1. The reduction in shipper carrying costs due to shorter transit times resulting from increased velocity of flow on the upstream lines;

2. The savings in batch pigging costs produced by increased flow on the upstream Line 61; and

3. Reductions in approved Lakehead surcharges arising from incremental volumes.

The various benefits of the Southern Access Extension are further described below.

(1) Improved transit time benefit

25. As throughput on Line 61 increases because of the Extension Pipeline, the crude oil in that line will move at a faster velocity. This increased velocity on Line 61 also requires faster flows on the upstream lines leading to Superior. As the crude flows through the lines more quickly, the time needed to move each batch from origin to destination declines. I asked the Enbridge Facilities Management Group to quantify the changes in transit times that would be associated with completion of the Extension Pipeline. Their results are summarized in Exhibit WRS-2, attached hereto. For heavy crude moving from Hardisty, Alberta, to Clearbrook, the reduction in transit times with the Extension in place averages approximately 1.7 days over the 2009 to 2023 period. Exhibit WRS-2 & Earnest Aff. (Exh. 4) Exhibit NKE-11. From Clearbrook to Superior, the reduction is an additional 0.3 days, and a further 1.8 days from Superior to Chicago for a total of 3.8 days from Hardisty to Chicago. Similarly, for light volumes the reduction in transit times with the Extension in place averages 6.0 days from Hardisty to Chicago over the same 2009 to 2023 period. *Id.* All Lakehead shippers benefit from this transit time decrease, because shippers incur a carrying cost by having their crude tied up in the line. Mr. Earnest has calculated the financial savings to shippers due to the reduced working capital requirements to average approximately $12.1 million a year for the Hardisty to Clearbrook segment, approximately $1.8 million per year for the Clearbrook to Superior

segment, and approximately $5.3 million per year for the Superior to Chicago segment. *See* Earnest Aff. (Exh. 4) at ¶ 41 & Exhibit NKE-11.

(2) Reduced batch pigging cost benefit

26. The second benefit of increased throughput is a reduction in batching costs. At throughput below 500,000 bpd, Line 61 will be in a state described as "laminar flow." A line in laminar flow will experience significant intermingling at the interface between batches of crude. To reduce this intermingling, Line 61 will initially be batch pigged, meaning that a mechanical device (known as a "pig") will be inserted between 120,000 bbl size batches to minimize cross-batch contamination.

27. Once Line 61 reaches 500,000 bpd of throughput it will no longer be in laminar flow but will transition to "turbulent flow," which is a hydraulic flow pattern that incurs much less cross-batch contamination. Once the pipeline is operating in turbulent flow, the use of batch pigs will be discontinued.

28. The batch pigging operations can add approximately $4 million to $8 million per year to the costs included in the Southern Access Expansion surcharge, depending on whether batch pigs are inserted between single or double batches. These costs include labor to load the batch pigs into the pipeline at Superior, labor to unload the batch pigs from the pipeline at Flanagan, labor to transport the batch pigs from Flanagan back to Superior, and materials and labor to refurbish each batch pig after three consecutive cycles through the pipeline. Since those costs are recovered in a surcharge across all Lakehead volumes, all Lakehead shippers will bear those costs to the extent they are incurred. The incremental volumes made available by the Extension Pipeline avoid some or all of that cost. The savings in batch pigging costs are set out

in Exhibit WRS-3, attached hereto. The Extension Pipeline provides savings to Lakehead shippers in batch pigging costs of at least $45 million over the life of the Tariff Agreement.

(3) Enhanced crude quality benefit

29. An additional benefit of the Extension Pipeline is that it will facilitate segregation of heavy and light crudes on the Lakehead and Mustang Systems, thus providing improved crude quality to light shippers. During typical pipeline operations, a variety of crude oils are transported in batches through the Mustang and Lakehead Systems, resulting in some intermingling between crude batches and consequently contaminating the light crude batches. Contamination is an issue that all pipelines face, but its economic impact is more pronounced on batched pipelines carrying widely different crude qualities. Contamination is less of a concern in a pipeline that transports solely light crude. However, contamination between light and heavy crude results in a downgrade for light crude with serious economic implications and a negligible upgrade for heavy crude.

