Earnest could have provided state, regional, national, and global crude oil and refined product demand forecasts prepared by government and private sources, such as the EIA, the International Energy Agency, and BP, but he did not. He could have considered the impact of crude oil price trends on demand, but he did not. He could have examined the impact of global electric vehicle adoption on refined product and crude oil demand trends, but he did not. Thus, there is no meaningful evidence in the record supporting a finding that crude oil demand will increase over the forecast period.

In comparison, Honor the Earth introduced multiple studies into the record that calculated quantified future decreases in crude oil demand due to the adoption of electric vehicles amounting to millions of barrels per day during the forecast period. These analyses include the following:

- a Bloomberg New Energy Finance ("BNEF") analysis of the impact of electric vehicle adoption on future global crude demand, which shows a global reduction in crude oil

demand of 2.6 Mbpd under its base case, and 3.4 Mbpd under its aggressive case by 2030;³¹

- a study by Carbon tracker and the Imperial College of London showing a total showing oil displacement at 16.4 million bpd in 2040 and 24.6 million bpd in 2050, but it also sites to International Energy Agency (“IEA”) study showing displacement of 6 Mbpd by 2040;³²
- an analysis in Rethinking Transportation 2020-2030 showing that demand for crude oil will peak in 2020 and then decline by 30 Mbpd by 2030;³³ and
- an analysis by Enbridge witness Earnest showing that adoption of electric vehicles will reduce North American petroleum product demand by 110,000 bpd in 2020, 140,000 bpd in 2021, 180,000 bpd in 2022, 250,000 bpd in 2023, 340,000 bpd in 2024, 440,000 bpd in 2025, over 1 million bpd by 2030, and 1.8 million bpd by 2035.³⁴

With regard to the Enbridge electric vehicle analysis, in response to DOC-DER IR 237, Mr. Earnest provided data showing the effects of electric vehicle adoption in Minnesota, the five-state region, Petroleum Area Defense District 2 (the Midwest), and North America. The following charts show both the EIA forecasts used by Mr. Earnest as baseline assumptions of future refined product demand, as well as the impact on demand caused by adoption of electric vehicles at the rate requested by the DOC-DER. Honor the Earth notes that all of the EIA baseline forecasts used by Mr. Earnest show a decrease in refined product demand during the

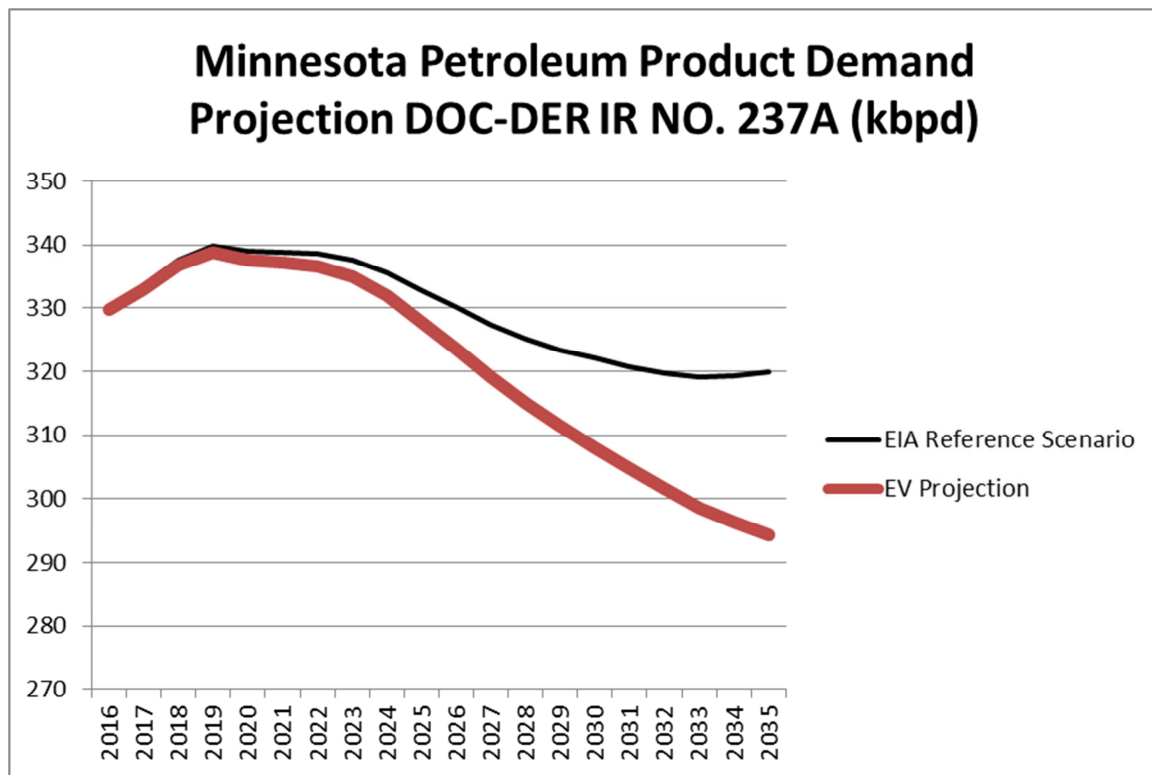
³¹ Honor the Earth Exceptions at 41, citing Ex. HTE-2 at 64 (Stockman Direct) (Figure 65 and related text); in 2017 BNEF revised its crude oil displacement figures to show even greater reductions. HTE-3 at 17 (Stockman Rebuttal).

³² Honor the Earth Exceptions at 41, citing Ex. HTE-2 at 64 (Stockman Direct) (see also Attachment LS-33 at 25).

³³ Honor the Earth Exceptions at 41, citing Ex. HTE-3, Attach. LS-41, Part 2 at 9, 39-48 (Stockman Rebuttal).

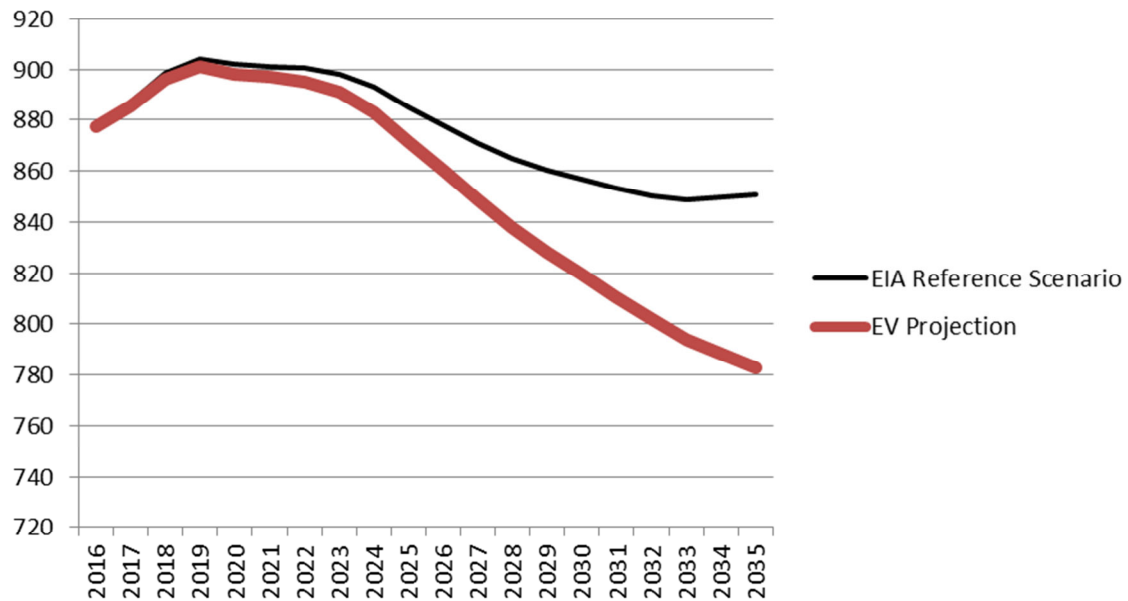
³⁴ Honor the Earth Exceptions at 40 citing Ex. EN-37, Sched. 4 (Earnest Rebuttal) (Spreadsheet IR 237D).

forecast period, and that this demand is further decreased by the electric vehicle adoption rates assumed by the DOC-DER.³⁵

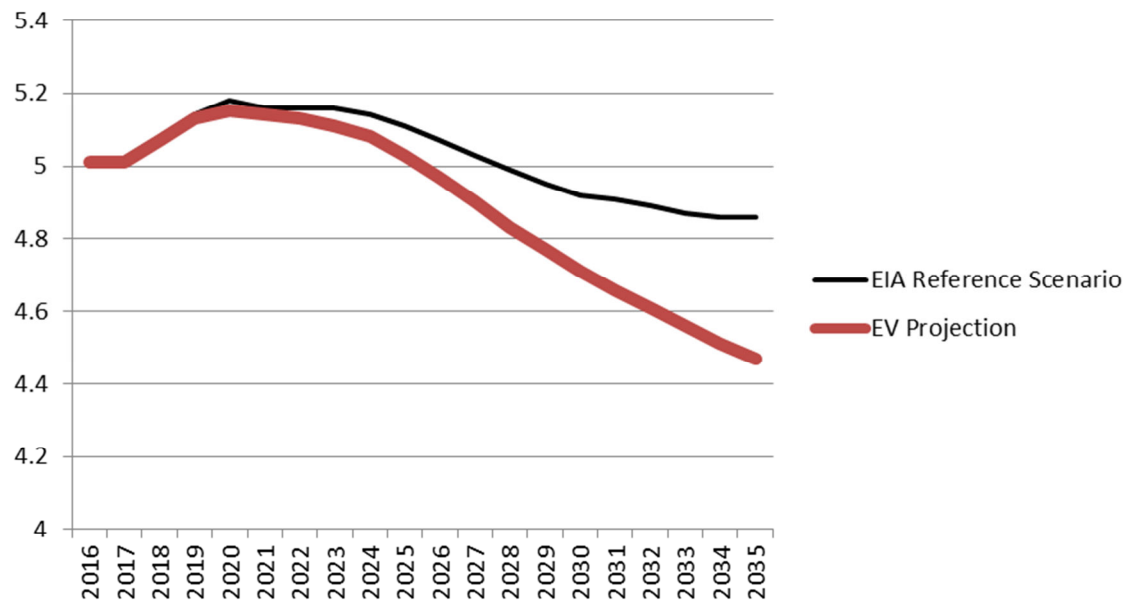


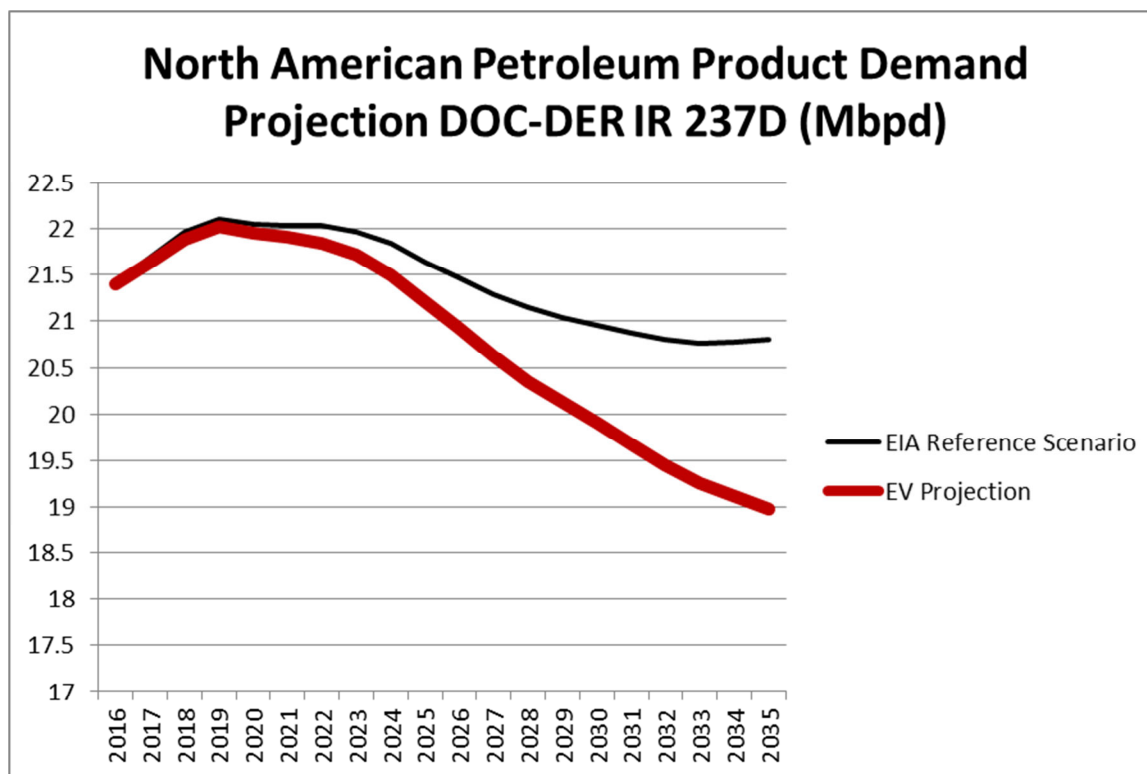
³⁵ The base data used by Mr. Earnest is from the U.S. Energy Information Agency. The data comes from Enbridge's response to DOC-DER Information Request No. 237, which Mr. Earnest references in his Rebuttal Testimony. Ex. EN-37 at 41-42.

Five-State Petroleum Product Demand Projection DOC-DER IR 237B (kbpd)

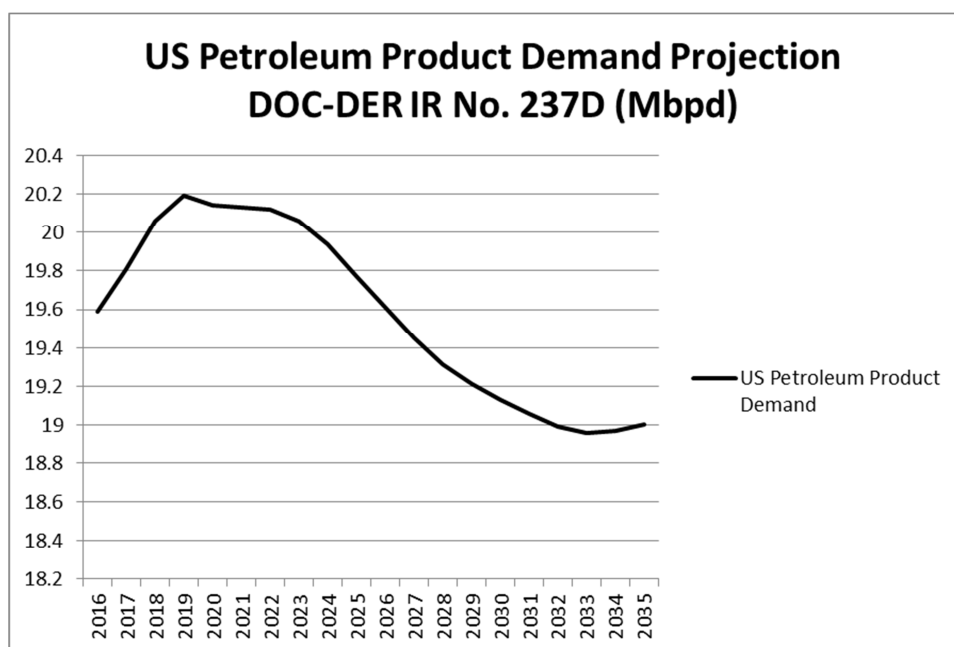


PADD 2 Petroleum Product Demand Projection DOC-DER IR No. 237C (Mbpd)

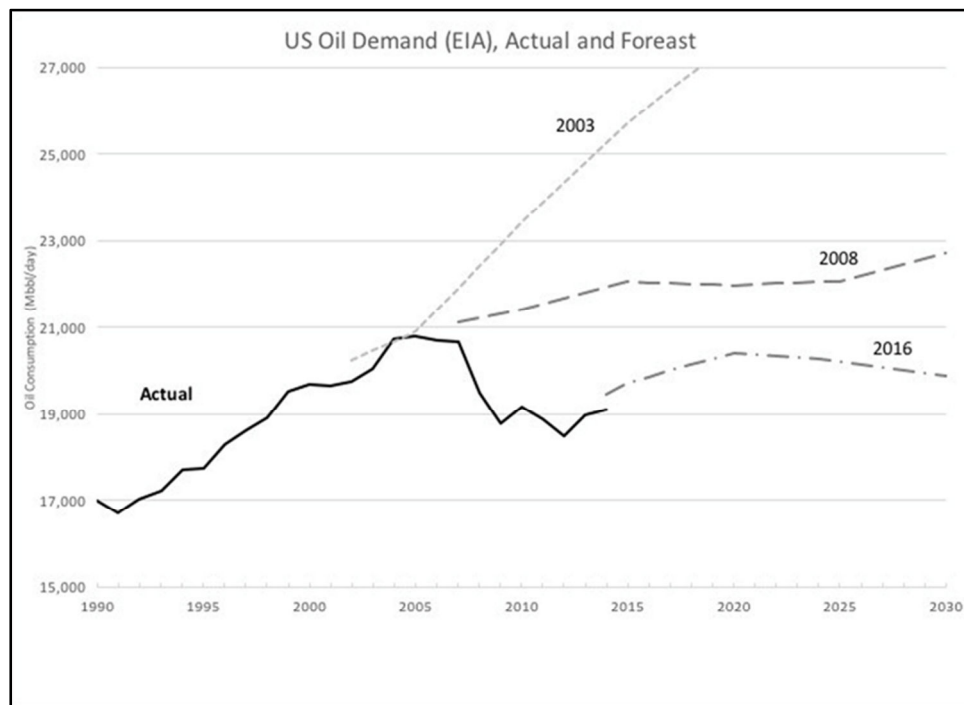




Although Enbridge did not calculate the impact of electric vehicles on U.S. petroleum demand, its analysis includes USEIA data showing that U.S. petroleum demand will decrease even without assuming increasing electric vehicle market share, which is charted below.



