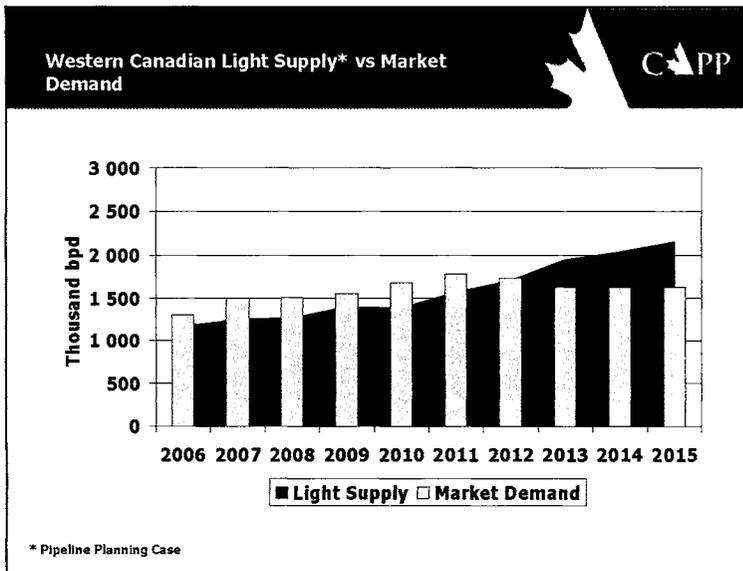
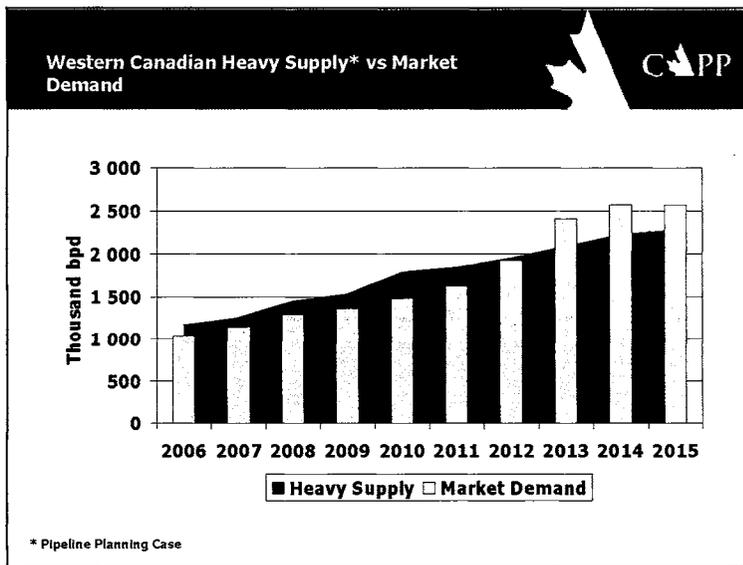


As a result, refinery demand for specific crude types may exceed supply in some instances.

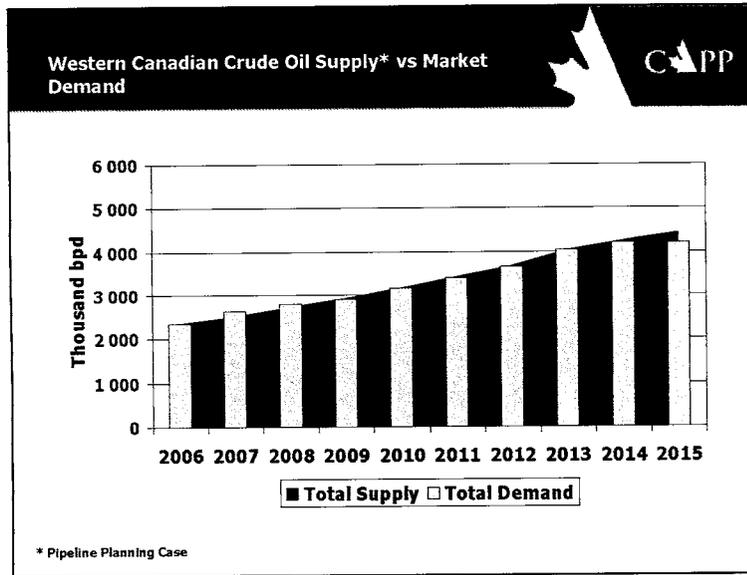
4.1 Light Crude Oil Supply versus Market Demand