30. Currently, the Lakehead pipelines between Superior and the Chicago area (Lines 6A and 14) provide both light and heavy crude transportation service. As a result, crude contamination levels are relatively substantial, negatively impacting the value of light crude transported on those lines.

31. Currently, since the only southbound pipeline from Chicago to Patoka is the Mustang Pipeline, any light crude transported on that line receives some contamination, negatively impacting the value of light crude transported.

32. When the Extension Pipeline is complete there will be two separate pipeline routes between Superior and Patoka: one being down Line 14 and the Mustang Pipeline and the other being down Line 61 and the Extension. The presence of a second route would enable the

light volumes to be directed to the Line 14/Mustang route, thereby reducing light crude contamination, with the heavy volume going down the Line 61/Extension route.

33. The economic impact of this improvement in light crude quality can be measured by comparing the change in crude quality with and without converting Line 14 and Mustang to light service. In the first part of the analysis, the Extension is deemed completed but the quality conversion does not occur so that 70,000 bpd of synthetic sweet crude destined for Patoka flows through Line 61 from Superior to Flanagan and through the Extension from Flanagan to Patoka. Line 61 and the Extension are both in mixed (light and heavy) service in this scenario and the Extension is in start-stop operation. In the second part of the analysis, the Extension is also built but the crude quality optimization does occur so that 70,000 bpd of synthetic sweet crude moves on Line 14 from Superior to Chicago and on Mustang (140,000 bpd is the capacity of Mustang in light service) from Chicago to Patoka, which are both in light service. The analysis compares the sulfur content and density of the synthetic crude with and without conversion. As shown in Exhibit WRS-4, attached hereto, when Line 14 and Mustang are converted to light service the sulfur content is reduced resulting in a financial benefit of $11 million per year. Similarly, the crude density decrease results in a financial benefit of $10 million per year. Therefore, the total annual economic benefit to shippers of the improved light crude quality is $21 million. Exhibit WRS-4.

(4) Improved crude distribution security benefit

34. The completion of the Extension Pipeline enhances the overall security of the crude distribution network in both Canada and the United States. Today, the outbound crude pipelines from western Canada operate near, or at, capacity. There are several proposed projects that, if completed, will add additional outbound pipeline capacity from western Canada, but the

increasing western Canada crude production promises to absorb most of the additional capacity. Accordingly, anything other than a very short-term outage on any one of the several high-capacity pipeline systems that leave western Canada will result in severe disruptions to the crude market, with Canadian crude producers facing shut-in and U.S. and Canadian refiners scrambling to locate alternative crude supplies. However, the ability of the Lakehead System to respond effectively to a pipeline outage elsewhere will be significantly improved by the presence of the Extension Pipeline, because the available space on the alternative routes out of Chicago[5] (via Spearhead South and Line 6B) is less than the Extension Pipeline capacity. Moreover, the Extension Pipeline also provides shippers with improved operational security because the temporary loss of Lakehead's Line 5, 6B or Spearhead South can be effectively mitigated via the Extension Pipeline.

35. The Extension Pipeline, in certain situations, can also provide the upstream shippers with security benefits. For example, if the Minnesota Pipeline (which transports crude oil to the Minneapolis-St. Paul area from a connection with the Lakehead System at Clearbrook, Minnesota) incurs a temporary outage of one of its pipelines,[6] the Canadian and U.S. crude that could not reach the area's refineries can be routed to Patoka via the Extension Pipeline. From Patoka, the crude can move via the Capwood System to Wood River, Illinois, and then via the Wood River Pipeline to Minneapolis-St. Paul. The refineries in Chicago, Toledo, Detroit, Ontario, and western Pennsylvania are also potential upstream beneficiaries of the Extension Pipeline. In the event of an outage on either Lakehead's Line 6A or 14, the Extension Pipeline can be used to transport crude to Patoka, and then back up the ChiCap Pipeline to Chicago, thus

[5] Lakehead's Line 5, from Superior to the Sarnia, Ontario area can also be helpful if there is an outage elsewhere; however, Line 5 is limited to light crude service only.