This data is similar to a chart of older data provided by Honor the Earth of USEIA data showing a decrease in U.S. oil demand during the forecast period.³⁶



In describing this data, Mr. Earnest weakly says that “any meaningful decrease in overall crude oil demand as a result of accelerated rates of EV adoption will not happen any time soon.”³⁷ Since all of these charts show a decrease in demand starting around 2019, it would appear that Mr. Earnest did not consider next year to be “soon.” Regardless of Mr. Earnest’s characterization, both the EIA baseline forecasts and the electric vehicle forecasts are evidence that North American, U.S., Midwestern, and Minnesota demand for petroleum products will begin to drop and fall below current levels by the middle of the coming decade, well within the forecast period. Moreover, the sheer size of these decreases is substantial, particularly given that

³⁶ Ex. HTE-2 at 59 (Stockman Direct).

³⁷ Ex. EN-56 at 5 (Earnest Surrebuttal).

the cause of the recent oil price crash was excess global crude oil production of about 2 million bpd.³⁸

Thus, all of the quantitative and qualitative evidence in the record related to future global, U.S., regional, and state-level petroleum demand shows that it is forecast to decrease. Again, Enbridge has not provided any evidence in the record showing an increase in U.S. or global petroleum demand during the forecast period is likely, perhaps because it couldn't find any credible independent sources for such claim.

This data also demonstrates that the CN Order's reliance the ALJ's determination that no party provided quantified evidence of a future reduction in crude oil demand is unfounded. Instead, the record clearly shows that Honor the Earth provided multiple quantified analyses and did not rely on "[m]ere statements of change [in demand] . . . without quantification . . .," such that the ALJ finding that no quantified evidence of reduced demand for petroleum is in error.

To support these quantified analyses of decreasing petroleum demand, Honor the Earth also included in the record the full text of eleven additional studies and provided links to an additional five studies showing forecasts of electric vehicle adoption all of which provide quantified and/or other evidentiary support for rapid global adoption of electric vehicle technology.³⁹ Not including the referenced studies, Honor the Earth provided 564 pages of analysis related to the rate of future electric vehicle adoption and reduced demand for crude oil. The information provided was developed by entities such as the International Energy Agency ("IEA"), the Edison Electric Institute, the Rocky Mountain Institute and financial entities including UBS, ING, Goldman Sachs Morgan Stanley. While these additional studies do not expressly quantify the reduction in crude oil demand caused by the adoption of electric vehicles,

³⁸ Ex. HTE-2 at 61 (Stockman Direct).

³⁹ Ex. HTE-3 at 14-17 (Stockman Rebuttal) (text and Attachment LS-41).

they do quantify and discuss the accelerating rate of adoption of electric vehicle technology and thereby support the findings of the findings of BNEF, the Imperial College, ReThinking Transportation, which all forecast a reduction in petroleum demand, as well as the DOC-DER assumptions related to electric vehicle adoption rates.⁴⁰

Moreover, Honor the Earth also included evidence about the commitment of other countries including China, India, France, Norway, the United Kingdom, and Germany to end sales of petroleum-fueled vehicles,⁴¹ and a commitment by major global automobile manufacturers to increase production of electric vehicles.⁴²

Thus, the evidence in the record overwhelmingly shows: (a) that global and U.S. demand for crude oil is more likely to decrease than increase during the forecast period by millions of barrels per day; and (b) that the likelihood of accelerating electric vehicle adoption is very high. In response, Enbridge has provided no studies or evidence showing that electric vehicle adoption will not substantially impact state, regional, national, or global petroleum demand.⁴³ And, as stated, Enbridge has provided no forecasts showing that global crude oil demand is likely to increase over the forecast period.

Further, the Commission should not simply discount the impact of climate policy because no party provided an estimate of a reduction in crude oil demand caused by climate policy advancements. The Youth Climate Intervenors, Friends of the Headwaters, and Honor the Earth did provide a substantial volume of evidence into the record indicating that greenhouse gas

⁴⁰ Ex. HTE-3 at 14-16 and Attach. LS-41 (Stockman Rebuttal).

⁴¹ Ex. HTE-3 at 16 (Stockman Rebuttal).

⁴² Ex. HTE-2 at 63, citing commitments of Ford Motor Company, General Motors, VW, Volvo, and Jaguar-Land Rover to adopt electric vehicles.

⁴³ Enbridge attempts to discount its analysis showing a reduction in North American demand for crude oil by saying that any excess oil would be exported, but it failed to provide evidence that global petroleum demand would be unaffected by electric vehicle adoption. HTE Exceptions at 40.

reduction policies would adversely impact crude oil production. This evidence was sufficient to allow the ALJ to make the following finding:

598. Given the global recognition of the dangers of climate change and the calls to reduce dependence on fossil fuels, scenarios in which demand for oil in the international marketplace is significantly reduced (thereby causing an oversupply of oil, lowering oil prices, and reducing the opportunities for U.S. export) are very real.⁴⁴

(Emphasis added.) Although not quantified, this evidence nonetheless weights against the likelihood that crude oil demand will increase over the long-term.

Therefore, with regard to the likelihood that global demand for crude oil will decrease during the forecast period, the record evidence is almost entirely weighted in favor of decreased demand and weighted against Enbridge's assumption that crude oil demand will increase throughout the forecast period.

Instead of recognizing the balance of evidence, the ALJ impermissibly shifted the burden on intervenors to disprove Enbridge's assumption:

But in this case, the Commission agrees with the ALJ that the record lacks sufficient evidence of the extent to which these forces could reduce demand during the forecast period. As the ALJ stated, "[m]ere statements of change, no matter how reasonable those changes may be to anticipate—without quantification of how they will impact Canadian crude oil supply and demand—are not sufficient to negate Applicant's detailed projections."⁴⁵

As noted, this finding is not supported by the law or evidence. Enbridge – not the intervenors – bears the burden to prove that its forecast of demand for energy is accurate. If Enbridge had provided a significant amount of substantive evidence related to future global demand for crude oil, then the ALJ's argument might have merit. But, Enbridge in fact has not provided evidence into the record that global crude oil demand will increase. Instead, Honor the Earth and other

⁴⁴ ALJ Report Findings 596-598, citing Ex. DER-7, attached report at 5 (Fagan Surrebuttal).

⁴⁵ CN Order at 14.

parties have provided a substantial volume of evidence into the record that global demand for crude oil will likely decrease. Thus, the CN Order cannot rely on the ALJ's finding that "[m]ere statements of change, no matter how reasonable those changes may be to anticipate—without quantification of how they will impact Canadian crude oil supply and demand—are not sufficient to negate Applicant's detailed projections," because this statement is flat out wrong. It also impermissibly relied on the ALJ's failure to reasonably balance evidence related to future demand for crude oil.

B. The CN Order Illegally Relies on Record Evidence Allegedly Contained in Prior Pipeline Certificate of Need Hearings

To justify its finding that Enbridge's demand forecast is accurate, the CN Order states:

The Commission has granted previous certificates of need to Enbridge pipeline projects based on evidence similar to the evidence that Enbridge submitted in this docket. In previous pipeline proceedings it was considered reasonable to rely on supply forecasts to establish that demand for refined product, and therefore demand for crude oil, would continue to increase, or at least not decrease, for the foreseeable future.

This statement at least implies that the Commission's prior decisions to accept supply forecasts in prior pipeline cases supports its decision here. Initially, Honor the Earth notes that the Commission fails to cite or quote any of its prior decisions for this proposition, and it challenges the Commission's characterization of past decision. More to the point, It is illegal for the Commission to rely on uncited and unsubstantiated record evidence in prior proceedings to support its finding here that global demand for crude oil will be unlimited for the forecast period.

C. The Record Evidence Here Overwhelmingly Shows that Future U.S. and Global Demand for Petroleum Is More Likely to Decrease Than Increase During the Forecast Period

The CN Order states that future evidence related to electric vehicles and climate could “influence whether the type of supply forecast evidence submitted in this case will be sufficient to support conclusions about demand.”⁴⁶ Yet, surprisingly, the CN Order fails to review any evidence in this record about whether future global petroleum demand will increase to the degree necessary to ensure that a market will exist for all produced Canadian crude oil. If the Commission had bothered to look for evidence proving that global crude oil demand will likely increase, it would have found that the record contains no substantial evidence of such claim, quantitative or otherwise. Although Mr. Earnest’s modelling is based on an assumption that all petroleum not consumed in the U.S. would be consumed in global markets,⁴⁷ Mr. Earnest failed to provide any forecasts or data of future global oil demand that supports this assumption. He says merely that such a future would be “apocalyptic” and “highly unlikely.” At the same time, the evidence in the record showing that a reduction in future global demand for crude oil is likely is voluminous and detailed and eclipses the evidence that crude oil demand will increase. It appears that the Commission has assumed that the *status quo* will continue, just because it is the *status quo*.

The Commission relies on the ALJ’s finding that “[m]ere statements of change [in demand], no matter how reasonable those changes may be to anticipate —without quantification of how they will impact Canadian crude oil supply and demand—are not sufficient to negate Applicant’s detailed projections.”⁴⁸ As described above and in Honor the Earth’s Exceptions, this ALJ finding is blatantly and unarguably incorrect, because the record does in fact contain

⁴⁶ CN Order at 14.

⁴⁷ ALJ Report at finding 594.

⁴⁸ CN Order at 11, 14.

four quantified analyses about how the adoption of electric vehicles will reduce future global and North American demand for petroleum all of which show reductions in the millions of barrels of crude oil during the forecast period. And, while Enbridge’s projections could be characterized as “detailed” in terms of how crude oil would flow, these projections are all based on the simple assumption that global demand for crude oil will increase to the point that it will absorb all future supply from both western Canada and the U.S. – and the record contains no substantive evidence that global demand for crude oil will increase over the forecast period. There are no global crude oil demand forecasts in the record showing that global demand will increase. There is no data or analysis in the record showing how key factors related to crude oil demand weigh in favor of increasing crude oil demand. There is no evidence in the record showing that electric vehicles adoption and climate change policy will not suppress crude oil demand. Enbridge could have provided such evidence into the record, but it didn’t. Instead, it relies on Mr. Earnest’s unsupported conclusory statement that a future decrease in global crude oil demand would be “apocalyptic” and “highly unlikely.” It appears that the Commission’s conclusion that global crude oil demand will increase is an assumption – and nothing more.

In contrast, the record contains:

- multiple studies quantifying future decreases in demand due to electric vehicles during the forecast period, including an analysis by Enbridge itself;
- multiple studies quantifying the rate of increase in electric vehicle adoption during the forecast period;
- multiple press reports describing public announcements by other countries that they intend to phase out sales of internal combustion engine vehicles during the forecast period;

- multiple press reports describing public announcements by major automobile manufacturers that they intend to phase out and/or curtail production of internal combustion engine vehicles during the forecast period; and
- extensive testimony about U.S., Canadian, and international policy efforts to reduce greenhouse gas emissions.

Thus, the evidentiary record overwhelmingly supports a finding that crude oil consumption is more likely to decrease during the forecast period, such that a preponderance of the evidence shows that Enbridge's assumption of continued increased demand for crude oil is unreasonable. Accordingly, Enbridge has not borne its burden to prove the accuracy of its "long-range energy demand forecasts on which the necessity for the facility is based," and the Commission's finding that Enbridge has borne its burden is therefore reversible error, arbitrary, capricious, and in violation of law.

D. The Absence of Record Evidence Supporting a Forecast of Increasing Global Crude Oil Demand Means that the Commission Cannot Find that Enbridge's Forecast of Demand is "Accurate" as Required by Minn. Stat. § 216B.243, subd. 3(1) and Minn. R. 7853.0130.A(1)

The requirements in Minn. Stat. § 216B.243, subd. 3(1) and Minn. R. 7853.0130.A(1) that the Commission consider the "accuracy" of an applicant's forecast of demand do not allow the Commission to grant a CN based on an unsupported assumption of future growth in energy demand. Instead, an applicant for a CN must provide and the Commission must consider sufficient information to determine if a demand forecast is "accurate."⁴⁹ Since the record does not contain substantial evidence proving that global demand for crude oil is likely to increase and automatically absorb any crude oil not demanded by U.S. refineries, the Commission cannot find

⁴⁹ For a discussion of the scope of evidence required to prove the accuracy of a forecast, see Honor the Earth's Initial Post Hearing Brief at 27-31.

that Enbridge forecast of demand is accurate, as required by Minn. Stat. § 216B.243, subd. 3(1) and Minn. R. 7853.0130.A(1). Therefore, the CN Order’s findings related to the accuracy of Enbridge’s forecast of demand are without evidentiary foundation, unreasonable, arbitrary, capricious, and in violation of law.

E. The Law Does Not Allow the Commission to Substitute Canadian Crude Oil Production and Supply Forecasts for the Required Demand Forecast

The record shows that state, regional, national, and international crude oil and petroleum product demand forecasts exist and are readily available,⁵⁰ yet Enbridge chose to not provide the Commission with such forecasts, as required by law. Instead, Enbridge attempts to support its application through a combination of Canadian crude oil production and supply forecasts and evidence related to apportionment, which is a measure of commercial demand. Essentially, Enbridge argues that the Commission should grant the CN because its customers project that oil production and supply available for export will increase in Canada and that commercial demand will exist for additional pipeline capacity. Unfortunately for Enbridge:

- (a) neither Minn. Stat. 216B.243 nor Minn. R. 7853.0130.A(1) allow the Commission to substitute this type of data for a demand forecast in compliance with Minn. R. 7853.0520; and
- (b) to the extent that this type of data is relevant, the data provided by Enbridge is conclusory and not supported by any underlying data or detailed description of its methodology.

The plain language of Minn. Stat. 216B.243 nor Minn. R. 7853.0130.A(1) require a “demand” forecast. As noted by the Commission, the regulations define “demand” as “that quantity of a

⁵⁰ Ex. EN-37, Sched. 4 (Earnest Rebuttal) (Spreadsheet IR 237D); Ex. HTE-2 at 59 (Stockman Direct).

petroleum product from the applicant's facilities for which there are willing and able purchasers.”⁵¹ Uncontroverted evidence in the record shows that the Canadian production and supply forecast data are, respectively, forecasts of the amount of crude petroleum extracted from the ground and the amount of crude petroleum available to sell to customers. These forecasts do not estimate the amount of demand from “willing and able purchasers,” but rather are forecasts of the amount of crude oil available for sale by sellers. Neither of these types of data have anything to do with demand for crude oil or petroleum products. As discussed above, the only logical basis on which to possibly justify use of a production or supply forecast as a proxy for a demand forecast would come if a forecast of demand is proven to equal or exceed supply. Even then, if it is reasonably possible for an applicant for a CN to provide a demand forecast, the law requires that it do so. Applicants do not have the right to re-write the law to suit themselves.

Likewise, the Commission cannot rewrite Minn. Stat. § 216B.243 or its implementing regulations to allow an entirely different basis of evidentiary support than that required by the legislature. If the legislature wanted to allow an applicant for a CN to meet its burden through a showing that commercial demand for a pipeline exists, it could very well have required that an applicant need only file letters of support from customers for a pipeline – but that is not the type of evidence required by Minn. Stat. § 216B.243. If it were, then approval of a pipeline would be a simple exercise of filing letters from customers confirming their commitment to a project that could not be controverted by any party. Yet, this is exactly the core of Enbridge's need argument: that its customers say that production and supply of crude oil from Canada will increase and that there is commercial demand for additional pipeline capacity to move it. By accepting unsupported Canadian crude oil production and supply data and apportionment data as a substitute for a crude oil demand forecast, the Commission is essentially re-writing the law so

⁵¹ CN Order at 13 citing Minn. R. 7853.0010, subp. 8.

that all proposed pipeline projects will be approved just because pipeline customers want the pipeline and regardless of whether evidence of future demand for crude oil or petroleum products exists.