4.2 Heavy Crude Oil Supply versus Market Demand



4.3 Western Canadian Crude Oil Supply versus Market Demand



5 CRUDE OIL PIPELINES

5.1 Major Crude Oil Pipelines

As discussed in the Crude Oil Production and Supply section, significant expansion of the oil sands is expected through 2020 while the Oil Markets section illustrates that additional pipeline infrastructure will be required to meet demand. This section will focus on current infrastructure and proposed pipeline expansions to meet growing supply and increased market demand.

Historically, major Canadian crude oil pipelines, with the exception of Express Pipeline and Enbridge Line 9 (Montreal, Québec to Sarnia, Ontario), operated as common carriers. On common carrier pipelines, shippers nominate on a monthly basis for space, without a contract. In the future, some pipelines are proposing contract carriage (i.e. long-term take-or-pay commitments), such as TransCanada Keystone and Enbridge Gateway pipelines, to ensure there is sufficient support for these projects.

5.2 Existing Crude Oil Pipelines

Western Canadian crude oil is delivered to markets through three major Canadian trunklines (see Appendix 7.7).

Enbridge’s mainline originates at Edmonton, Alberta and extends east across the Prairies to the U.S. border near Grenn, Manitoba where it connects to the Lakehead system and delivers crude oil to the U.S. Midwest and to Sarnia, Ontario.

Kinder Morgan’s Trans Mountain pipeline originates in Edmonton and extends across British Columbia to Burnaby, its Westridge dock and Washington State.

Kinder Morgan's Express pipeline originates in Hardisty, Alberta and delivers to locations in PADD IV and connects to the Platte pipeline in Casper, Wyoming for delivery to Wood River, Illinois.

The following chart illustrates the estimated capacity of the major trunklines from western Canada.

Pipeline	Crude Quality/Type	Estimated Capacity b/d
Enbridge	Light	818,000
	Heavy	1,116,000
Express	Light/heavy ratio (50/50)	282,000
Trans Mountain	Light/heavy ratio (80/20)	260,000

5.2.1 Enbridge Pipelines

The Enbridge pipeline system which operates in Canada and the U.S. is the world's longest crude oil pipeline. It can deliver more than 2 million b/d of crude oil and other commodities from western Canada to other markets in western Canada, the U.S. upper Midwest and Ontario. In addition, it connects to various pipelines in the U.S. such as Spearhead and Mustang. It also receives crude oil from U.S. pipelines for deliveries to markets in the U.S. Midwest and Ontario.

At the end of 2005, Enbridge completed its Terrace Phase III expansion adding 130,000 b/d of capacity. In late 2006, Enbridge completed Stage 1A of its Southern Access program adding about 38,000 b/d at Superior, Wisconsin.

5.2.2 Kinder Morgan (Trans Mountain) Pipeline

The Trans Mountain pipeline system originates in Edmonton, Alberta and transports crude oil to the Vancouver area, including its Westridge dock for vessel loadings, and to refineries in Washington. The system also ships refined petroleum products from the Edmonton refineries to Kamloops and Vancouver.

The capacity of the pipeline varies depending on the amount of heavy crude oil transported; however, it can currently transport about 260,000 b/d under typical conditions. In April 2007, it completed the Pump Station Expansion (PSE) which added about 35,000 b/d of capacity. The PSE was designed to increase heavy crude oil capabilities from 10 percent to 20 percent.