[6] There are multiple crude pipelines in the Minnesota Pipeline right-of-way.

supplying both the Chicago area refineries as well as (via Lakehead's Line 6B) the refineries located in Toledo, Detroit, Ontario, and western Pennsylvania.[7] This latter enhanced system security benefit would be particularly beneficial prior to any expansion of the Spearhead North pipeline.

(5) Reduced surcharge benefit

36. The Affidavit of Mr. Douvris, EPI's Manager, Regulatory Strategy and Compliance, attached as Exhibit 5 to the Joint Petition, illustrates the financial benefits provided to the Lakehead shippers due to the spreading of various volume-dependent rate surcharges over an increased number of barrels. Mr. Douvris calculates that benefit in 2009 to be $3.4 million. It provides a positive benefit in every year thereafter and escalates in 2012 and beyond as the level of incremental barrels attributable to the Extension grows. Douvris Aff. (Exh. 5) at ¶ 16 & Exhibit PD-3. I would note that incremental volumes also reduce the tolls charged on the EPI System in Canada, which benefits shippers on the Lakehead System as well.

Timing of Project

37. The first phase of the Southern Access Program is expected to become operational in the first quarter of 2009. The Southern Access Extension Project, if it proceeds, will also be on the same timeline. A decision as to whether to proceed with constructing the pipeline must be made prior to February 2008, which is when the pipe maker will begin to start rolling pipe for the Project. If there is still uncertainty about the tariff structure, Enbridge may be compelled to divert this pipe to other approved projects and the timing of the Extension will be pushed back, thereby delaying the benefits both to shippers seeking access to Patoka and to upstream shippers.

[7] Refineries in Toledo, Detroit, Ontario, and western Pennsylvania receive their western Canadian heavy crude supply via Lakehead's Line 6B, which connects Chicago with Sarnia. Ontario. The final connection to the refineries is made via various Enbridge and non-Enbridge pipelines.

That timing also coincides with when Enbridge expects the Illinois Commerce Commission to issue its decision with respect to the Project. Therefore, Petitioners are requesting a Commission decision on the Petition for Declaratory Order as soon as possible, but no later than February 1, 2008.

Scope of Ruling Requested

38. Petitioners request that the Commission issue an order providing the following assurances:

1. That the stand alone rates for the Extension Pipeline will be set annually for the term of the Tariff Agreement using the cost of service and throughput parameters set forth in that agreement;

2. That any deficits incurred by EEC as defined in the Tariff Agreement can be recovered through a surcharge added to the Lakehead mainline rates, as set forth in the Tariff Agreement, and that those deficits will appear as costs to Lakehead for purposes of reporting on Page 700 of the EELP Form 6;

3. That any surpluses earned by EEC as defined in the Tariff Agreement will be applied first to repay (with interest) the prior deficits recovered from Lakehead in accordance with the Tariff Agreement (with the surpluses credited to costs on EELP's Page 700) and then used to reduce the Extension Pipeline's stand alone rates;

4. That upon the Extension Pipeline attaining "self-sufficiency" as defined in the Tariff Agreement, no further deficit recovery from Lakehead will occur; and

5. That upon expiration of the Tariff Agreement, subject to the final year adjustments contained in the Agreement, EEC will be free to set its forward-looking rates in accordance with applicable law and policy at that time.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and accurate.

Executed on October 17, 2007.