Even if Canadian production and supply forecasts could be shoehorned into the role of a demand forecast, the record also shows that none of the production and supply forecasts provided by Enbridge are supported by underlying data, calculations, or meaningful descriptions of forecasting methodologies. The CN Order states: “Several intervenors, including DER, criticized the Muse Stancil Report for relying on the 2016 CAPP forecast, arguing that the forecast is unreliable and biased towards Canadian oil producers.”⁵² This is only part of Honor the Earth’s argument and evidence. Honor the Earth also argued and provided evidence that the CAPP 2016 and 2017 production and supply forecasts and the NEB production forecasts are based on unknown forecasting data and methodology that does not comply with the transparency requirements of Minn. R. 7853.0520, such that the accuracy of these forecasts cannot be assessed by the Commission.⁵³ 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 appear reasonable, but this does not mean that the underlying data to which a methodology is applied are correct or accurate. The Commission

⁵² CN Order at 13.

⁵³ For a full discussion of the requirements of Minn. R. 7853.0520 see Honor the Earth Initial Post Hearing Brief at 28-31.

may not determine accuracy based on the status of the entity that prepared a forecast, or based on faith in such entity.

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.

The reason that the Commission should not rely on the CAPP forecasts is that CAPP does not disclose any of the actual calculations used to produce either the production or supply forecasts.⁵⁴ 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 blindly trust the oil industry's judgment about the future of Canadian crude oil production and supply. The law, however, does not allow the Commission to blind itself.

⁵⁴ Ex. HTE-2 at 21-22 and Attach. LS-5 (Stockman Direct).

To produce its production and supply forecasts, CAPP relies primarily on a survey of its oil producing members.⁵⁵ 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.”⁵⁶ 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 was then assessed against historical trends during a final review.”⁵⁷ 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.⁵⁸

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

⁵⁵ Ex. HTE-2 at 21-22 and Attach. LS-5 at 3 (Stockman Direct).

⁵⁶ Ex. HTE-2, Attach. LS-5 at 3 (Stockman Direct).

⁵⁷ Ex. HTE-2, Attach. LS-5 at 3 (Stockman Direct).

⁵⁸ Ex. HTE-2, Attach. LS-5 at 1 (Stockman Direct).

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,⁵⁹ and the Canadian climate policy challenges are the subject matter of the Initial Testimony of Mr. Swift.⁶⁰ The fact that CAPP acknowledges these challenges says nothing about how they impacted CAPP's 2016 or 2017 production and supply forecasts. Thus, the CAPP forecasts should be seen for what they are: the Canadian oil industry's black box estimates of its own future oil production.

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 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.

Likewise, Enbridge has failed to provide the evidentiary foundation for the NEB production forecasts, which were introduced by Enbridge into the record in an effort to make the

⁵⁹ Ex. HTE-2 at 4-27 (Stockman Direct).

⁶⁰ Ex. YC-1 (Swift Direct).

CAPP forecasts appear reasonable by comparison. 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 record simply does not identify the source of or provide the underlying numbers for these agencies' forecasts.

It's not just that Honor the Earth sees the CAPP and NEB forecasts as biased and unreliable, it is also that the evidentiary basis for all of these production and supply forecasts is unknown. Their source data, key factors, and quantified methodology are a mystery to the Commission, leaving it with no basis to judge the merits of these forecasts other than pure faith in the sources of these forecasts. But, Minnesota law does not allow reliance on faith-based forecasts. As such, even if these unsupported forecasts can be substituted for the demand forecast required by Minn. Stat. § 216B.243, subd. 3, Minn. R. 7853.0130.A(a), and Minn. R. 7853.0520, the Commission should find that the CAPP and NEB production and supply forecasts are unsupported by the information required by Minn. Stat. § 216B.243 and Minn. R. 7853.00520.

F. The Law Does Not Allow the Commission to Substitute Forecasts of Commercial Demand for Pipeline Transportation Capacity (Apportionment Forecasts) for the Required Energy Demand Forecast

If the CAPP and NEB forecasts are based in mystery, Enbridge's apportionment forecast is a mystery wrapped in an enigma. The CN Order describes the utility of the apportionment data as follows:

The record indicates that current heavy crude apportionment on the Mainline System averaged 20 percent between January 2014 and May 2017, reaching 40 percent in certain months during that period.⁵⁵ That means the demand for heavy crude oil shipments over the Mainline System significantly exceeded the System's capacity and shows that the additional capacity that the Project would provide is needed today.

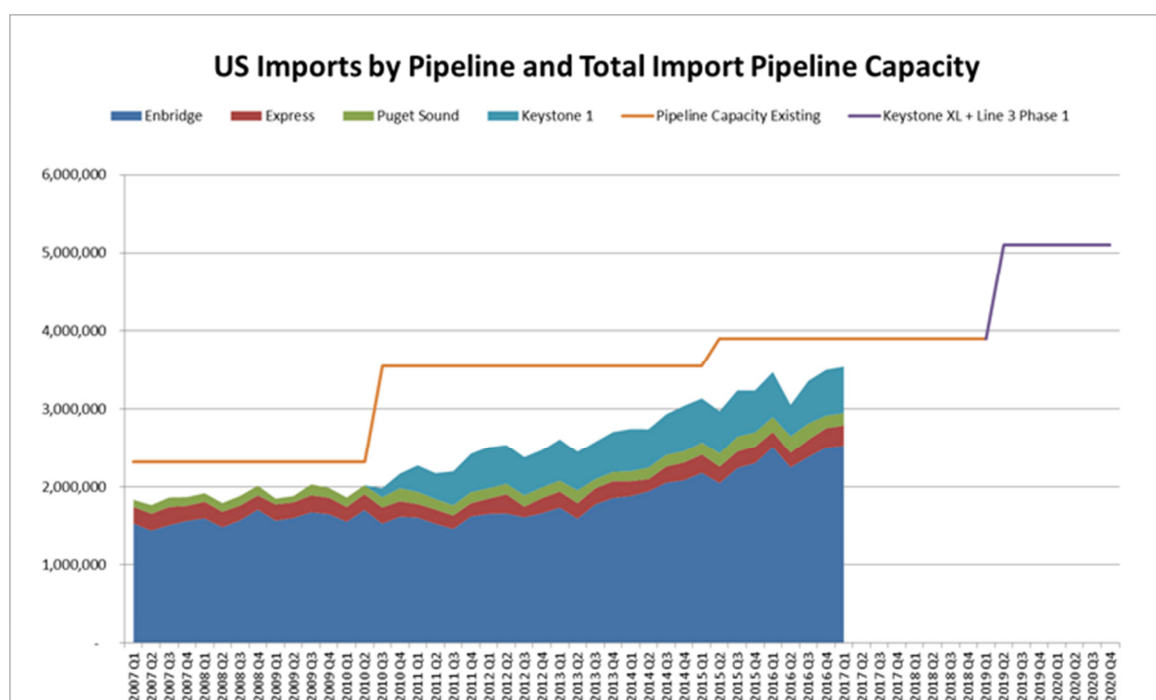
Furthermore, Enbridge expects the level of apportionment to exceed 25 percent on the Mainline System throughout the forecast period if the Project is not built.⁵⁶ According to the most conservative forecast in the record (the current operating and in construction production figures), the supply for crude oil that will be transported over the Mainline System is not expected to drop below today's supply levels in the next 16 years.

In this case, the forecasts in the record, together with the evidence of significant, persistent apportionment, shows that denial of the Project would adversely impact the adequacy, reliability, and efficiency of delivery of crude oil to all of Enbridge's customers by continuing and possibly exacerbating the significant levels of apportionment of heavy crude oil on the Mainline System.

Honor the Earth notes that the CN Order fails to distinguish between the alleged utility of historical apportionment versus the utility of Enbridge's apportionment forecast, which is merely a mathematical restatement of the CAPP supply forecast in terms of percent of pipeline capacity.

With regard to the utility of historical apportionment data, it is much less useful than the data in the record showing monthly percent utilization of each Mainline System pipeline. To the extent that the Commission estimates current system utilization, it should rely on pipeline utilization data, which data is required by Minn. R. 7853.0510, subp. 1. The Commission should

preferentially use the utilization data required by Minn. R. 7853.0510, rather than rely on apportionment data, which for the reasons described below is complex and unreliable. When determining unused capacity, the Commission should also give far more credibility to the Federal Energy Regulatory Commission (“FERC”) pipeline utilization data provided by Honor the Earth.⁶¹ This data is reported by Enbridge to FERC under penalty of perjury, and its primary purpose is to monitor and implement Enbridge’s tariffs, such that the data is unlikely to be biased or subject to manipulation. The following chart shows the utilization of all import pipelines from Canada to the U.S.



The pipeline utilization data in the record is far more useful and transparent and less subject to manipulation and abuse than apportionment data. The pipeline utilization data helps explain why the oil industry is unable to provide examples of harm due to historical apportionment – the reason being that even during times of apportionment the Mainline System on average had excess capacity, and the oil industry may very well have been gaming the system.

⁶¹ Ex. HTE-2 at 29-30 and Attach. LS-24 (Stockman Direct).

While the historical apportionment on the Mainline System is evidence that commercial demand for its services has been greater than its capacity, it is not evidence that the supply of energy to the people of Minnesota or neighboring states has been restricted or of a future increase in demand for crude oil or petroleum products. Further, it is not evidence that pipelines have been operating at maximum capacity. It is merely evidence that shippers are attempting to reserve more space on a particular pipeline than its maximum capacity. Therefore, evidence of historical apportionment is inconclusive with regard to its impact on the adequacy or reliability of energy supply.

With regard to Enbridge's apportionment forecast, as described below it is nothing more than a mathematically repackaged version of the CAPP supply forecast. Thus, Enbridge's apportionment forecast provides no greater evidence of future need than do the CAPP forecasts. Accordingly, the apportionment forecast is also not a forecast of demand for energy, as required by Minn. Stat. § 216B.243 and Minn. R. 7853.0130, and cannot substitute for the required demand forecast. This mathematical conversion to an apportionment forecast just paints the black box CAPP supply forecast with political camouflage.

Apportionment is a measure of commercial demand for transportation services; it is not a measure of demand for crude oil or petroleum. A shipper may elect to ship on the Enbridge Mainline System in preference to other existing pipelines, for example if the Mainline System is less expensive to use than other pipelines. The mere fact that a shipper prefers to reserve space on the Enbridge Mainline System is not evidence that downstream customers need more crude oil or more pipeline capacity. More to the point, nothing in either Minn. Stat. § 216B.243 or Minn. R. Ch. 7853 allows the Commission to base a decision on need on commercial demand for

transportation services. Instead, the law requires that the Commission consider demand for energy.

Apportionment percentages are based on monthly nominations for capacity relative to actual capacity during that month.⁶² Thus, apportionment can be impacted by permanent and temporary increases and decreases in shipper demand for service, as well as permanent and temporary increases and decreases in pipeline capacity, both of which may be impacted by a variety of factors unrelated to the Enbridge Mainline System. Reductions in export pipeline capacity can be temporary or permanent and caused by planned or unplanned maintenance or repairs, pressure/capacity reductions required by federal law, removal of part of a pipeline system from service, or dedication of part of a pipeline system to different products, direction of flow, or other services. For example, should a Mainline System pipeline rupture and be kept offline for some time, the actual monthly capacity of the system would decrease, and if demand stays the same, this could increase apportionment. Similarly, if a competing pipeline ruptured so it was offline for an extended period, apportionment on the Enbridge Mainline would likely increase.

Apportionment may result from a temporary increase in demand for crude oil transportation services on a pipeline system that results from a service interruption on a competing pipeline system that is taken offline following its rupture. Apportionment may also be caused by an increase in demand when shippers seek to catch up on shipments following temporary supply disruptions at crude oil production facilities, as happened following the 2016 fires in Alberta. Since apportionment on the Mainline System can be impacted by the entire western Canadian crude oil production and transportation system, including all production

⁶² Ex. EN-1 at 3-23 (CN Application).

facilities and all export pipelines, it is not a reliable measure of need for additional pipeline capacity through Minnesota.

When apportionment is declared, the pipeline capacity reserved to each nominating shipper is reduced proportionally. The practical impact of apportionment is nowhere near as cut-and-dried as the mathematics of apportionment. If a shipper has over-nominated (requested more pipeline capacity than it actually needs) then apportionment would have no practical impact on the shipper. Also, if a shipper is not a refinery but rather is a crude oil marketing entity, then apportionment may impact that marketing entity's capacity to earn profit during that nomination period, but such impact would not result in an adverse impact to the physical supply of crude oil. Further, the crude oil system includes many storage tanks at independent terminals and refineries, such that the oil industry can accommodate temporary restrictions in crude oil transportation capacity. Apportionment has a practical impact only if a shipper cannot ship as much oil as its refinery customers need by the time they need it. If this happens, shippers must then either reduce their expected volume of crude oil to be shipped on that particular pipeline, find alternate ways to transport it, including via other pipelines, rail or truck transport, use stored oil, or store the oil that would have been transported and ship it at a later date.

Shippers calculate their requests for service via the Enbridge Mainline System based on a variety of market factors including a need for crude oil by refineries, the cost of using the Enbridge Mainline System relative to the cost of other transportation options, and contractual commitments to use other pipeline systems. For example, if use of the Enbridge Mainline System is less costly than other options, shippers would prefer to transport crude oil on it even if capacity exists on other pipelines. Shippers may nominate more capacity on the Mainline System than they need in a given month in the expectation that other shippers will do the same

(referred to as the “air barrels” problem), or because for commercial reasons they would prefer to ship on the Mainline System, but are also able to ship on other pipeline systems or by rail. Thus, apportionment is evidence of a commercial demand to use the services provided by a particular pipeline, but it does not of logical necessity prove that crude oil shippers are physically unable to transport their product to market such that refineries are unable to acquire enough crude oil to meet customer demand.

Since apportionment may be caused by a variety of commercial factors and circumstances and is specific to pipeline systems, the mere fact that apportionment exists on one pipeline system is not, in and of itself, evidence of an overall increase in demand for crude oil, nor is it proof that oil refineries are unable to acquire sufficient crude oil to meet customer demand for refined petroleum products. Instead, the existence of apportionment requires examination of its root causes, as well as confirmation that a lack of pipeline capacity has produced a physical impact on the volume of crude oil received by refineries.

Enbridge reports that its Mainline System has experienced nearly continual apportionment over the past few years, meaning the current Enbridge Mainline System is not meeting current customer commercial demand for its particular services. Yet, Enbridge did not provide data about the underlying cause of this apportionment, nor did it provide data that quantified the impact of apportionment, in terms of an adverse impact on the physical quantity of oil received by any particular refinery, or by refineries in Minnesota, neighboring states, the PADD 2 region or other regions, or the country as a whole. Thus, evidence linking apportionment to a reduction in crude oil supply to refineries is not in the record.

Enbridge cites to highly sensitive trade secret information and claims that this data “confirms that Minnesota refineries are currently unable to ship all of the crude oil they need via

the Enbridge Mainline System.”⁶³ Although Honor the Earth does not have access to this data, given Enbridge’s description of it, it would be more accurate to state that this evidence shows that these refineries have been unable to secure all of the capacity they nominate. Whether or not this apportionment has led to an actual reduction in refinery operations such that the refineries have been unable to meet customer demand for refined petroleum products is an entirely different question. In this regard, the three letters provided by Flint Hills Resources and the letter provided by Andeavor are as important for what they don’t say as what they do say.

In its August 16, 2017, letter to the Department, Flint Hills Resources describes the potential adverse impacts of apportionment on “a refinery’s ability to access its most preferred or economic crude slate,” and states that “[a]pportionment also can make it more difficult for refineries to respond to spikes in demand, make up for supply outages or unplanned events, and it can create operational inefficiencies, including underutilization of equipment.”⁶⁴ However, nowhere in this letter does Flint Hills Resources claim that past apportionment has actually harmed or hindered its operations. All of its statements in the August 16 letter describe potential problems; none of them describe or quantify any actual historical restriction on crude oil supply.

In its October 11, 2017, letter to the Commission, Flint Hills Resources states:

If the upstream capacity of the Enbridge Mainline System isn’t allowed to keep up with available downstream capacity and downstream demand, apportionment will continue to worsen. In addition, Minnesotans will likely pay more for the fuels they need, and the entire pipeline system Minnesota depends on for fuel and other refined products, including the Minnesota Pipeline system and the refineries it supplies, will be less reliable.

* * *

Finally, if Line 3 is not replaced or is shut down permanently as the Department recommends, which is an outcome not previously contemplated, Flint Hills Resources would likely be compelled to explore other alternatives for meeting its crude oil needs, including

⁶³ Enbridge Initial Brief at 57 (January 23, 2018) (eDocket No. 20181-139252-03).