5.2.3 Kinder Morgan Express-Platte Pipelines

The Express pipeline ships light, medium and heavy crude oil from Hardisty, Alberta to markets in PADD IV. The Express system was expanded in 2005 from 172,000 b/d to its current capacity of 282,000 b/d. The pipeline is underpinned by contracts totaling 235,000 b/d with the remaining space for spot shippers.

Express is connected to Platte pipeline at Casper, Wyoming which extends to Guernsey, Wyoming and then to Wood River, Illinois. Capacity from Guernsey to Wood River is about 143,000 b/d and because of strong demand, it has been allocating line space since January, 2007.

5.2.4 Enbridge Spearhead

The Spearhead pipeline is connected to the Enbridge Lakehead system at Flanagan, (near Chicago) Illinois and delivers crude oil to Cushing, Oklahoma. The pipeline was reversed in March 2006 with an initial capacity of 125,000 b/d and has the capability to move light and heavy crude oil.

5.2.5 Mustang Pipeline

The Mustang system connects to the Enbridge Lakehead system at Lockport, Illinois and extends to the Patoka, Illinois terminal. It has a heavy crude oil capacity of about 93,000 b/d, and nominations have exceeded capacity since December 2005, and this is expected to continue. Mustang has a committed capacity of 88,000 b/d.

5.2.6 ExxonMobil Pegasus

The Pegasus pipeline was reversed in April, 2006 and runs from Patoka, Illinois to Nederland, Texas providing western Canadian crude oil producers with pipeline access to the U.S. Gulf Coast. The pipeline has a heavy crude oil capacity of 66,000 b/d, of which 50,000 b/d is committed capacity. Nominations have exceeded capacity since March, 2006.

5.3 Crude Oil Supply Transportation Requirements

The demand for western Canadian crude oil by western Canadian refiners is expected to increase modestly by 50,000 b/d to 624,000 b/d from 2007 to 2011. During the same period, western Canadian crude oil supply in the Pipeline Planning Case is forecast to increase from 2.5 million b/d to 3.4 million b/d. This represents an average year-over-year growth rate of almost 230,000 b/d during this period. Since the increase in western Canadian refinery demand will only use 50,000 b/d of this growth, the remaining increased supply will need to be shipped to other markets.

In 2007, the three major trunk pipelines, Express, Trans Mountain and Enbridge will transport about 1.8 million b/d of crude oil (excludes shipments of refined petroleum products on Enbridge and Trans Mountain) which is over 70 percent of total western Canadian crude oil supply. The throughputs on these pipelines have recently been subject to capacity limitations either directly, in the case of Enbridge and Trans Mountain, through apportionment or indirectly due to downstream bottlenecks as is currently the case on Platte pipeline. Though the recent capacity restrictions have been short-lived, western Canadian oil pipelines are reaching the limits their capacity.

Based on recent oil pipeline capacity restrictions and increasing crude oil supply, the need for oil pipeline expansion projects is increasing. The incremental growth in crude oil supply using 2007 as a base year is as follows.

**Incremental Western Canadian Crude Oil Supply to Market
Pipeline Planning Case
(kbpd)**

2007	2011	2015	2020
-	910	1,921	2,740

Approximately 1 million b/d of oil pipeline capacity will need to be in service prior to 2011. As illustrated in section 5.4, almost 1.3 million b/d of oil pipeline capacity from western Canada is scheduled to be in service by July 2010. Although some of this proposed capacity is currently subject to lengthy regulatory proceedings. It generally takes over four years for a new pipeline to be put into service. The need for incremental capacity beyond 2011 is also significant and amounts to greater than 1.9 million b/d by 2015 and over 2.7 million b/d by 2020.

5.4 2007-2010 Crude Oil Pipeline Expansions/Proposals from Western Canada

The following tables illustrate crude oil pipeline expansions from western Canada through to 2010, and crude oil pipeline expansions and proposals by Enbridge downstream of Superior, Wisconsin in the same period. These expansions and proposals are either in the construction phase or in the regulatory process. There are no major expansions from western Canada and downstream of Superior until the first quarter 2008. It is possible that leading up to these expansions in the first quarter 2008 that crude oil pipeline capacity will be tight; in fact, capacity may be apportioned.