Wilfred R. Schrage

Exhibit WRS-1

Map of Southern Access Project

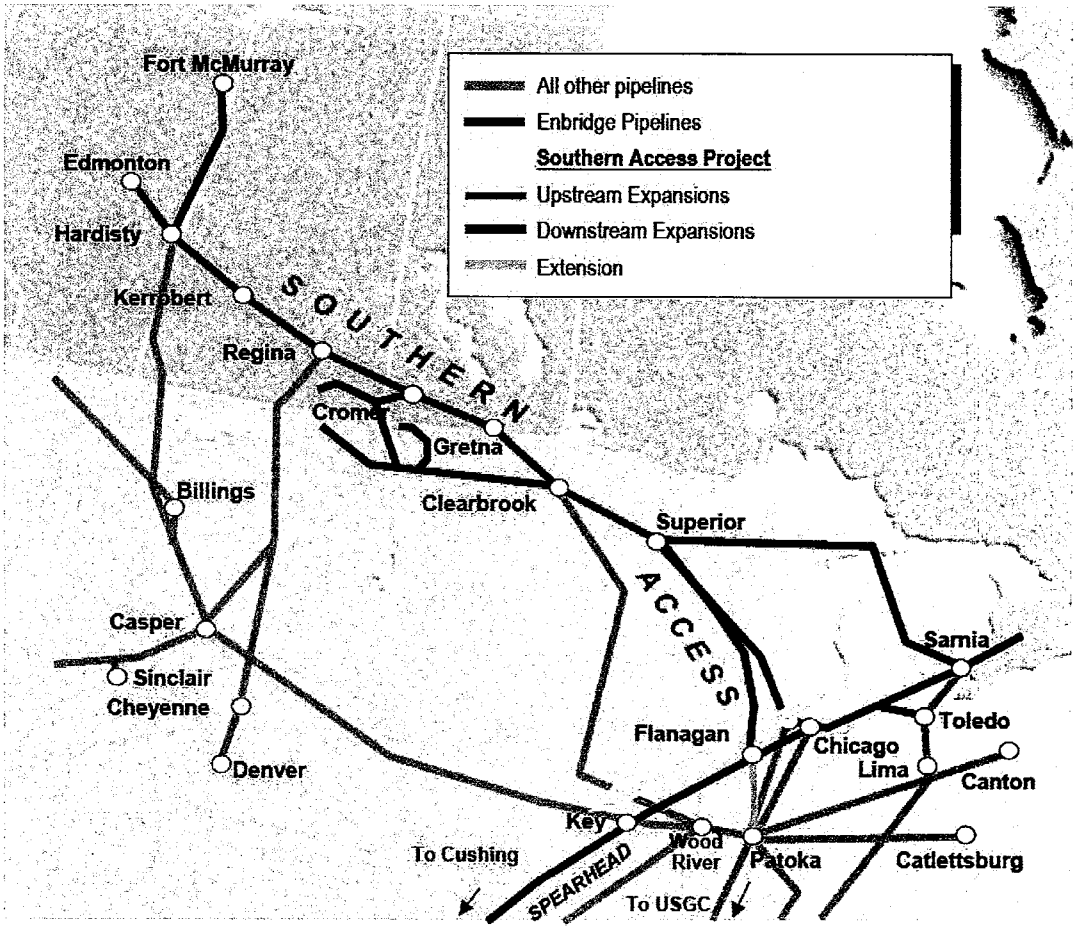

EXHIBIT WRS-2

ENBRIDGE MAINLINE SYSTEM
TRANSIT TIME IMPROVEMENTS WITH EXTENSION
BASE CASE — CAPP PIPELINE PLANNING SCENARIO

(Units as Noted)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Enbridge Mainline System Throughput, Mb/d																
To Clearbrook																
Light	801	757	751	843	1,067	1,051	1,007	1,066	1,137	1,173	1,185	1,172	1,172	1,172	1,172	1,172
Heavy	1,034	1,032	1,120	1,249	1,388	1,399	1,412	1,513	1,517	1,488	1,483	1,498	1,498	1,498	1,498	1,498
To Superior																
Light	826	828	822	913	1,136	1,120	1,112	1,170	1,240	1,271	1,278	1,260	1,260	1,260	1,260	1,260
Heavy	769	768	854	983	1,120	1,130	1,107	1,207	1,211	1,181	1,174	1,189	1,189	1,189	1,189	1,189
To Chicago																
Light	548	490	444	535	759	741	738	712	786	816	822	807	807	807	807	807
Heavy	760	754	845	974	1,111	1,121	1,098	1,198	1,198	1,168	1,162	1,177	1,177	1,177	1,177	1,177
Southern Access Extension Throughput, Mb/d																
Light	109	92	-	114	259	277	281	347	416	471	490	491	491	491	491	491
Heavy	27	-	98	157	370	342	303	410	384	329	310	309	309	309	309	309
Enbridge Mainline System Throughput less Southern Access Extension, Mb/d																
To Clearbrook																
Light	691	665	751	729	808	774	726	718	720	702	695	681	681	681	681	681
Heavy	1,006	1,032	1,021	1,092	1,018	1,057	1,109	1,103	1,133	1,159	1,172	1,190	1,190	1,190	1,190	1,190
To Superior																
Light	717	736	822	799	877	843	830	822	824	800	788	769	769	769	769	769
Heavy	742	768	756	825	750	788	804	796	827	851	864	881	881	881	881	881
To Chicago																
Light	439	398	444	421	500	464	457	365	370	345	333	316	316	316	316	316
Heavy	733	754	746	816	741	779	795	787	815	839	852	868	868	868	868	868