⁶⁴ Ex. EN-56, Sched. 1 at 5 (Earnest Surrebuttal).

the possibility of receiving crude by rail, river vessel, or perhaps other pipeline projects. In our view, among these and other alternatives, replacing Line 3 is by far the best option with respect to public safety, environmental protection, and cost-effectiveness.⁶⁵

In both of the foregoing statements Flint Hills Resources does not affirmatively state that its historical operations have been hindered by apportionment. Instead, it says that “if” Line 3 is not replaced or is shut down then in the future crude oil supplies may become less reliable and the refinery would not be able to use its “best option” for crude oil transportation and instead would turn to other transportation modes including rail or barge transportation.

In its November 21, 2017, letter to the Commission, Flint Hills Resources states:

Apportionment is a significant factor in refinery economics and can affect the long-term business health of a refinery, including future investment decisions. It can also affect fuel prices and the ability of refineries to reliably supply markets.

* * *

If a refinery cannot receive its preferred crude slate when it needs it or the cost of that crude is artificially high due to transportation constraints, then a refinery’s operations will be less competitive.

* * *

Preventing Enbridge from replacing its Line 3 pipeline by denying its Certificate of Need application would have a deleterious effect on apportionment and threaten the reliability and efficiency of the pipeline system on which Pine Bend relies for all its crude oil needs. It also has the potential to affect future investment decisions in the refinery.⁶⁶

Here again, Flint Hills Resources does not state that past apportionment has harmed its operations.

With regard to the Andeavor Refinery in St. Paul Park, it states: “failure to approve the Project will adversely affect the adequacy, reliability and efficiency of energy supply, not only to Minnesota, but the region and all those downstream who rely on the Enbridge system.” Thus, it

⁶⁵ Ex. EN-56, Sched. 1 at 1-2 (Earnest Surrebuttal) (emphasis added).

⁶⁶ Comment by Flint Hills Resources (Nov. 21, 2017) (eDocket No. 201711-137585-01).

too says only that if the Project is not built that future adverse impacts are possible, without any assertion that past apportionment has adversely impacted its historical operations, and without any assessment of the degree of harm that it expects.

Yet, as reported by Enbridge and the Shippers, “in the first part of 2017, apportionment of heavy crude, relied on by the Minnesota refiners, ranged from 20 to 40 percent.”⁶⁷ The fact that apportionment on the Mainline has allegedly been as high as 40% yet Flint Hills Resources and Andeavor have not claimed any historical harm to their operations is proof that apportionment is not a direct measure of a physical restriction in crude oil supply. For all the Commission knows, Enbridge’s shippers might be gaming the system by nominating air barrels to provide themselves with a competitive advantage. The fact that Flint Hills Resources and Andeavor failed to intervene in this hearing, thereby avoiding discovery, and instead submitted ambiguous letters that preferred hand waiving about possible harm to quantified testimony by expert witnesses subject to cross examination suggests that these refineries have not suffered harm due to historical apportionment.

With regard to future apportionment, all of Enbridge’s apportionment forecasts are expressly based on the CAPP supply forecasts used by Mr. Earnest.⁶⁸ Mr. Glanzer, who provided the apportionment forecasts, merely assumed that the Mainline System remained at the same capacity and that demand for crude oil transportation services increased by the amount of the net increase in the CAPP supply forecasts. Thus, Enbridge’s apportionment forecasts are just repackaged versions of the CAPP supply forecasts. The forecasts of future apportionment provide no independent basis to show an increase in demand for crude oil transportation services.

⁶⁷ EN-38, Sched. 2 (Glanzer Rebuttal); Evid. Hrg. Tr. Vol. 9A at 41 (Kahler).

⁶⁸ Ex. HTE-3 at 18-19 (Stockman Rebuttal).

Enbridge has asserted that current customer commercial demand to reserve space on the Mainline System for its particular services exceeds the capacity of the Mainline System, such that Applicant has regularly declared apportionment. However, Applicant did not provide data about the underlying cause of this apportionment, nor did it provide data that quantified the impact of apportionment, in terms of an adverse impact on the physical quantity of oil received by any particular refinery, or by refineries in Minnesota, neighboring states, the PADD 2 region or other regions, or the country as a whole. Thus, to the extent that apportionment data is relevant to the Commission's analysis, it is not reliable because Enbridge has not provided the data underlying its calculations.

Enbridge admits that shippers have over-nominated for capacity on the Mainline System, meaning that they seek to reserve capacity on the Mainline System even if they do not have oil to ship.⁶⁹ Enbridge asserted that it has a process of verifying nominations in an effort to control the ability of shippers to over-nominate volumes and thus inflate the apparent demand for crude oil transportation.⁷⁰ However, Enbridge has not included information in the record that compares nominations to actual shipments, which data would quantify the rate of over-nomination and confirm Enbridge's degree of success in limit it.

With regard to the potential for shippers to over-nominate requests for pipeline capacity, Enbridge witness Mr. Glanzer explained at the evidentiary hearing that this process seeks to limit the nomination of "air barrels."⁷¹ Mr. Glanzer testified that Enbridge has undertaken efforts over the "last ten years or so," and that over nomination nonetheless can be in the "zero to 10 or 15 percent range."⁷² He also testified that it is very difficult to determine that shippers are not able

⁶⁹ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 79 (Glanzer).

⁷⁰ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 79 (Glanzer).

⁷¹ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 79 (Glanzer).

⁷² Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 79-82 (Glanzer).

to transport all the oil they request, in part because of the “marketplace” and “commerce” on the pipeline, meaning that ownership interests in batches of oil are bought and sold and may be reassigned to different refineries on a day-to-day basis while crude oil is in transit on the Mainline System, such that total change orders for transfers can be as great as 4,000 per month.⁷³ This is approximately 130 transactions each day. He also testified that shippers may ship a batch of oil with the expectation of selling it at a higher price.⁷⁴ This testimony indicates that the over-nomination of capacity on the Enbridge Mainline System is an ongoing problem that is difficult to control due to the large numbers of shipments and change orders each month. It also indicates that nomination and apportionment data is complex and is not a direct or accurate measurement of Mainline System utilization, nor is it a direct and accurate indicator of adverse impacts on the physical supply of crude oil to refineries. At best, it is a measurement of commercial competition for capacity on the Mainline System, which commercial demand may exceed actual capacity utilization by as much as 15% due to the commercial interests of shippers.

Therefore, Enbridge’s historical apportionment data does not clearly indicate actual utilization of the Mainline System (the pipeline utilization data is direct and required by law), nor does Enbridge’s apportionment forecast provide any information on future demand for petroleum, because it is nothing more than a restatement of the CAPP supply forecast. Moreover, apportionment is an inherently complex commercial concept impacted by many commercial factors, many of which are unrelated to either historical or future utilization of the Mainline System. And, Enbridge has failed to provide the data underlying its historical and forecast apportionment data, meaning that it is not subject to verification or understanding what

⁷³ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 78, 84-86 (Glanzer).

⁷⁴ Evid. Hrg. Tr. Vol. 1B (Nov. 1, 2017) at 86 (Glanzer).

this data actually means. As such, the Commission may not substitute apportionment data for historical pipeline utilization data or the forecast of demand required by law.

G. Even if the Commission Finds It Can Use Canadian Crude Oil Production and Supply Forecasts as Proxies for a Demand Forecast, the Record Evidence Shows That None of These Production and Supply Forecasts Are Transparent and Supported by Verifiable Data, and as a Result the Commission Cannot Determine Their Accuracy

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.⁷⁵ 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.⁷⁶ 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."⁷⁷ 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 was then assessed against historical trends during a final review."⁷⁸ Again, neither CAPP nor Enbridge nor the Shippers provide qualitative or quantitative information about how this

⁷⁵ Ex. HTE-2 at 21-22 and Attach. LS-5 (Stockman Direct).

⁷⁶ Ex. HTE-2 at 21-22 and Attach. LS-5 at 3 (Stockman Direct).

⁷⁷ Ex. HTE-2, Attach. LS-5 at 3 (Stockman Direct).

⁷⁸ Ex. HTE-2, Attach. LS-5 at 3 (Stockman Direct).

“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.⁷⁹

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,⁸⁰ and the Canadian climate policy challenges are the subject matter of the Initial Testimony of Mr. Swift.⁸¹ 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 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

⁷⁹ Ex. HTE-2, Attach. LS-5 at 1 (Stockman Direct).

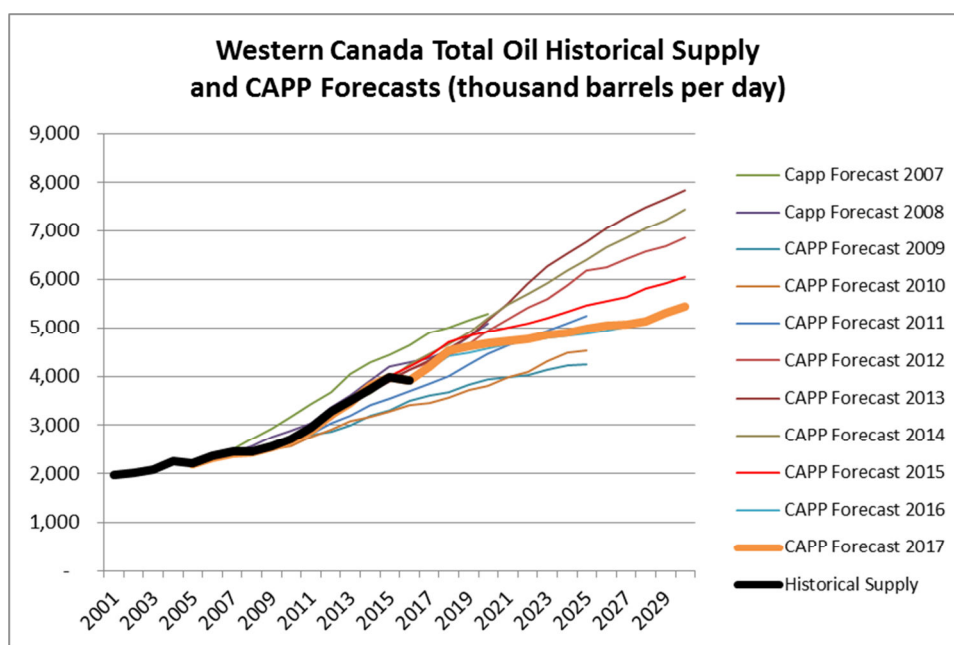
⁸⁰ Ex. HTE-2 at 4-27 (Stockman Direct).

⁸¹ Ex. YC-1 (Swift Direct).

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 chart⁸² 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.”⁸³ 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.

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

⁸² Ex. HTE-2 at 23 (Stockman Direct).

⁸³ Ex. HTE-2 at 23 (Stockman Direct) (references omitted).

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.⁸⁴ This effort fails because Enbridge has provided no meaningful information about the sources of information, assumptions, or factors used in preparing these other 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 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,

⁸⁴ Ex. EN-37 at 18 (Earnest Rebuttal).

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.⁸⁵

Importantly, the oil price assumption for the NEB reference case, which Enbridge says is comparable to the CAPP 2017 forecast,⁸⁶ 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).⁸⁷ Similarly, the Rystad Energy base case projection, which is higher than the CAPP 2016 forecast,⁸⁸ assumes that oil price increases from about \$51 per barrel in 2017 to about \$74 per barrel in 2030 (a 45% increase).⁸⁹ Thus, the Commission should assume that the CAPP 2017 forecast is also based on an 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;

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

⁸⁶ 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).

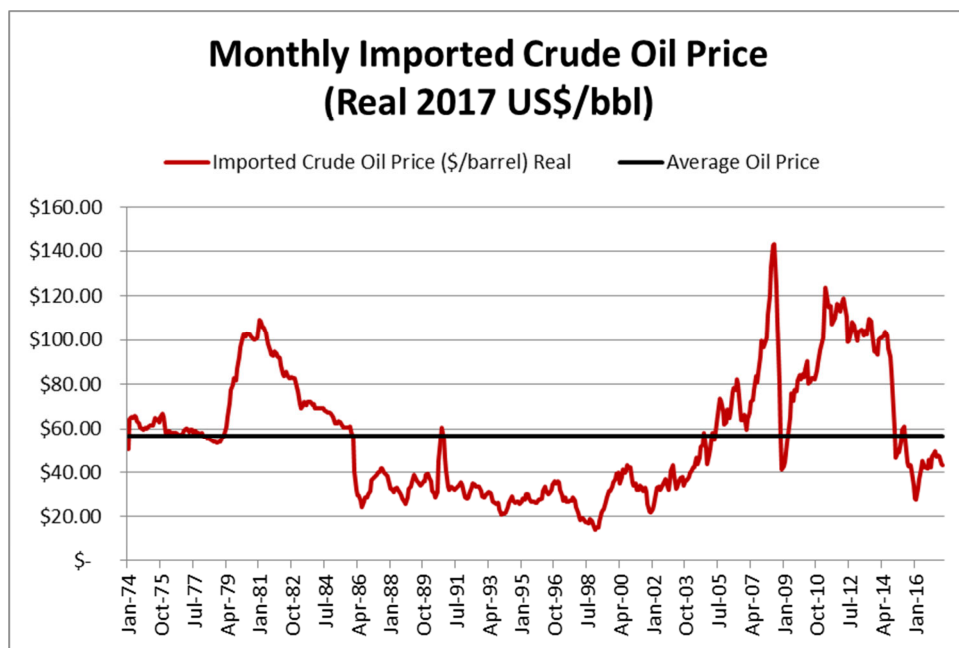
⁸⁷ Ex. HTE-3, Attach. LS-45 at pdf page 49-50 (Stockman Rebuttal).

⁸⁸ 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.

⁸⁹ Ex. HTE-3 at 9 (Stockman Rebuttal); Ex. HTE-4 at 14 (Stockman Surrebuttal).

- 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.⁹⁰ 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.⁹¹ The chart does not show any long-term trend toward increasing crude oil price.



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”.⁹² Given this

⁹⁰ Ex. HTE-2 at 10 (Stockman Direct); Ex. HTE-3 at 5-6 (Stockman Rebuttal).

⁹¹ Ex. HTE-3 at 5-6 (Stockman Rebuttal).

⁹² Ex. HTE-2 at 10 (Stockman Direct) (referencing analysis by Morgan Stanley).

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 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.⁹³ Honor the Earth provided this projection because it is approximately the average long-term price of oil.⁹⁴ It shows a 2022 to 2023 peak in western Canadian crude oil production.⁹⁵ 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.⁹⁶ This projection was not prepared

⁹³ Ex. HTE-2 at 26-27, data in Attach. LS-22 (Stockman Direct).

⁹⁴ Ex. HTE-2 at 26 (Stockman Direct).

⁹⁵ Ex. HTE-2 at 26 (Stockman Direct).

⁹⁶ Ex. HTE-4 at 14-15 (Stockman Surrebuttal).

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.⁹⁷ It is intended to be used by energy industry and financial experts worldwide.⁹⁸ 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 assumptions and factors. Nothing less is allowed by law.

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, it is a violation of law for the CN Order to rely on the CAPP or NEB forecasts, because they are:

- not supported by quantitative evidence;
- not supported by detailed descriptions of their methodologies and calculations;
- historically unreliable;
- biased toward the interests of the oil industry; and
- inferior to other commercially available forecasts.

⁹⁷ Ex. HTE-3 at 7 (Stockman Rebuttal).

⁹⁸ Ex. HTE-3 at 7 (Stockman Rebuttal).

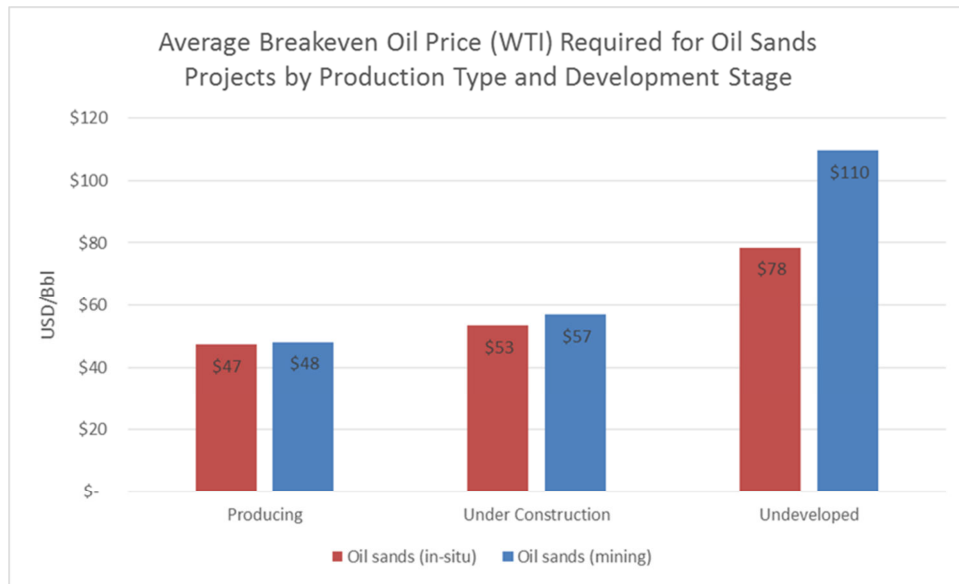
H. The CN Order’s Reliance on Enbridge’s Forecast of Demand Is in Violation of Law Because Enbridge’s Forecast Fails to Take Any Account of Whether or Not Future Tar Sands Projects Will Not Be Economically Viable, Particularly in a World that Is Demanding Less Crude Oil

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 stopped due to the fact that oil prices were at or below \$50 per barrel from 2015 through most of 2017.⁹⁹ New projects will be economically viable only if oil prices increase dramatically and remain at high levels, which is unlikely given the likelihood of reduced demand due to global adoption of electric vehicles and advancements in climate change policy.