By mid-2010, it is expected that an additional 1.3 million b/d of additional oil pipeline capacity will be available from western Canada to the west coast of British Columbia, the U.S. Midwest and Ontario.

Current Oil Pipeline Expansions ex Western Canada			
Pipeline	In Service Date	kbpd	Cumulative kbpd
Enbridge Southern Access 2A	1Q 2008	60	60
Kinder Morgan TMX1 Anchor Loop	November 2008	40	100
Enbridge Light Sour Line	4Q 2008	185	285
Enbridge Southern Access 2B	1Q 2009	85	370
Enbridge Line 4 – Edmonton to Hardisty	March 2009	450	N/A
TransCanada Keystone	4Q 2009	435	805
Enbridge Clipper	July 2010	450	1,255

Enbridge is proposing to add over 1 million b/d of additional capacity downstream of Superior, Wisconsin by the end of 2010.

Current Oil Pipeline Expansions/Proposals by Enbridge Lakehead			
Pipeline	In Service Date	kbpd	Cumulative kbpd
S. Access 1A	3Q 2007	6	6
S. Access 1B	1Q 2008	146	152
S. Access 2	1Q 2009	254	406
Line 5	3Q 2008	50	456
Line 6B	3Q 2010	100-235	556-691
Line 6C	4Q 2010	500	1,056-1,191

5.4.1 Kinder Morgan TMX 1

The second phase of TMX1, Anchor Loop, adds another 40,000 b/d of capacity and the target completion date is November 2008. At that time, capacity will increase to 300,000 b/d with 20 percent heavy crude oil.

5.4.2 Enbridge Southern Access Expansion/Extension

Enbridge is proceeding with the Southern Access expansion program that will add up to 145,000 b/d to its current capacity from Hardisty, Alberta to Superior, Wisconsin by early 2009. The staged program primarily includes modifications and enhancements to existing pump stations.

The program commencing at Superior, Wisconsin includes the construction of a new 42-inch line from Superior along the Lakehead system to Delavan, Wisconsin then to Flanagan, Illinois where it will connect with the Enbridge Spearhead pipeline. The staged expansion has an initial capacity of 400,000 b/d and should be completed by early 2009. Further expansions to 600,000 b/d and 800,000 b/d are possible by the addition of pump stations, and could be in service by early 2011 and early 2012, respectively.

Enbridge is also extending the Southern Access pipeline to Patoka, Illinois from Flanagan, Illinois with a 36-inch line that will have an initial capacity of 400,000 b/d and an in service date of early 2009. The extension will have the capability to expand to 800,000 b/d.

5.4.3 Enbridge Light Sour Line

As part of its Southern Lights project (see 5.8.1), Enbridge is constructing a 20-inch 185,000 b/d light sour crude oil pipeline from Cromer, Manitoba to Clearbrook, Minnesota with an in service date of the fourth quarter 2008.

5.4.4 TransCanada Keystone

The Keystone pipeline, currently subject to regulatory review processes, will run from Hardisty, Alberta to terminals in Wood River and Patoka and is scheduled to be in service in late 2009 with an initial capacity of 435,000 b/d. The pipeline will include both new

construction and the conversion of existing pipe that is currently in natural gas service. In February 2007, it received approval from the National Energy Board (NEB) to transfer a portion its natural gas facilities to crude oil service. The NEB is conducting a public hearing in June 2007 regarding TransCanada's application to construct and operate the Canadian facilities, and for tolls and tariffs.

5.4.5 Enbridge Line 4 Extension

Line 4 currently extends from Hardisty, Alberta to Superior, Wisconsin. Enbridge will extend Line 4 back to Edmonton by connecting currently deactivated 48-inch segments with a new 36-inch pipeline. It will have an initial capacity of 450,000 b/d and an ultimate capacity of 880,000 b/d, and the targeted in service date is March, 2009. This extension back to Edmonton is required for Enbridge Clipper to ensure capacity is available.