Enbridge Mainline System Transit Time Improvement, Days																
Hardisty To Clearbrook																
Light	0.7	2.6	(1.8)	1.2	4.1	3.8	4.1	4.2	4.5	5.2	5.4	5.2	5.2	5.2	5.2	5.2
Heavy	(0.1)	(0.8)	1.1	1.5	2.5	2.6	2.3	2.2	2.3	1.9	1.8	1.8	1.8	1.8	1.8	1.8
Clearbrook To Superior																
Light	0.1	0.3	(0.2)	0.2	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Heavy	(0.2)	(0.2)	0.2	0.3	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Superior To Chicago																
Light	0.6	0.1	0.1	0.8	1.7	1.7	1.8	2.1	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Heavy	0.6	0.1	0.1	0.8	1.7	1.7	1.8	2.1	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6

Exhibit WRS-3

Southern Access Extension Analysis
Batch Pigging Cost Savings For Line 61 With the Extension

Year	Double Batch Pigging Cost Savings With Extension US$MM/yr	Single Batch Pigging Cost Savings With Extension US$MM/yr
2009*	-$0.8	-$1.6
2010	-$0.2	$0.0
2011	-$0.1	$0.0
2012	$3.7	$8.3
2013	$4.1	$7.2
2014	$3.6	$7.2
2015	$3.5	$7.2
2016	$3.7	$8.3
2017	$3.9	$8.3
2018	$3.9	$8.3
2019	$3.9	$8.3
2020	$3.9	$8.3
2021	$3.9	$8.3
2022	$3.9	$8.3
2023	$3.9	$8.3
2024**	$1.0	$2.1

* 9 months
** 3 months

Exhibit WRS - 4

Southern Access Extension Analysis
Analysis of Light Crude Quality Improvement

Scenario 1 Description

Southern Access Extension is built, but quality optimization associated with second line in Chicago to Patoka corridor is ignored.
70,000 bpd of synthetic sweet crude moved to Patoka.
Transport path is Line 61 Superior to Flanagan and Extension from Flanagan to Patoka.
Line 61 - double batch pigging operation of 500,000 bpd. Light of 140,000 bpd, heavy of 340,000 bpd.
Southern Access Extension - start-stop operation. Double batch pigging operation at flow of 270,000 bpd. Light of 140,000 bpd, heavy of 130,000 bpd.