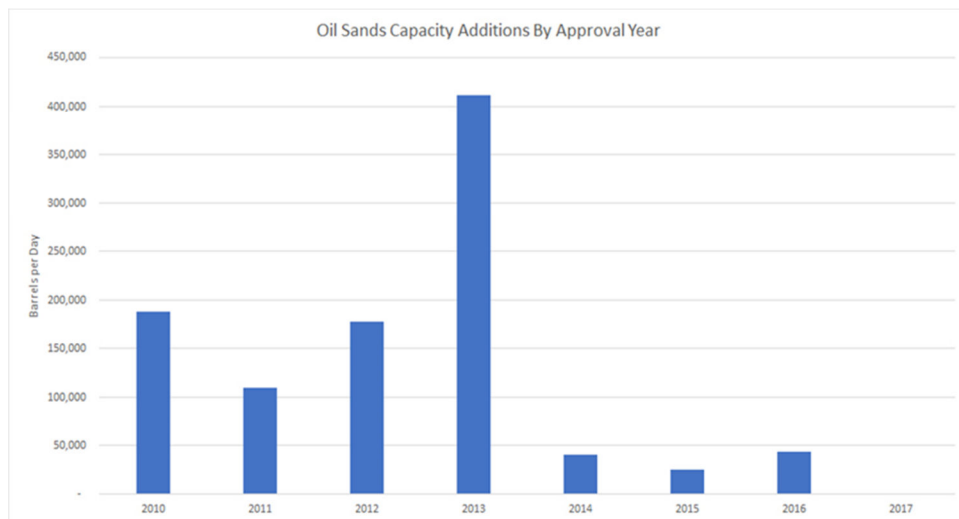
The Rystad UCube Database, which is a “bottom up” model based on data for over 65,000 oil production projects world-wide, including all of the current and proposed tar sands projects in Canada, estimates that the breakeven price for *in situ* tar sands projects (those that melt bitumen underground and 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.¹⁰⁰

⁹⁹ Ex. HTE-3 at 6 (Stockman Rebuttal).

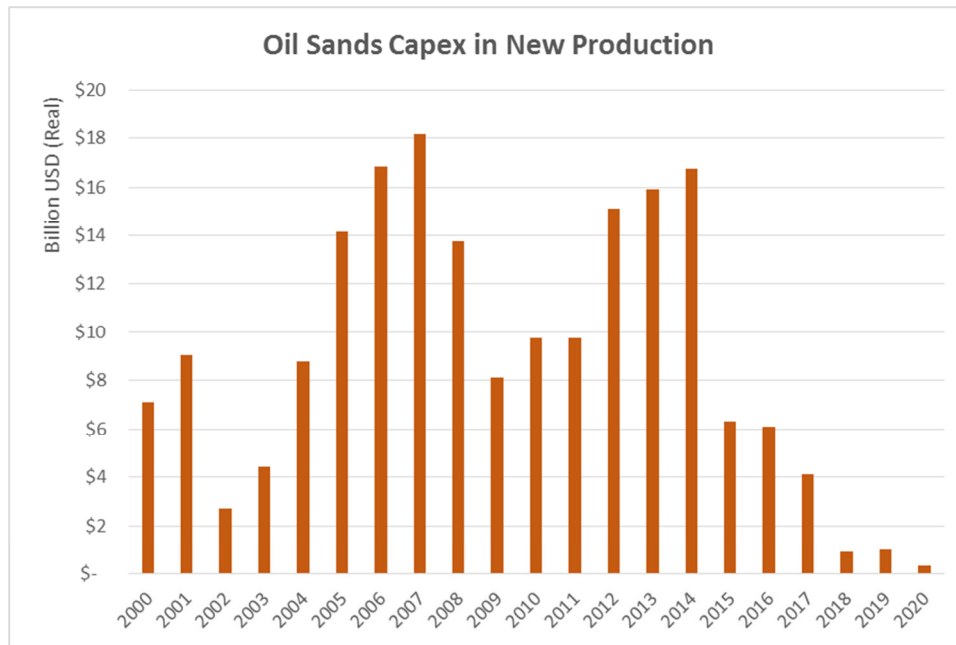
¹⁰⁰ Ex. HTE-4 at 19-20 (Stockman Surrebuttal). Similar but slightly older figures are provided in Ex. HTE-2 at 8-9 (Stockman Direct). These prices are expressed in term of the price of West Texas Intermediate crude oil, the most common U.S. benchmark crude oil, and the one typically reported as the U.S. 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.¹⁰¹



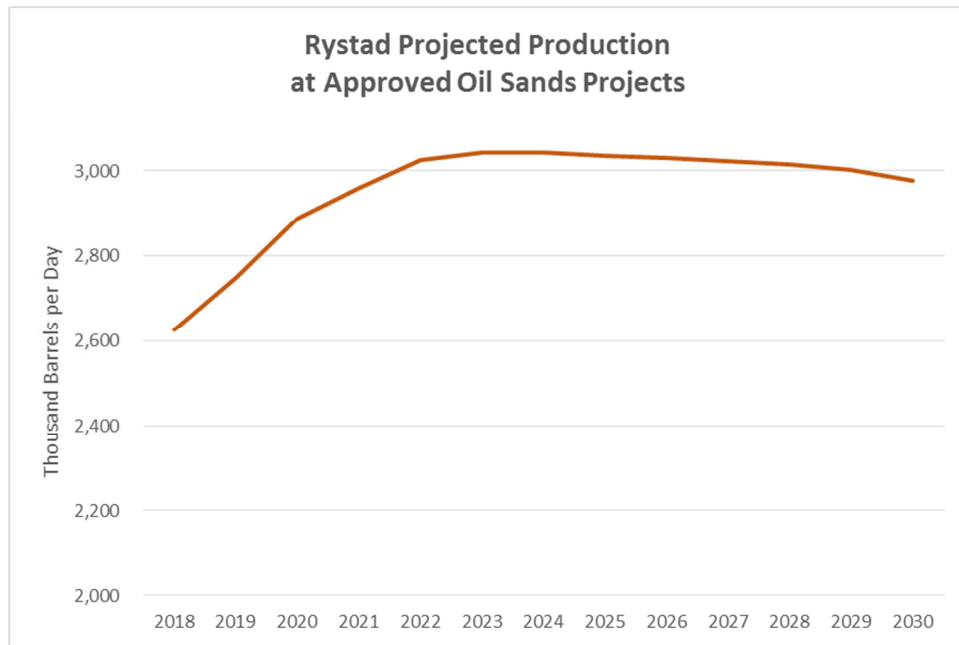
¹⁰¹ Ex. HTE-2 at 13-15 (Stockman Direct).



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.¹⁰²

¹⁰² Ex. HTE-2 at 17-18 (Stockman Direct).



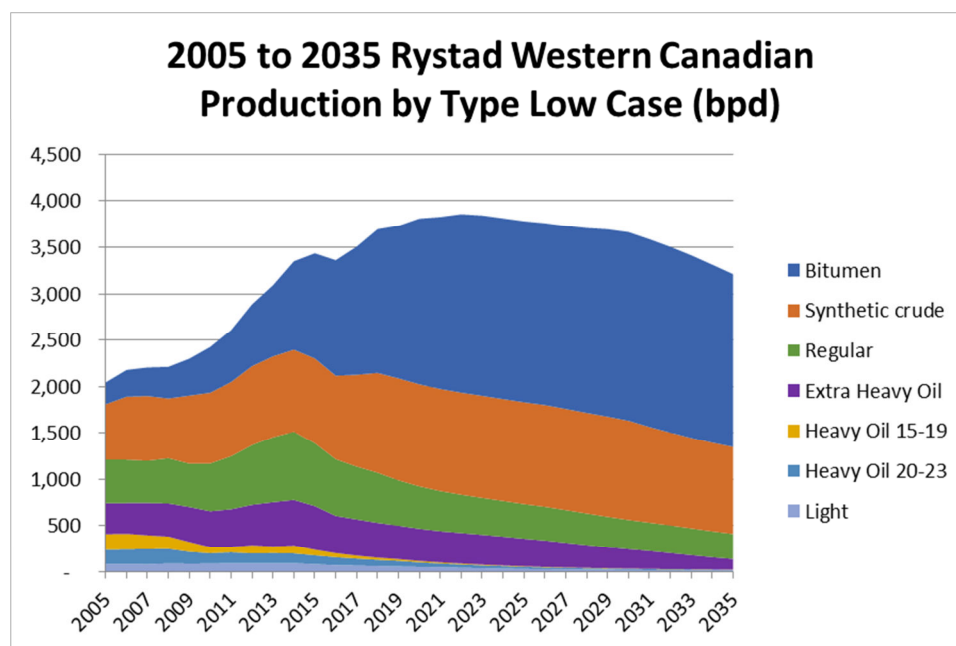
The purpose of the foregoing chart is not to assert that no new tar sands projects will come online, but rather to show what crude oil production from these facilities would be if no new projects are built.

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.¹⁰³ 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.¹⁰⁴ In other words, the projection looks at all existing, under construction and possible projects, determines

¹⁰³ Ex. HTE-4 at 15 and Attach. LS-46 (Stockman Surrebuttal).

¹⁰⁴ 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.¹⁰⁵ 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 2023.¹⁰⁶ Due to these reductions, Canadian production would fall back to 2016 levels in approximately 2033¹⁰⁷; 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 and remain at levels similar to those

¹⁰⁵ Ex. HTE-4 at 15 and Attach. LS-46 column “Total Production (no bio)” (Stockman Surrebuttal).

¹⁰⁶ Ex. HTE-4 at 15 and Attach. LS-46 (Stockman Surrebuttal).

¹⁰⁷ Ex. HTE-4 at 15 and Attach. LS-46 (Stockman Surrebuttal).

from 2011 to 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.

Accordingly, the failure of the CN Order to take account of the economics underlying western Canadian crude oil production means that its evaluation of the CAPP crude oil supply forecasts does not take account of key factors related to these forecasts. As such, the CN Order's reliance on the CAPP forecasts is unreasonable and in violation of Minn. R. 7853.0520, items C and D.

I. The CN Order's Finding that Crude Oil Demand Will Increase Throughout the Forecast Period is Inaccurate Because the People of Minnesota, Neighboring States, the Midwest, and the U.S. Are Unlikely to Have a Long-Term Increased Demand for Petroleum

The CN Order relies on an Enbridge forecasting assumption that demand for crude oil will increase to allow all western Canadian crude oil to find a buyer. The following discussion reviews the evidence in the record related to historical demand for crude oil and petroleum products as well as EIA forecasts of demand for crude oil, and finds that recent trends as well as EIA forecasts do not show that Minnesota, neighboring states or the US as a whole have a future need for additional imported Canadian crude oil.

1. Historical Petroleum Product Demand Data Does Not Indicate that Crude Oil Demand Will Increase Substantially

The best historical 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.¹⁰⁸ In addition, the EIA provides state-level data through its State Energy Data System, much of which is based on the prime supplier data.¹⁰⁹ In contrast, refinery crude oil demand and output data is not a reliable indicator of state-level consumer demand, because refineries may serve multiple states and even ship product outside of the region.¹¹⁰

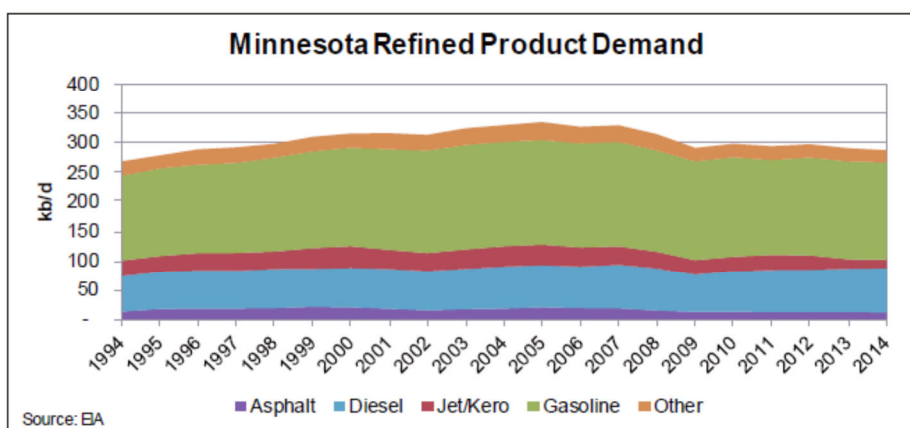
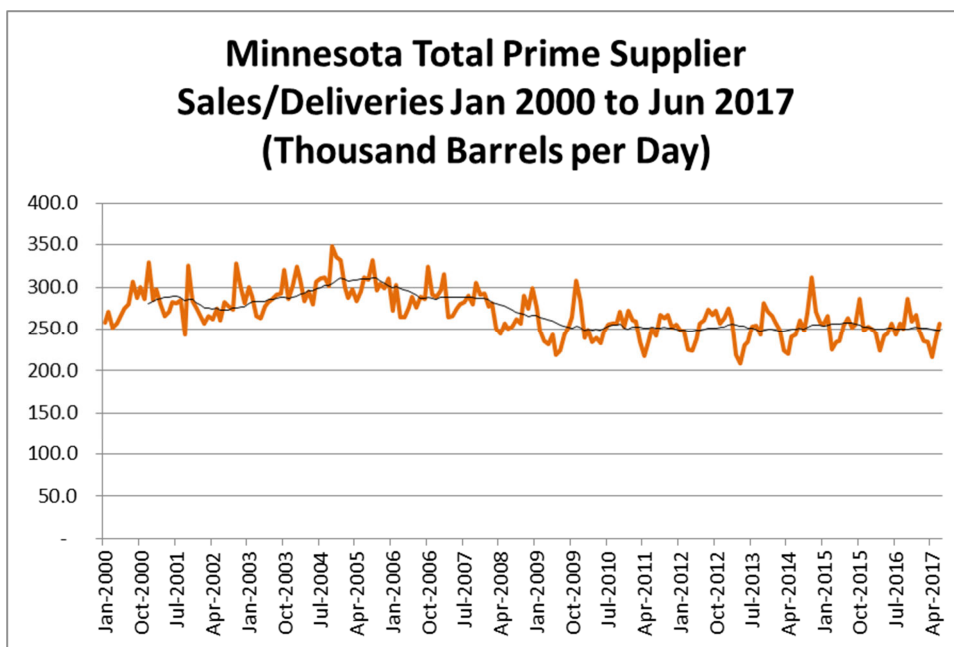
Both the EIA prime supplier data and its State Energy Data System show that demand for refined products in Minnesota peaked in 2004 and has been static since 2010.¹¹¹ The following charts, the first by Mr. Stockman and the second by Mr. Earnest, demonstrate this fact.

¹⁰⁸ 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.

¹⁰⁹ Ex. En-15, Sched. 2 at 8 (Earnest Direct).

¹¹⁰ Ex. En-15, Sched. 2 at 7 (Earnest Direct).

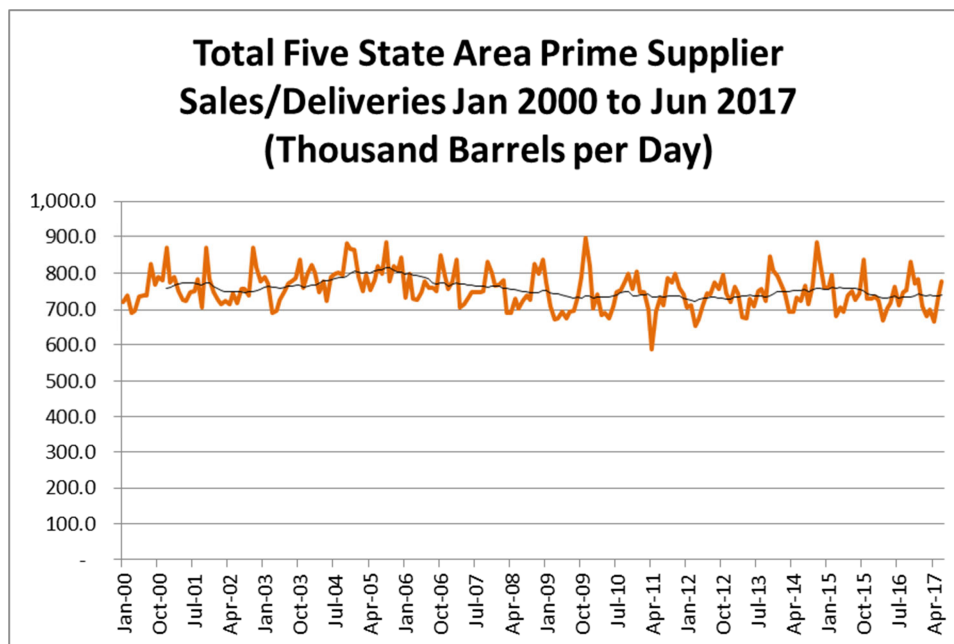
¹¹¹ Ex. HTE-2 at 39-40 (Stockman Direct); Ex. En-15, Sched. 2 at 8 (Earnest Direct).