5.4.6 Enbridge Clipper

The 36-inch Clipper pipeline is an expansion of Enbridge's existing mainline system and would extend from Hardisty, Alberta to Superior, Wisconsin with a connection to the Minnesota pipeline at Clearbrook, Minnesota. The initial capacity would be 450,000 b/d and could be expanded to 800,000 b/d based on 100 percent heavy crude oil. It is expected to be in service in July, 2010. Enbridge filed its application with the regulatory authorities in May 2007.

5.4.7 Enbridge Line 5 Expansion

Enbridge is considering a 50,000 b/d expansion of Line 5 that extends from Superior, Wisconsin to Sarnia, Ontario by adding pump stations to serve increasing demand by Ontario refineries. It could be in service by third quarter 2008.

5.4.8 Enbridge Line 6B Expansion

Enbridge is exploring various options to expand Line 6B which extends from Chicago to Sarnia. The proposals include adding pump stations which would increase capacity, depending on the number of pump stations added, by 20,000 b/d to 100,000 b/d. If all the pump stations were added the additional capacity on Line 6B would be about 235,000 b/d. The in service date(s) would range from third quarter 2009 to third quarter 2010 depending the option(s).

5.4.9 Enbridge Line 6C

Enbridge is considering a new line from the Griffith/Hartsdale terminal to Stockbridge, Michigan and it would parallel Line 6B. The intent is to supply additional Michigan and Ohio refinery demand. The estimated capacity would be 500,000 b/d with an in service date of late 2010. If needed, the line could be extended to Sarnia, Ontario.

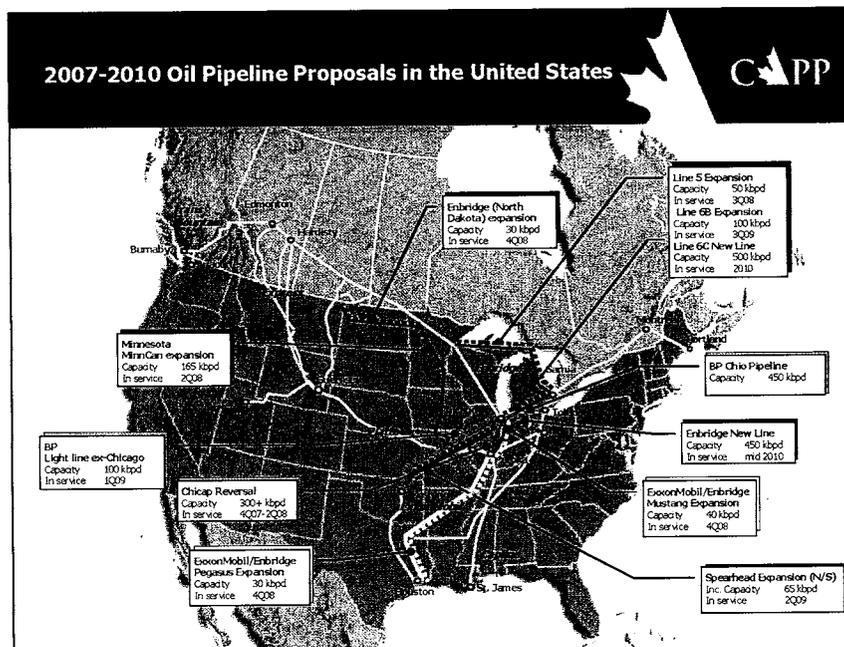
5.4.10 Enbridge Line 14 Extension

Enbridge is reviewing an extension (12 miles) of Line 14 to connect with the Mustang pipeline at Lockport, Illinois to ship light crude oil. The capacity would be about 200,000 b/d and could be in service in 2009.

5.4.11 TransCanada Keystone Heartland Extension

The Keystone pipeline proposal also includes an extension from its Scotford, Alberta terminal to Hardisty. The 600,000 b/d pipeline could be in service in 2009 or 2010.