Scenario 2 Description

Southern Access Extension is built, and quality optimization associated with second line in Chicago to Patoka corridor is allowed.
70,000 bpd of synthetic sweet crude moved to Patoka.
Transport path is Line 14 Superior to Chicago and Mustang from Chicago to Patoka.
Line 14 - all light service, operating at 355,000 bpd.
Mustang - all light service, operating at 140,000 bpd.

Property Changes - Scenario 2 vs Scenario 1

Scenario 1 Property Change to Synthetic Crude

Sulphur	0.17%
Density	+5 kg/m3

Scenario 2 Property Change to Synthetic Crude

Sulphur	0.04%
Density	0 kg/m3

Net change (decrease) in sulphur Scenario 2 vs Scenario 1

0.17% - 0.04% = 0.13%

Net change (decrease) in density Scenario 2 vs Scenario 1

5 kg/m3 - 0 kg/m3 = 5.0 kg/m3

Exhibit WRS - 4

Southern Access Extension Analysis
Analysis of Light Crude Quality Improvement

Annual Financial Impact

1. Sulphur

EQ sulphur scale for sweet crude for Aug. 2007 to Jan. 2008 period
(as per CAPP website) is $Cdn 2.45/m3 per 0.1% sulphur.

70,000 bbl/day / 6.29 barrels/m3 x $Cdn 2.45/m3 x (0.13/0.1) x 365 days/yr x 0.85 $US/$Cdn = $US 11 MM/yr

2. Density

EQ density scale for sweet crude for Aug. 2007 to Jan. 2008 period
(as per CAPP website) is $Cdn 0.59/m3 per kg/m3.

70,000 bbl/day / 6.29 barrels/m3 x 0.59 $Cdn/m3 x 5.0 kg/m3 x 365 days/yr x 0.85 $US/$Cdn = $US 10 MM/yr

3. Total Financial Impact

$11 million + $ 10 million = $ 21 million

Exhibit 4

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Enbridge Energy Company, Inc.	)	
	)	**Docket No. OR08-___**
Enbridge Energy, Limited Partnership	)	

Affidavit of Neil K. Earnest in Support of
Joint Petition for Declaratory Order

Neil K. Earnest, being first duly sworn, states as follows:

1. I am a Vice President and Director at Muse, Stancil & Co. (Muse), and have been with the company since 1991. My business address is 15455 N. Dallas Parkway, Suite 200, Addison, Texas. Muse is a global consulting firm specializing in the downstream energy industry. As Vice President, I am responsible for Muse's Mergers and Acquisitions practice area, and have led numerous consulting engagements for Canadian crude producers, pipeline companies, and U.S. refiners that focused on the Canadian crude markets. I have previously provided testimony before the National Energy Board, matters before Texas state courts, and private arbitration proceedings. A more complete listing of my experience is attached as Exhibit NKE-1.

2. I understand that Enbridge Energy Company, Inc. ("EEC") and Enbridge Energy, Limited Partnership ("EELP") (collectively "Petitioners") are filing a Joint Petition for a declaratory order with respect to the planned Southern Access Extension Pipeline, which will provide new crude oil transportation service from Flanagan, Illinois, to the crude market hub at Patoka, Illinois. In connection with the Joint Petition, Muse has been engaged by Enbridge to analyze three aspects of the proposed Southern Access Extension Pipeline: (1) the utilization of

the Southern Access Extension over the initial 15-year period that it will be in service; (2) the utilization of the upstream Mainline System[1] over the same period with and without the Southern Access Extension; and (3) the nature and value of benefits resulting from reduced transit time that are likely to accrue to Mainline shippers as the result of the Southern Access Extension being in service.