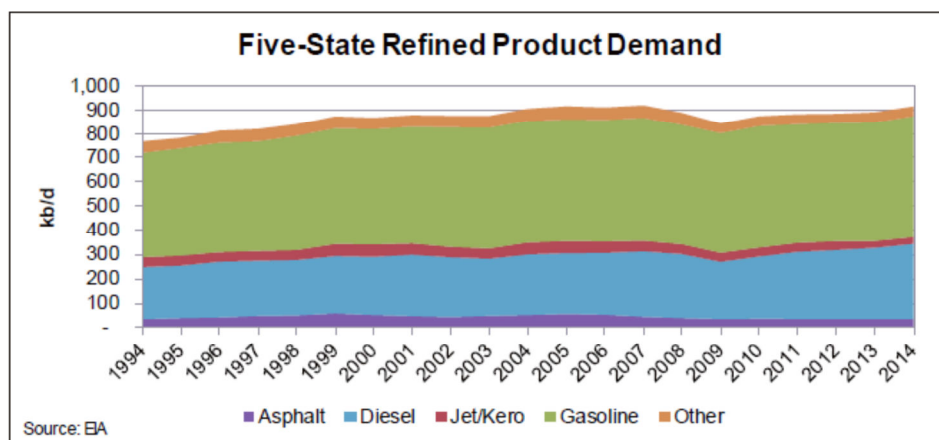
In quantitative terms, the prime supplier data shows that demand for petroleum fuels in Minnesota is down by 19% from Minnesota's 2004 peak demand, which averaged 311,300 bpd.¹¹² Thus, the data available in the record show that Minnesota consumer demand for petroleum is not increasing, such that Minnesota consumers also do not require that greater volumes of crude oil be transported to Minnesota to meet their demand for refined petroleum products.

¹¹² Ex. HTE-2 at 39 (Stockman Direct).

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.¹¹³



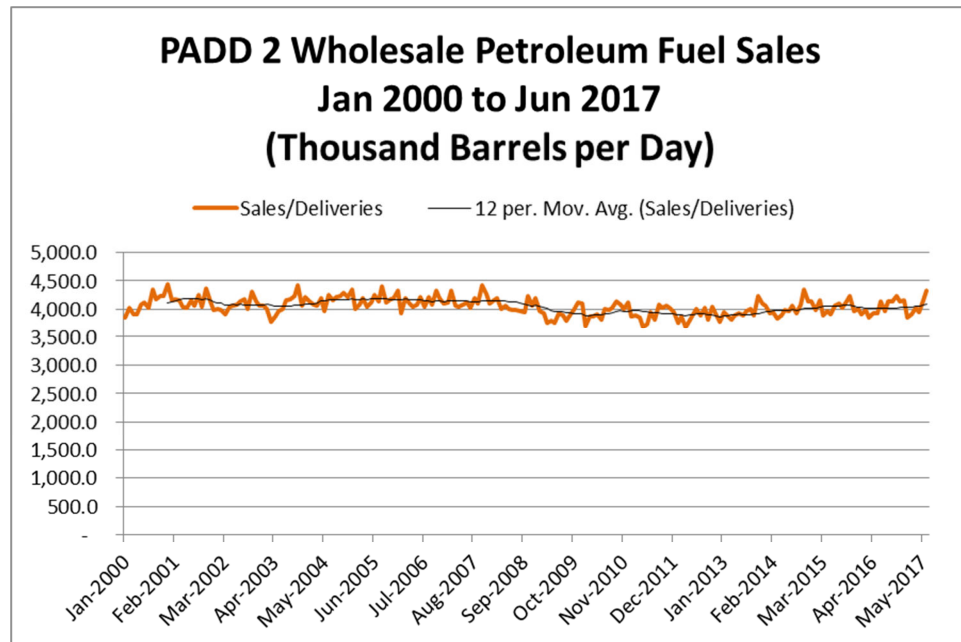
In contrast, the older chart by Witness Earnest shows demand increasing through 2014, but it has subsequently decreased.¹¹⁴



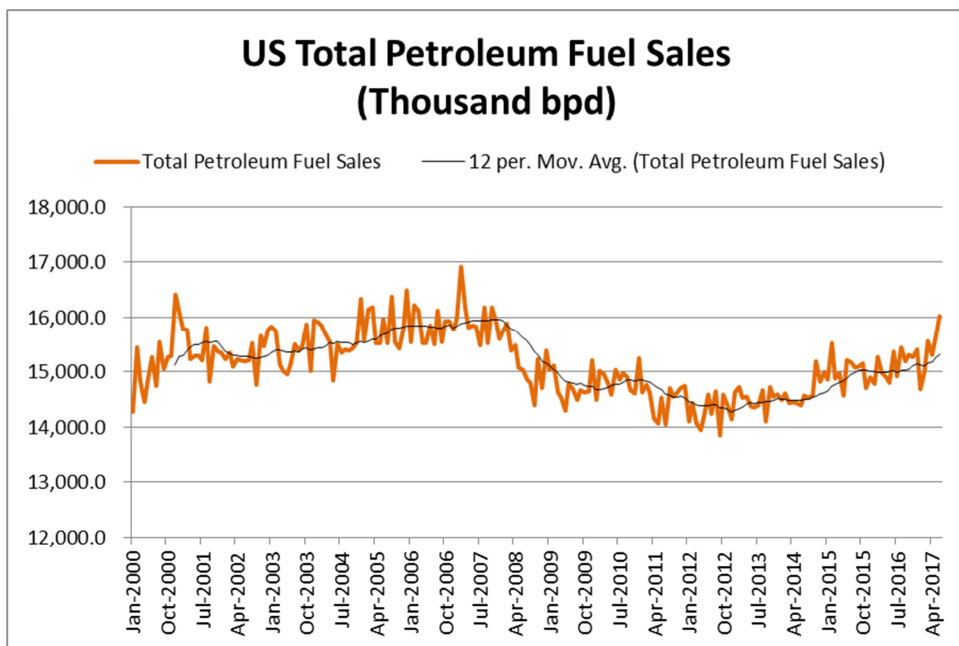
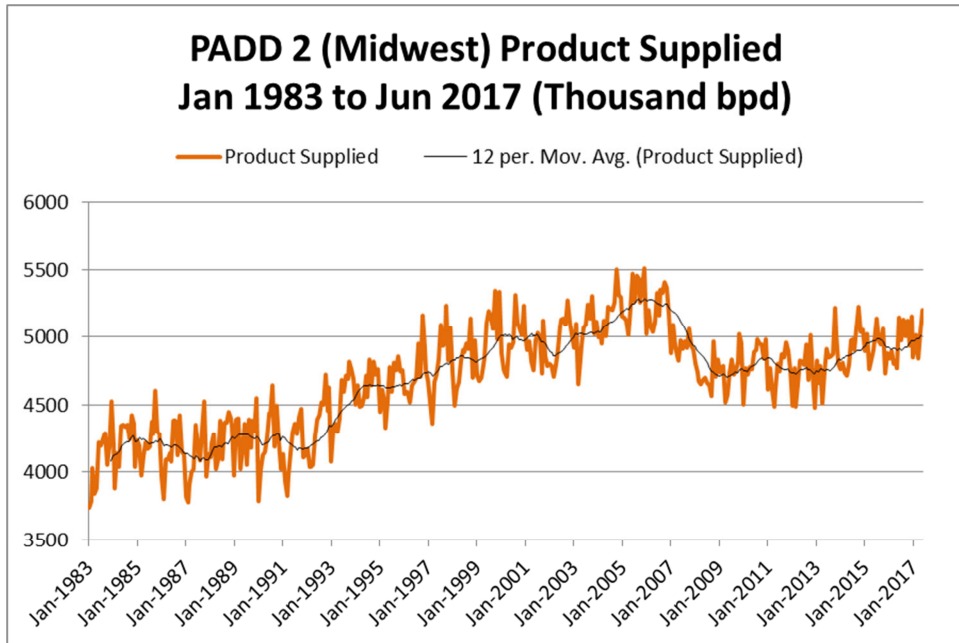
¹¹³ Ex. HTE-2 at 38-39 (Stockman Direct). Mr. Stockman also provided individual prime supplier charts for each of these five states. *Id.* at 40-44. These charts show that the only state that has substantially increased sales of petroleum fuels over the past five years is North Dakota, due to the fracking boom, but as the boom has busted, these sales, too, have declined. *Id.* at 41.

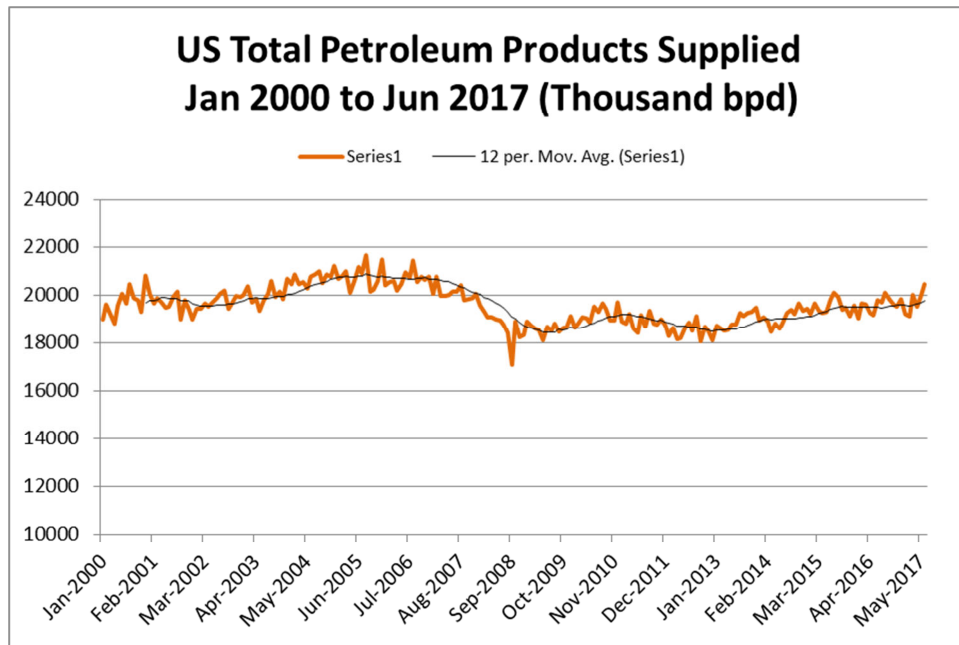
¹¹⁴ Ex. En-15, Sched. 2 at 9 (Earnest Direct).

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.¹¹⁵



¹¹⁵ Ex. HTE-2 at 45, 50-52 (Stockman Direct).





These charts show slow growth in U.S. petroleum product demand,¹¹⁶ but such limited growth must be considered in light of increasing U.S. crude oil production, which has increased by approximately 4 million bpd.¹¹⁷ 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.¹¹⁸ 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.”¹¹⁹ Thus, Enbridge’s witness agrees that the

¹¹⁶ Ex. HTE-2 at 51-52 (Stockman Direct).

¹¹⁷ Ex. HTE-2 at 52 (Stockman Direct).

¹¹⁸ Ex. EN-15, Sched. 2 at 56-58 (Earnest Direct).

¹¹⁹ 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.

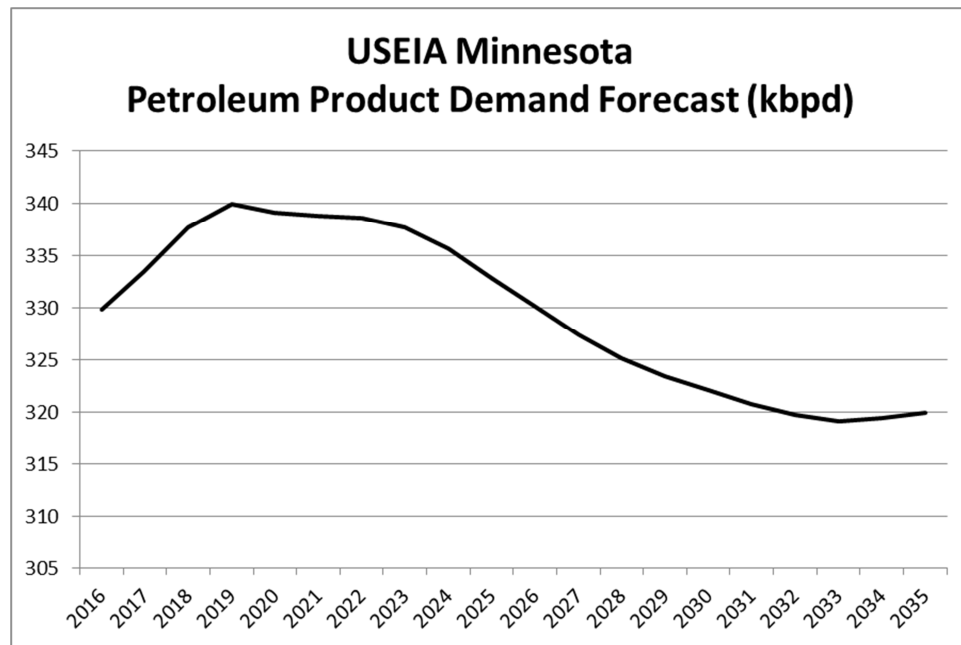
In his Rebuttal Testimony, Mr. Earnest argues that static domestic demand is not meaningful, because (a) Canadian crude oil is needed to reduce imports of crude oil from overseas suppliers, and (b) if the Project is not approved, the Canadian oil will be transported anyway, just by rail instead of pipeline.

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).

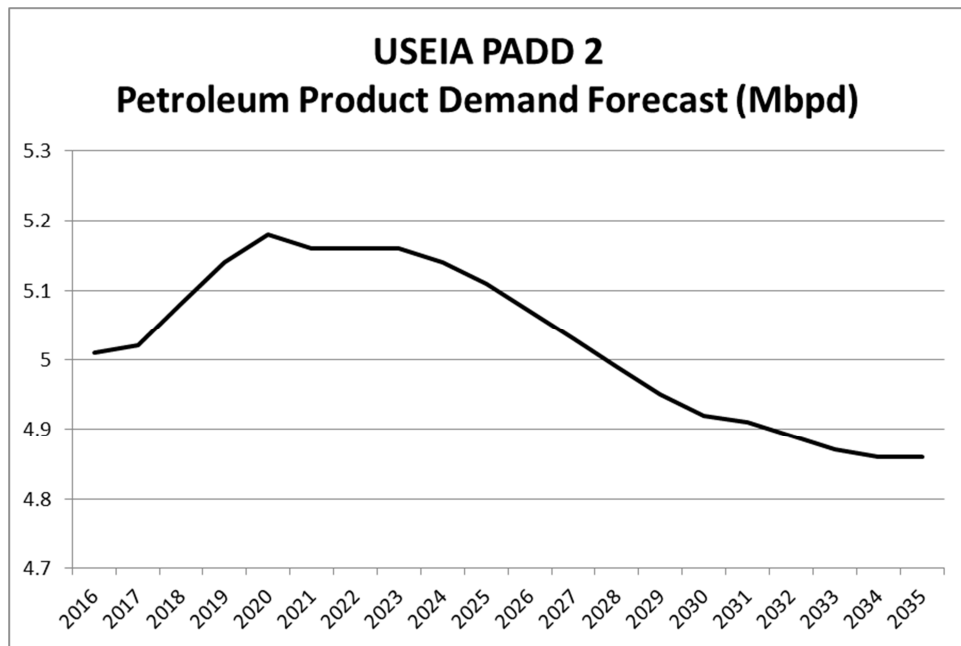
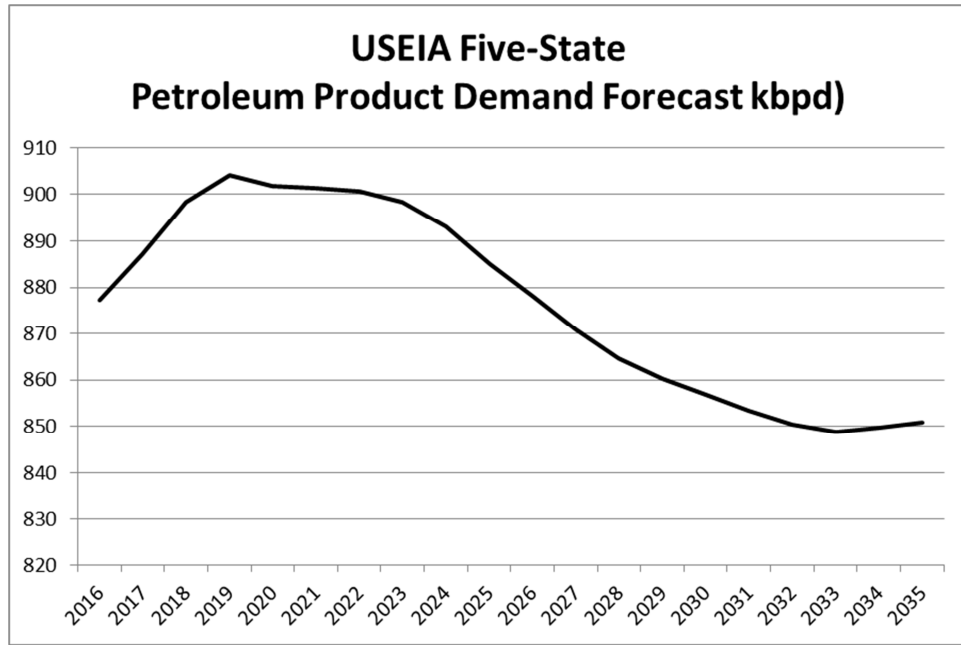
With regard to Mr. Earnest's second argument, that the oil will move by other modes of transportation, that this may happen is not related to the need by Minnesotans and the residents of neighboring states for an adequate, reliable, and efficient supply of crude oil. If anything, it demonstrates that 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.