5.5 2007-2010 Crude Oil Pipeline Proposals in the United States



5.5.1 BP Pipelines (North America)

BP is proposing a redeployment of existing pipeline infrastructure from Chicago, and there are several proposed options. They are: 1) reverse the BP#1 Cushing to Chicago pipeline which provides 100,000 to 200,000 b/d of light crude oil capacity; 2) reverse the Chicap pipeline to allow over 300,000 b/d of light crude oil from Chicago; 3) expand BP#2 from the Griffith/Hartsdale terminals to the BP Whiting, Indiana refinery by 170,000 to 220,000 b/d between late 2007 and mid-2008; and/or 4) construct a 450,000 b/d pipeline from the Lakehead system at Chicago to the Toledo, Ohio refineries.

5.5.2 Minnesota Pipeline

Minnesota Pipeline, operated by Koch Pipeline Company, is constructing the MinnCan project. The expansion consists of a new 165,000 b/d pipeline extending from Clearbrook, Minnesota to the Flint Hills and Marathon refineries near Minneapolis/St. Paul, Minnesota. It is scheduled to be in service in the second quarter 2008. Current capacity of the Minnesota pipeline is about 300,000 b/d.

5.5.3 Enbridge North Dakota

The North Dakota pipeline connects to the Enbridge Lakehead pipeline at Clearbrook, Minnesota, and provides producers in Montana and North Dakota with access to markets in PADD II. Increased production in these areas has resulted in a need for additional pipeline capacity and, as a result, Enbridge will add 30,000 b/d of capacity to the North Dakota system later this year, and possibly another 30,000 b/d in late 2008.

5.5.4 ExxonMobil Pipeline

ExxonMobil is proposing expansions on its Mustang and Pegasus pipelines. The Mustang expansion would provide an additional 40,000 b/d of capacity from Lockport, Illinois to Patoka while the Pegasus expansion would increase capacity by 30,000 b/d from Patoka to Nederland, Texas with a start up in late 2008 for both proposals.

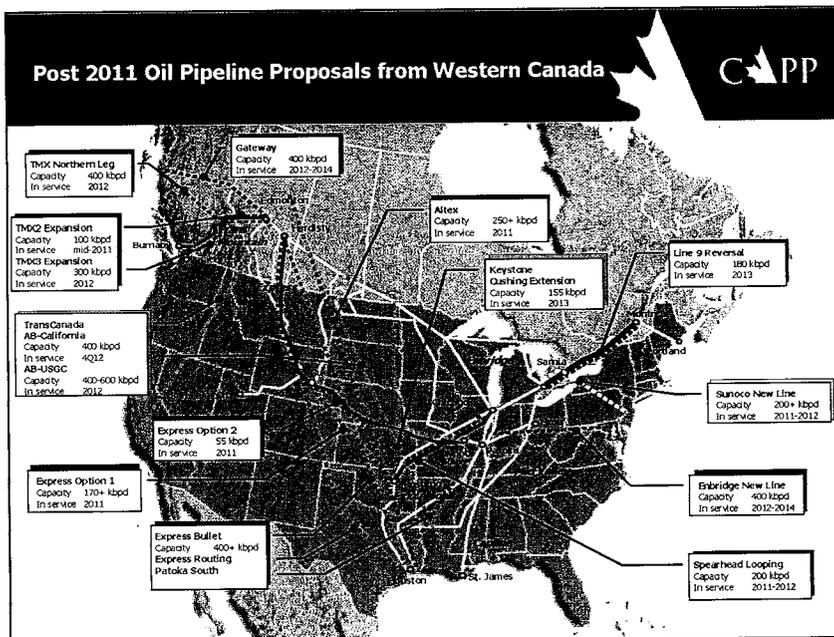
5.5.5 Enbridge Spearhead

Enbridge recently announced the successful completion of an open season. As a result, Enbridge will increase the capacity by 65,000 b/d to 190,000 b/d, with a completion date of early 2009. Of the 65,000 b/d increase, 30,000 b/d is for committed shippers.