3. In order to quantifiably evaluate the first two aspects, Muse's Crude Market Optimization Model has been used. This model has been developed by Muse for use in a wide variety of commercial applications, including detailed forecasts of Western Canadian crude prices, assessment of likely Western Canadian crude consumers, and pipeline utilization studies. Using crude oil supply data from the most recent public forecast developed by the Canadian Association of Petroleum Producers ("CAPP"), the Crude Market Optimization Model predicts the flow of crude oil to particular markets and the pipeline utilization likely to result from such flows. As described below, the overall conclusions of the analyses using this model are: (1) that Southern Access Extension will start with throughput of approximately 100,000 barrels per day ("bpd") for the first several years, with throughput rapidly growing to the initial capacity of the Extension (400,000 bpd) by about 2013, and then further growing to its ultimate capacity of 800,000 bpd; and (2) that the Extension Pipeline will begin contributing incremental throughput to the Mainline System as of 2009, and that the level of incremental Mainline System throughput will grow to over 600,000 bpd by 2017. In addition, the transit time benefit to Mainline shippers resulting from these incremental throughputs is calculated to total $295 million over the initial 15-year period.

[1] The Mainline System is the combination of the Canadian and U.S. pipelines owned directly or indirectly by Enbridge that extend from Edmonton, Alberta, to Ontario and upstate New York.

4. This affidavit is organized as follows. First, the Crude Market Optimization Model that is used to conduct the principal analyses is described in detail. It should be emphasized that this model was not created for this engagement, but is an analytical tool that Muse frequently uses to advise such clients as crude producers, pipeline companies, and refiners across North America. Second, the key inputs and assumptions used in the evaluation are described. Third, the analytical output of the Crude Market Optimization Model is reviewed, and, notably, the influence of two key assumptions is tested by varying these assumptions to assess the range of potential outcomes. Finally, the benefits to Mainline shippers due to reduced transit time arising from the construction of the Southern Access Extension are described and quantified.

Crude Market Optimization Model

5. Muse's Crude Market Optimization Model is the analytical tool used to determine the throughput of the Southern Access Extension over the first 15 years of its life. This model was initially built by Muse in 2002 and has been further enhanced over the years to more fully address specific client requests and issues. Muse has used the model for a number of client engagements. The model uses linear programming techniques to allocate all Western Canadian and inland domestic U.S. crude production supply among U.S., Canadian, and Northeast Asian refineries, within the confines of existing and expected pipeline and refinery capacity constraints, while maximizing the Western Canadian crude netback price at Edmonton.[2] In other words, the model attempts to mirror the crude distribution pattern that would ensue in an efficiently

[2] The netback price is the price that a specific grade of crude is sold for at its price parity point, less the transportation cost between Edmonton and the parity point. The parity point can, and does, differ between crude grades (heavy sour, sweet synthetic, etc.).

operating marketplace. The model is not seeking to maximize the throughput of the Southern Access Extension, or any other pipeline.

6. The inputs to the model include: (1) the supply of Western Canadian and inland U.S. crude, by individual crude grade (heavy sour, sweet synthetic, etc.); (2) the pipeline capacity of each pipeline (by segment, where necessary); (3) where applicable, pipeline minimum volume commitments; (4) the pipeline tariff rate or other transportation costs (*e.g.,* tanker costs); (5) the crude capacity of each refinery as well as refinery specific constraints; and (6) the refining value of the crude grades at each refinery, expressed as a function of crude throughput. Once the variables are input into the model, linear programming techniques are used to maximize the desired outcome, in this case the aggregate Edmonton netback crude price, while simultaneously satisfying all of the constraints imposed upon the solution. Linear programming methods are commonly employed by businesses to seek optimal solutions to problems that cannot be solved directly. For example, airlines use linear programming models to optimize their flight schedules.