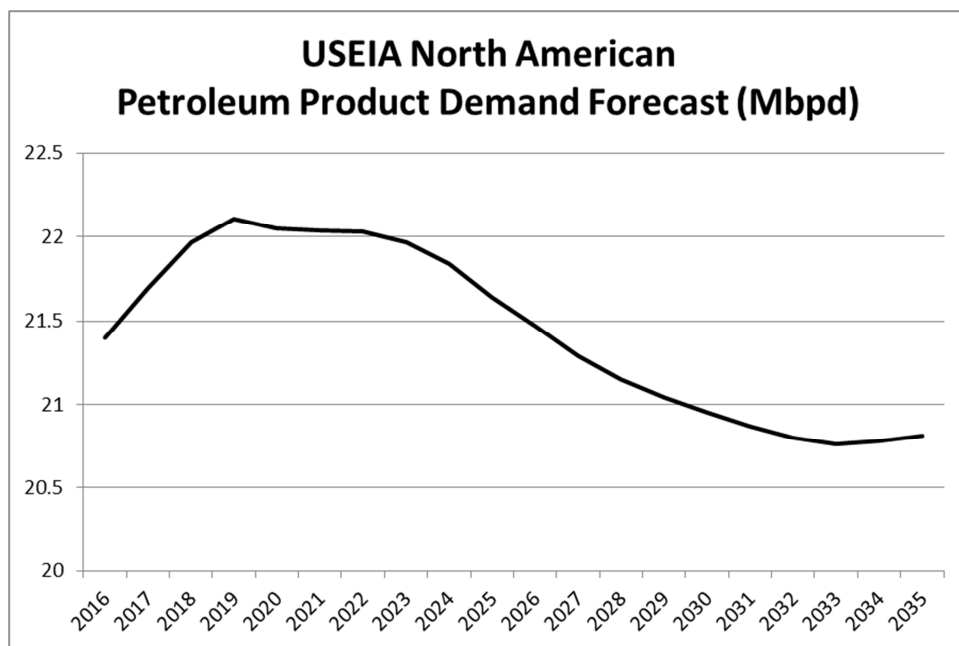
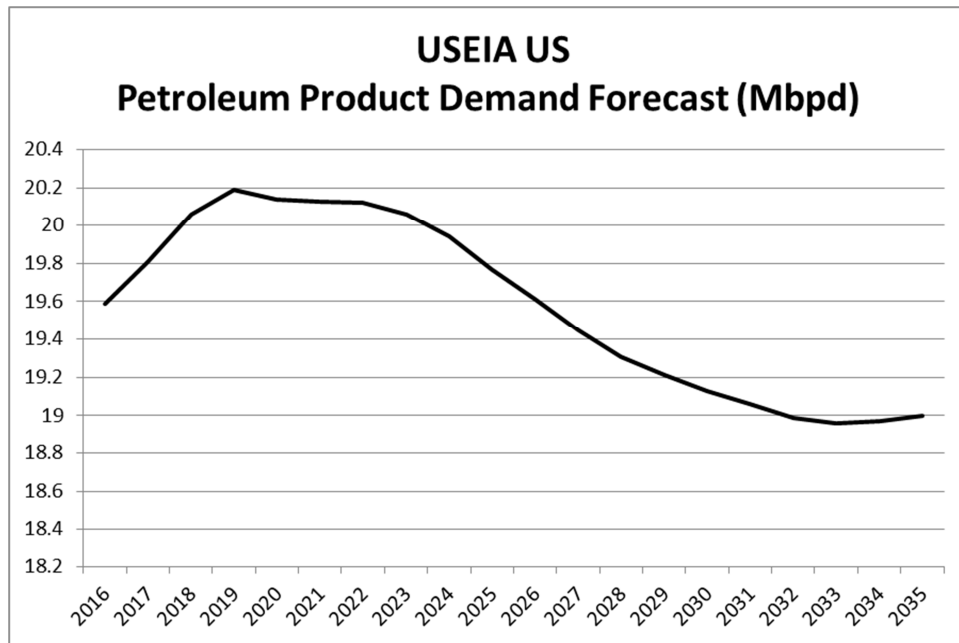
2. EIA Crude Oil Demand Forecast Data Shows that Crude Oil Demand Will Begin Falling by the Middle of the Coming Decade

The record includes USEIA forecasts of petroleum product demand for Minnesota, the five-state region, the Midwest, the U.S. and North America.¹²⁰ All of these forecasts show that the EIA projects a decline in petroleum demand in each of these geographic areas.



¹²⁰ The base data used by Mr. Earnest is from the U.S. Energy Information Agency. The data comes from Enbridge's response to DOC-DER Information Request No. 237, which Mr. Earnest references in his Rebuttal Testimony. Ex. EN-37 at 41-42.





Honor the Earth notes that product demand in the U.S. is expected to increase by about 600,000 bpd and then drop by about 1.2 million barrels per day during the forecast period. Likewise, total North American petroleum product demand is forecast to increase by about 700,000 bpd and then drop by about a million and a half barrels per day. This being said, these projections do not take account of the possible impact of electric vehicle adoption, such that future peaks will

likely be lower and be followed by even greater demand reductions. Either way, the reductions in petroleum product demand forecasted by the EIA are substantial, even relative to total global petroleum product demand.

The foregoing historical and forecast data shows that it is unreasonable to forecast that demand for crude oil will increase in the U.S., the Midwest, the five-state area, or Minnesota. As such, Enbridge's assumption that crude oil demand will increase and provide willing and able buyers for western Canadian crude oil is unreasonable, and therefore the CN Order's approval of Enbridge's forecast of demand is unreasonable, in violation of law, and arbitrary and capricious.

J. The 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, Such that Enbridge's Forecast of Need is Inaccurate

The CN Order fails to take account of the fact that 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.¹²¹ 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.¹²² 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

¹²¹ 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.

¹²² 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)).

identified any substantial heavy crude oil refinery expansions, which is almost exclusively the type of oil that the Project would import from Canada.

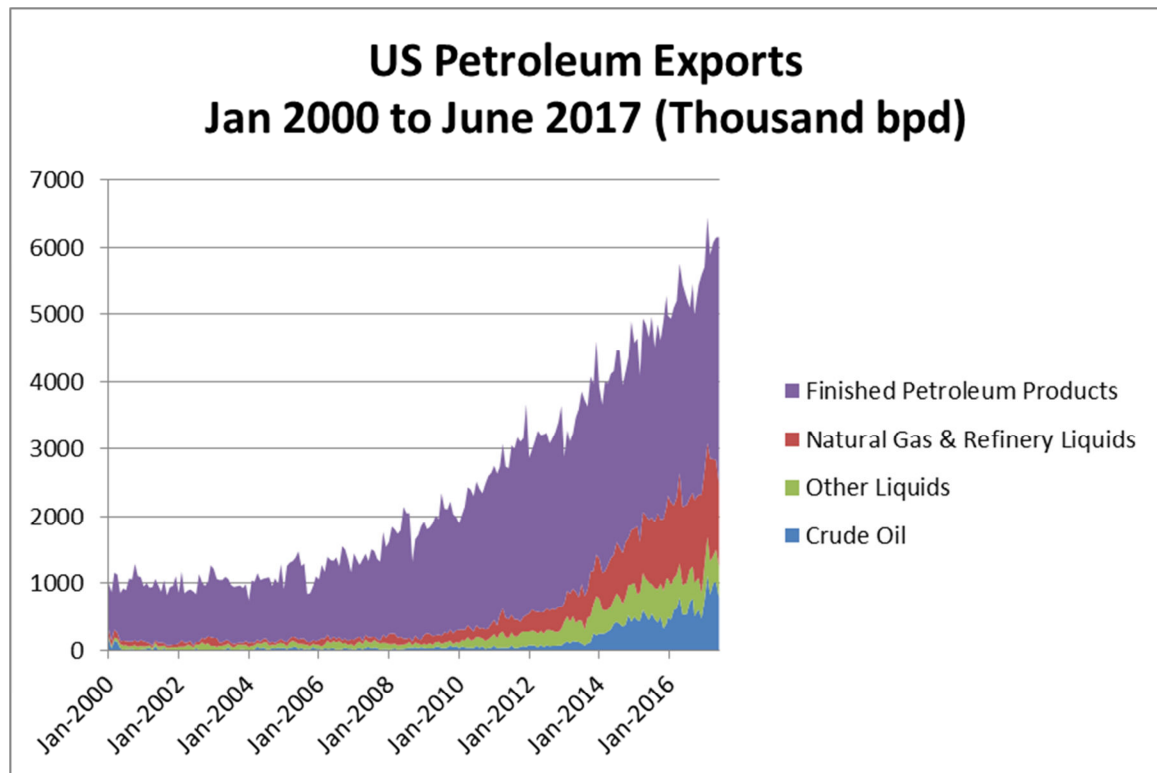
This lack of heavy crude oil refinery expansions indicates that the primary purpose of the Project is not to serve U.S. markets, but rather to allow increased exports of refined petroleum products and U.S. and Canadian crude oil. Thus, the Project is not needed to ensure an adequate, reliable, and efficient 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. Further, the lack of refinery expansions also indicates that Enbridge's assumption that demand for crude oil will increase is unreasonable, such that the CN Order may not rely on Enbridge's forecasts supporting the need for the Project.

K. The Record Shows that Increased Imports of Canadian Crude Oil Would Primarily Allow Increased Exports of Crude Oil to Overseas Customers, Which Demand Does Not Justify Need Under Minnesota Law

Minnesota law seeks to confirm that pipeline projects are in the public interest, and particularly the interests of Minnesota and neighboring states. Yet, the record evidence shows that U.S., regional, and Minnesota demand for crude oil are flat or growing very slowly by limited amounts, whereas exports from the U.S. to overseas customers are skyrocketing. Thus, regardless of where the molecules of petroleum that would be transported by the Project are burned, their import would allow increased exports of crude oil and refined petroleum products from the U.S. to foreign buyers. Honor the Earth asserts that constructing a pipeline for this purpose is not in the public interest.

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 overseas buyers.¹²³ 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.¹²⁴



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.¹²⁵ The data shows that 74% of the output from refineries near these ports is exported.¹²⁶ 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

¹²³ Ex. HTE-2 at 66-70 (Stockman Direct).

¹²⁴ Ex. HTE-2 at 67 (Stockman Direct).

¹²⁵ Ex. HTE-2 at 67-70 (Stockman Direct).

¹²⁶ Ex. HTE-2 at 69 (Stockman Direct).

limited growth in domestic U.S. demand for crude oil, then the only option available to the oil industry would be to continue increasing exports of crude oil and petroleum products from the U.S. to overseas customers.¹²⁷

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, the CN Order’s failure to consider export data and its implications is in violation of law and arbitrary, capricious, and an abuse of discretion.

III. THE CN ORDER FAILS TO CONSIDER EVIDENCE RELATED TO STATE AND FEDERAL PETROLEUM CONSERVATION PLANS, AS REQUIRED BY MINN. R. 7853.0130.A(2)

With regard to conservation programs, the CN Order states:

Enbridge is a common carrier that transports crude oil and does not purchase or sell it, so Enbridge’s conservation efforts do not impact crude oil supply or demand. Enbridge’s energy conservation programs are aimed at reducing its own energy consumption. Examples of Enbridge’s energy conservation efforts include the use of high efficiency pumps and motors, active monitoring at the pipeline control center to minimize energy consumption, and investment in renewable and alternative energy projects and companies.

¹²⁷ Ex. HTE-2 at 70 (Stockman Direct).

Thus, the CN Order addresses only Enbridge's conservation efforts, which are not aimed at conserving petroleum.

In contrast, Minn. Stat. § 216B.243, subd. 3(2) requires an entirely different analysis:

In assessing need, the commission shall evaluate:

* * *

(2) the effect of existing or possible energy conservation programs under sections 216C.05 to 216C.30 and this section or other federal or state legislation on long-term energy demand;

This provision requires that the Commission consider the impact of conservation programs that could reduce the need for a project, and not how efficiently a project would be operated.

Moreover, the Commission must consider not just a project applicant's energy conservation programs, but also under "other federal or state legislation." The CN Order fails to even mention the effect of existing state and federal petroleum conservation programs. Therefore, the Commission has not fully complied with the law.

Should the Commission believe that such conservation programs are irrelevant, Honor the Earth asserts that the Commission should consider the evidence in the record related to a historical reduction in petroleum use in the Minnesota, the five-state area, the Midwest, and the U.S. as a whole, as well as the EIA crude oil demand forecasts, which have been provided above.¹²⁸ This data indicates that crude oil demand at all of these levels has dropped from peak levels, and at best it is currently growing slowly but is likely (according to the EIA) to fall. Honor the Earth asserts that some or all of this suppression in crude oil demand has been caused by a variety of conservation measures, including but not limited CAFE standards, alternative fuel development, expansion of transit, and a variety of commercial, industrial, and governmental

¹²⁸ Supra at 70-75.

petroleum conservation efforts. Yet, the Commission utterly ignores consideration of such efforts in its analysis, among other reasons because the crude oil production and supply forecasts provided by Enbridge, are by definition are not directly related to consumer demand for petroleum products and, by extension, consumer demand for the energy that is provided by crude oil (a form of petroleum). Thus, the evidence in the record indicates that conservation programs are not irrelevant and cannot be ignored.

Enbridge has acknowledged the potential for state and federal petroleum conservation plans to impact demand for crude oil and by extension demand for crude oil transportation services.¹²⁹ This being said, Enbridge's discussion of the long term impact of such plans is wholly inadequate. Enbridge claims that "the precise impact of such measures is difficult to measure and are not anticipated to substantially reduce the use of refined products over the forecast period."¹³⁰ Enbridge fails to acknowledge that the impact of all future market changes are "difficult to measure" and it fails to define what a "substantial reduction" would entail and its degree of impact in terms of market dynamics. For example, it notes that fuel ethanol makes up 1.3 percent of total Minnesota energy supply (including natural gas, coal, nuclear, and renewable power), and that total refined petroleum product consumption (gasoline, diesel fuel, propane, jet fuel, heavy oil, lubricants, etc.) make up 30.8 percent of total energy supply, but then ignores the specific impact of fuel ethanol on consumer demand for gasoline.¹³¹

The initial market share impacts of renewable energy (and all new technology) are always initially small and incremental, such that it is possible to argue that they will not have an effect. However, such argument ignores the fact that renewable energy market share is growing, as is the market share for electric vehicles. It also ignores the EIA data that U.S. petroleum

¹²⁹ Enbridge Initial Brief at 62 (January 23, 2018) (eDocket No. 20181-139252-03).

¹³⁰ Enbridge Initial Brief at 62 (January 23, 2018) (eDocket No. 20181-139252-03).

¹³¹ Enbridge Initial Brief at 62 (January 23, 2018) (eDocket No. 20181-139252-03).

demand is forecast to decrease substantially, presumably due to petroleum conservation efforts.¹³² The question that Enbridge completely ignores is, how fast are these market shares growing and what impact will incremental increases in petroleum conservation efforts have on incremental increases in demand for petroleum? The importance of these questions is demonstrated by a simple illustration. If in a given market petroleum demand were projected to grow at a rate of 1 percent per year, but conservation-related efforts were forecast to reduce petroleum demand by 1 percent each year, then it is true that the initial market share of conservation measures would be small, but it is also true that conservation would nonetheless reduce the incremental increase in petroleum demand to zero, and would also reduce the demand for new petroleum transportation infrastructure to zero. A focus on the initial small market share of renewable energy is a long-standing messaging ploy by the fossil fuel industry intended to convince citizens and decision makers that the *status quo* is inevitable. The Commission should disregard Enbridge's small-market-share argument.

Enbridge also sets up the strawman of an instantaneous elimination of all crude oil imports into the five-state area and instead using only locally supplied energy.¹³³ This example says absolutely nothing about how conservation programs might impact incremental increases in demand for petroleum products and crude oil transportation services in Minnesota, the five state area, PADD 2, the U.S. as a whole, or the entire global market. Enbridge sets an arbitrary goal and generally asserts that this goal is unobtainable without any meaningful discussion about whether this goal is rational, the reasons why it is unobtainable, or the timeframe over which the goal would be achieved. Again, Enbridge's argument ignores the potential incremental impacts of conservation measures on petroleum markets and crude oil pricing.

¹³² Supra at 64-66.

¹³³ Enbridge Initial Brief at 63 (January 23, 2018) (eDocket No. 20181-139252-03).

Finally, Enbridge discusses the request by DOC-DER to test the ability of electric vehicles to impact refined product demand, assuming that electric vehicle market share is 75 percent by 2035.¹³⁴ Enbridge admits that such market share increase “would lead to reduced gasoline demand and reduced North American refining capacity of 10 percent by 2035,” but then relies on Mr. Earnest’s modeling to assert that such reduction would have no impact on the need for the Project.¹³⁵ However, Enbridge’s brief fails to describe or discuss how Mr. Earnest’s modeling works or the assumptions that this model makes about crude oil markets and pricing. Mr. Earnest simply assumed that global demand for refined products would increase and not be impacted by electric vehicle market share, even though the record is replete with evidence that electric vehicle market share is growing faster in Europe and China, such that it is expected to impact global demand for crude oil.¹³⁶ Further, Mr. Earnest’s analysis must assume that Canadian crude oil supply continues to grow due to continually increasing crude oil prices, which assumptions are not reasonable as global petroleum demand is reduced by adoption of electric vehicles and other advanced transportation technologies. If global demand for crude oil is suppressed by conservation technologies, then crude oil prices would also be suppressed, and this in turn would impact the economic viability of western Canadian crude oil extraction projects.

Thus, Enbridge’s analysis and discussion of the potential impact of electric and advanced technologies vehicles on demand for petroleum is shallow and specious in that it fails to provide a detailed and reasonable analysis of how these technology and market advancements would impact global incremental demand for crude oil, oil pricing, development of western Canadian

¹³⁴ Enbridge Initial Brief at 64 (January 23, 2018) (eDocket No. 20181-139252-03).

¹³⁵ Enbridge Initial Brief at 64 (January 23, 2018) (eDocket No. 20181-139252-03).

¹³⁶ Ex. HTE-2 at 63, Attach. LS-32 (Stockman Direct); HTE-3 at 14-18, Attach. LS-41, LS-42 (Stockman Rebuttal).

extraction facilities, and demand for the crude oil transportation services that would be provided by the Project.

More to the point, Minn. Stat. § 216B.243, subd. 3(2), requires that the Commission consider “(2) the effect of existing or possible energy conservation programs under . . . federal or state legislation on long-term energy demand,” the Commission failed to do so, therefore, the Commission has broken the law.

IV. THE CN ORDER FAILS TO ADEQUATELY DISCUSS ENBRIDGE’S ABILITY TO MODIFY AND USE ITS EXISTING PIPELINES TO IMPORT ADDITIONAL CRUDE OIL FROM CANADA, AS REQUIRED BY MINN. R. 7853.0130.A(4)

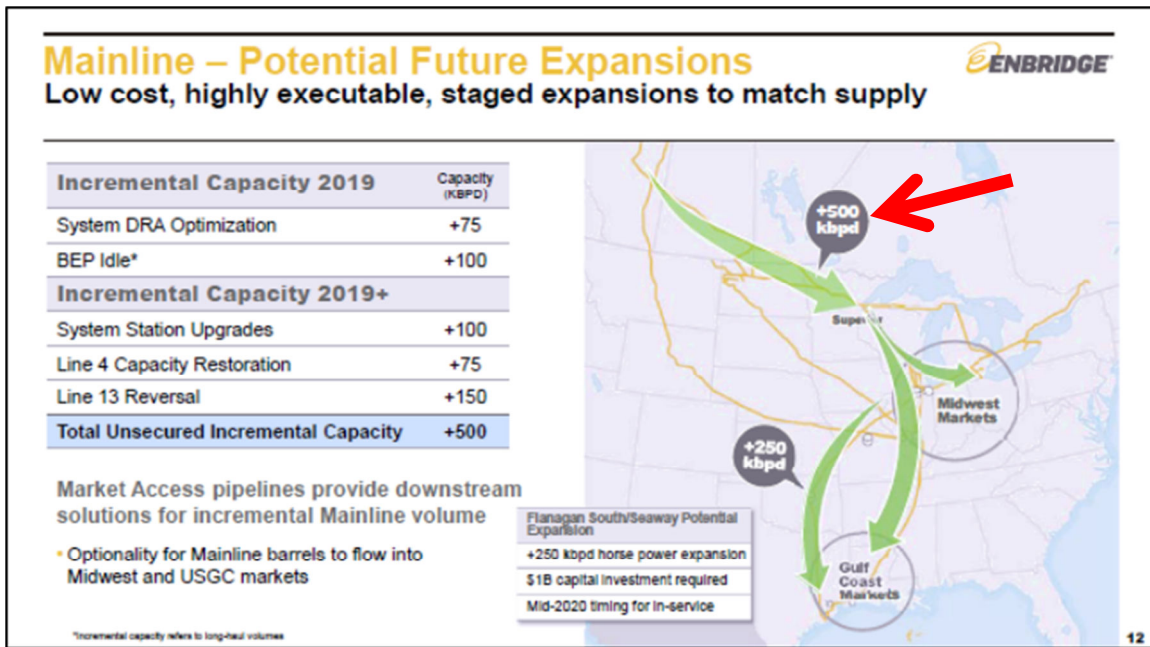
With regard to the ability of current and planned facilities to transport additional crude oil, the CN Order states:

The ALJ also found that Enbridge’s planned projects on the Mainline System would not meet the future demand for crude oil, and the Commission agrees with that assessment.¹³⁷

It is stunning that Enbridge can say in black and white to its investors multiple times over two years that it plans to increase the import capacity of the Enbridge Mainline System by approximately 500,000 bpd¹³⁸ – and have this evidence be dismissed out-of-hand by the Commission. For example, Enbridge provided this slide to its investors in June of 2017. The red arrow shows that Enbridge intends to expand its system to increase imports of western Canadian crude oil by 500,000 bpd.

¹³⁷ CN Order at 17.

¹³⁸ Ex. HTE-2 at 32-36 (Stockman Direct).



While Honor the Earth understands that the “System DRA Optimization” and the “System Station Upgrades” (together 175,000 bpd) are related to expansion of the new Line 3, should it be built¹³⁹ this still leaves 325,000 bpd of capacity expansions on the table. Moreover, this slide does not include a later proposal by Enbridge to expand its existing Express Pipeline by 100,000 bpd.¹⁴⁰ Thus, regardless of its attempts to explain away these statements to investors, the evidence shows that Enbridge in fact does have the ability to increase imports by more than 400,000 bpd, which capacity is greater than the net increase in capacity that would be provided by the Project (370,000 bpd).

Although the ALJ cited Enbridge’s attempts to explain away the potential impact of its expansion projects, she was misled. While there are conditions on some of these projects, this does not mean that Enbridge cannot accomplish them during the forecast period. Moreover,

¹³⁹ Honor the Earth notes that this would expand Line 3 to a capacity of 935,000 bpd, or 20,000 bpd more than disclosed in Enbridge’s CN Application.

¹⁴⁰ Ex. HTE-2 at 33 (Stockman Direct). This is an entirely different project than that proposed by the DOC-DER and described in the ALJ Report at findings 793-95. The DOC-DER proposal is to construct an entirely new pipeline. The Express Pipeline expansion proposed by Enbridge to its investors would increase throughput of its existing Express Pipeline from Canada to the Mountain West and Midwest.

Enbridge completely failed to address its ability to expand the existing Express Pipeline by up to 100,000 bpd, which has admitted it can do.

Enbridge's Initial Post Hearing Brief discusses the ability of existing and proposed infrastructure to meet demand for the crude oil transportation services that would be provided by the Project, and particularly the evidence presented by Mr. Stockman that Enbridge itself has proposed to expand the capacity of its existing Mainline System and Express Pipeline System pipelines.¹⁴¹ Initially, Enbridge fails to note that all of the expansion projects identified by Mr. Stockman were proposed by Enbridge to its investors over a period of two years,¹⁴² thereby implying that Mr. Stockman invented these projects and their proposed capacities. He did not. All of the projects and their capacities were proposed and quantified by Enbridge itself.

Then, rather than discuss "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," as required by Minn. R. 7853.0130(A)(4), Enbridge narrows the discussion to whether or not any particular expansion project can serve as an alternative to the Project, presumably as the term "alternative" is defined by Minn. R. 7853.0130(B). Enbridge thereby conflates and confuses these separate regulatory analyses. Minn. R. 7853.0130(A)(4) is not limited to determining whether a particular existing infrastructure expansion can substitute in whole for a proposed project. The purpose of Minn. R. 7853.0130(A)(4) is not to identify alternatives, but more broadly to assess the ability of an applicant to use its existing facilities, separately and in combination, to meet a future demand for energy demonstrated by an accurate forecast. The regulation requires that the Commission determine the degree to which an applicant's existing transportation infrastructure can meet future demand, otherwise there is a risk that an applicant

¹⁴¹ Enbridge Initial Brief at 68-69 (January 23, 2018) (eDocket No. 20181-139252-03).

¹⁴² Ex. HTE-2 at 32-36 (Stockman Direct).

could build new infrastructure that is partially or entirely redundant, thereby unnecessarily impacting the State’s citizens and environment. Moreover, such analysis is relevant to the Commission’s analysis of “the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;”¹⁴³ and “the consequences to society of granting the certificate of need are more favorable than the consequences of denying the certificate”¹⁴⁴ It is simply impossible to determine the degree of need for new energy infrastructure and the degree of potential adverse impacts on society absent an understanding of the capacity of existing infrastructure to meet future energy demand.

To frame this discussion, Honor the Earth repeats that Enbridge itself characterized these expansion projects as “low cost,” “highly executable,” “low risk,” and “attractive in a low crude price environment” that can “match supply.”¹⁴⁵ Further, most of the presentation slides that identify these projects describe them as allowing for “expansion” and “growth” and increasing import capacity, and include arrows showing that they would import more crude oil from Canada.¹⁴⁶ The slide presented by Enbridge to its investors in June 2017 includes an arrow from Alberta to Superior, WI, with a call-out that says “+500 kbpd” and then lists each project that makes up this “500 kbpd” increase. Moreover, Enbridge also provided a slide showing that it would begin implementing these projects last year and continue to do so through 2025.¹⁴⁷ Thus, Mr. Stockman did not dream up these projects. They were developed and presented to Enbridge’s investors by Enbridge itself.

¹⁴³ Minn. R. 7853.0130(B)(1).

¹⁴⁴ Minn. R. 7853.0130(C).

¹⁴⁵ Ex. HTE-02 at 32-35 (Stockman Direct).

¹⁴⁶ Ex. HTE-02 at 32-36 (Stockman Direct).

¹⁴⁷ Ex. HTE-02 at 34 (Stockman Direct).

Mr. Stockman identified a total of fifteen projects identified by Enbridge.¹⁴⁸ Some of these projects relate to the Line 3 Expansion Project,¹⁴⁹ and were not included in his subsequent analysis. Some of these projects appear to be similar, but the descriptions are vague. In its Initial Brief, Enbridge discusses and dismisses four potential expansion projects:

- The Line 4 Capacity Restoration project;
- The BEP Idle project;
- The System DRA Optimization and System Station Upgrades projects; and
- The Line 13 Reversal project.

Enbridge entirely fails to discuss the following additional projects that were included in its investor presentations:

- Line 2 expansion;
- Line 65/LSr expansion; and
- Express Pipeline expansion.

Enbridge next attempts to explain away all of these projects, despite its own glowing descriptions of them to its investors.

It says that the Line 4 Capacity Restoration project provides “incremental heavy capacity out of Western Canada,” but then does not provide a quantity and says only that the amount is marginal compared to the Project, such that it is not an alternative. Thus, Enbridge admits that this project has an ability to meet future demand for crude oil transportation services.

Enbridge describes the BEP Idle Project as not being a capacity recovery or growth project, but does not explain that it is based on more efficient use of existing infrastructure.

¹⁴⁸ Honor the Earth Initial Brief at 69-71 (January 23, 2018) (eDocket No. 20181-139262-02).

¹⁴⁹ *E.g.*, “Line 3 at 760,” “Line 3 Restore Capacity,” “Line 3 Additional Pumping,” and “System Station Upgrades”. Honor the Earth Initial Brief at 69-71 (January 23, 2018) (eDocket No. 20181-139262-02).

Specifically, the “BEP” is the Bakken Expansion Project,” which is a pipeline from the Bakken oil fields to Cromer, Manitoba. At the Cromer Terminal, this U.S. Bakken oil is injected into the Mainline. Thus, it uses Mainline System capacity that could otherwise be used to increase imports of Canadian oil. Construction of the Dakota Access Pipeline means that there is excess crude oil takeaway capacity from ND.¹⁵⁰ Moreover, the other pipelines from North Dakota do not transport oil north and then south again, such that they are shorter and likely less expansive transportation options than using the BEP pipeline. This means that the BEP pipeline is not needed to move Bakken oil and can be idled, thereby allowing the import of additional Canadian crude oil.

Enbridge dismisses the potential ability of the BEP Idle project to increase imports of Canada by stating merely that it is “not an alternative to the Project because it does not restore or add any additional heavy capacity out of Western Canada and only facilitates additional light crude transportation.” Further, it argues that it would allow increased imports on Line 2, which is a light oil pipeline, and that the BEP Idle project is feasible only if the Project is built, but it does not explain why this is the case. In contrast, Enbridge’s own Commodity Routing Table shows that North Dakota oil may be transported on Line 2 and the existing Line 3.¹⁵¹ Thus, if the Commission denies the applications, Enbridge could reduce the flow of light crude oil on both Lines 2 and 3 and then increase the use of existing Line 3 for transporting heavy crude oil, which it allowed last year.

With regard to the Line 13 Reversal project, Enbridge states that it is not “an alternative to the Project” because of existing contractual obligations, but provides no detail on the timing of such obligations even though as the owner the pipeline it certainly knows them. The fact that the

¹⁵⁰ Ex. HTE-4 at 24 and Attach. LS-44 (Stockman Rebuttal) (Attachment LS-44 is the North Dakota Pipeline Authority spreadsheet showing takeaway capacity from North Dakota.)

¹⁵¹ Ex. HTE-2, Attach. LS-2 at 5 (Stockman Direct).

contractual obligation could have options to continue through 2040 says nothing about the ability of Enbridge to terminate its existing obligations, or the interest of its counterparties to do so. It also says that the project would provide only “limited capacity increase of only light volumes,” but does not describe how shifting light flows to Line 13 would free up space on other pipelines for heavy crude oil. It also says that the route of this pipeline does not provide the same flexibility, probably because it currently ends at a natural gas liquids plant in Illinois, but this does not mean that Line 13 could not be extended a relative short distance to the Flanagan Terminal or other Chicago-area terminals.

Enbridge does not discuss the Line 2 expansion; Line 65/LSr expansion, and Express Pipeline expansion projects at all.

Enbridge concludes by saying that “these projects cannot, alone or in combination, serve as alternatives to the Project.” Yet, Enbridge actually says nothing about the combined ability of these projects to increase imports. Further, it continues to frame the Commission’s obligation here in terms of analyzing these expansion projects as alternatives, when that is not what the CN law requires.

Thus, Enbridge has told its investors that these projects are “low cost,” “highly executable,” “low risk,” and “attractive in a low crude price environment” that can “match supply,” and increase imports by hundreds of thousands of barrels per day, while at the same time telling the Commission that it should disregard their impact on the need for the Project. It appears that Enbridge is talking out of both sides of its mouth, such that its arguments are not credible.

By failing to fully and adequately discuss these expansion projects, Enbridge has failed to provide information that allows the Commission to adequately 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,” as required by Minn. R. 7853.0130(A)(4). As such, Enbridge has not met its burden of proof with regard to this critical issue. And, by failing to adequately evaluate and consider the impact of Enbridge’s publicly announced expansion projects on the need for the Project, the CN Order is in violation of Minn. R. 7853.0130(A)(4).

CONCLUSION

For the foregoing reasons, the Commission should reconsider its CN Order and conduct a hearing to address the factual issues and violations of law identified above.

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Respectfully submitted,

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