Crude Supply

7. The volume of projected crude oil production from Western Canada is a key model input variable. The most recent CAPP report, entitled "Crude Oil Forecast, Markets and Pipeline Expansions" (attached as Exhibit NKE-2), is the basis for the Western Canadian crude supply projection. The CAPP forecast is the most recent one publicly available, and is developed "to provide industry with a long-term outlook of production trends and the types of crude oil that could be available to the market. In addition, the CAPP forecast is used to determine crude oil pipeline capacity requirements to handle the expected growth in western

Canadian crude oil supply."[3] Accordingly, the "Pipeline Planning Case" forecast is the specific source for the 2009 through 2020 Western Canadian crude supply values that are input into the Muse Crude Market Optimization Model.

8. The CAPP report also provides a "Moderate Growth Case" supply outlook that has lower total Western Canadian supply volumes than the Pipeline Planning Case. To explore the implications of a lower Western Canadian supply outlook, the Moderate Growth Case values are also input into the Crude Market Optimization Model as a sensitivity analysis.

9. The Pipeline Planning Case forecasts Western Canadian crude production growing from 2.3 million bpd in 2006 to 2.9 million bpd in 2009 and 5.2 million bpd in 2020. This increase is largely due to a rise in the oil sands production from 1.1 million bpd to 4.4 million bpd in the same period. The final year offered in the CAPP forecast is 2020. As the initial 15-year term for Southern Access Extension ends in 2024, the volumes for 2021 through 2024 are extrapolated from the CAPP forecast by using the 2019-2020 growth rate. The CAPP forecast also provides a further breakdown of the total supply volume into the categories of: conventional light and medium; conventional heavy; light synthetic; DilBit blend (a mix of condensate and bitumen) and synthetic heavy; and SynBit (a mix of synthetic and bitumen).

10. The Williston Basin, generally located in eastern Montana and much of North Dakota, is a growing crude supply source for the United States. Current production in the basin is about 200,000 bpd, with increases of up to 50,000 bpd forecast over the next several years. One of the primary routes out of the basin is via the Enbridge North Dakota Pipeline, which runs from western North Dakota to Clearbrook, Minnesota. At Clearbrook, Williston Basin crudes can be injected into the Mainline System, or delivered down the Minnesota Pipeline to the

[3] CAPP Crude Oil Forecast, Markets, and Pipeline Expansions, June 2007, Section 2, "Crude Oil Production and Supply Forecast," 2.1 Introduction.

refineries in the Minneapolis/St. Paul area. Enbridge is currently expanding its North Dakota Pipeline to 110,000 bpd, and is proceeding with another expansion to 155,000 bpd, subject to approval of commercial terms. For modeling purposes, the expansion to 155,000 bpd has been assumed to proceed by 2010.

Pipeline Infrastructure

11. Perhaps the most subjective assumptions concern the pipelines: future capacity; volume commitments; and, for new pipelines, whether or not they get built at all, and at what capacity. I have used my business judgment based on years of experience in the downstream energy business, which specifically includes assisting both Canadian crude producers and U.S. refiners interested in Canadian supply, to arrive at a scenario that represents a reasonable Base Case.

12. The Mainline System that is operated by EEC and EELP is the primary transporter of Canadian crude into the United States. A pipeline map of the United States and Canada is attached as Exhibit NKE-3. EELP has begun construction of its Southern Access Expansion Project, which will increase the Mainline capacity from Superior, Wisconsin, to the Chicago, Illinois, area via the construction of a pipeline (designated as "Line 61"). This pipeline will generally parallel the existing Lakehead System as far as Delavan, Wisconsin, and then will continue to Flanagan, Illinois, which is to the southwest of Chicago. Line 61 will have an initial average annual capacity of 400,000 bpd with the potential to expand to 1.2 million bpd.

13. The Spearhead Pipeline, which is owned by CCPS Transportation, LLC, an Enbridge subsidiary, currently transports crude from Chicago via Flanagan to Cushing, Oklahoma. Approval has been requested from the Commission for rate and service terms related to an expansion of Spearhead from 125,000 bpd to 190,000 bpd. Once Line 61 is completed, the