5.5.6 Enbridge Chicago to Lima

Enbridge is considering a 30-inch greenfield pipeline from Chicago to Lima, Ohio. The 450,000 b/d pipeline could be in service in mid-2010.

5.6 Post 2011 Crude Oil Pipeline Proposals from Western Canada



5.6.1 Altex Energy Ltd.

Altex is proposing a direct heavy crude oil pipeline from either Fort McMurray or Hardisty, Alberta to Port Arthur, Texas with an initial capacity of 250,000 b/d. It would be a contract carrier with some capacity for spot shippers, and could be in service in 2011. Altex will use proprietary technology that will eliminate the need for condensate.

5.6.2 Enbridge Gateway

The Gateway project includes the construction of a new 30-inch pipeline from Edmonton, Alberta to a deep water port at Kitimat, British Columbia and is being designed to provide over 400,000 b/d of crude oil export capacity. Crude oil would be loaded on tankers for delivery to PADD V or the Far East. Enbridge is anticipating an in service date between 2012 and 2014.

5.6.3 Kinder Morgan Trans Mountain TMX 2 and TMX 3

TMX 2 is a proposed new 30 and 36-inch line from Edmonton to Kamloops to provide an incremental 100,000 b/d with an in service date of mid-2011, and is dependant on market support. TMX 3 is a 30-inch pipeline from Kamloops, British Columbia to Sumas and would add 300,000 b/d resulting in a total capacity of 600,000 b/d by 2012. These expansions would provide additional access to Burnaby, Washington State and other markets served by oil tankers which load at its Westridge dock.

TMX Northern Leg is a proposed 30-inch 400,000 b/d pipeline extending from its existing system near Rearguard, British Columbia to a deep water port facility at Kitimat, British Columbia that could accommodate Very Large Crude Carriers (VLCC). Depending on industry support, the pipeline could be in service by early 2012. This option allows shippers to ship on either the north or south line.

5.6.4 Kinder Morgan Express/Platte Pipeline Systems

Kinder Morgan has two expansion options. Option 1 includes a new 24-inch pipeline from Hardisty to Casper, Wyoming with an initial capacity of 170,000 b/d expandable to 330,000 b/d. It would also include an extension to Cushing, Oklahoma with an initial capacity of 100,000 b/d with the capability to expand up to 200,000 b/d. Option 2 consists of a partial looping of Express pipeline which would add 55,000 b/d of capacity and a 14,000 b/d capacity increase to the Platte pipeline. The proposed in service date for both options is 2011.

5.6.5 Kinder Morgan United States Gulf Coast (USGC)

Kinder Morgan is also considering three possible routes to the USGC. They include a bullet line from Hardisty to the USGC; an extension of Express pipeline to the USGC; and a line from Patoka to the USGC.

5.6.6 TransCanada California

TransCanada is conducting a feasibility study to ship up to 400,000 b/d of western Canadian crude oil by pipeline to California. The target completion date is fourth quarter 2012.

5.6.7 Enbridge Montreal-to-Sarnia (Line 9) Reversal

As discussed in the Markets section, Enbridge forecasted in its application to the National Energy Board in April 2007 for tolls and tariffs that it expects a steady decline in throughput on Line 9 to 2012. It subsequently expects no throughput on Line 9 beyond 2013. Therefore, if market demand exists there is a potential that this line could be reversed to serve the Montreal refineries of Petro-Canada and Shell Canada.

5.6.8 Enbridge Eastern PADD I Access

Enbridge is conceptually considering a light crude oil pipeline from Chicago, Patoka or Toledo to refineries in New Jersey and Philadelphia. The pipeline, with a capacity of up to 400,000 b/d, would require an industry decision by 2007 to be in operation in the 2012-2014 timeframe.

5.6.9 Sunoco Pipeline

Similar to Enbridge, Sunoco is considering a light crude oil pipeline to refineries in eastern PADD I, including its Marcus Hook, Pennsylvania refinery in the 2011-2012 timeframe. The initial capacity would be about 200,000 b/d.

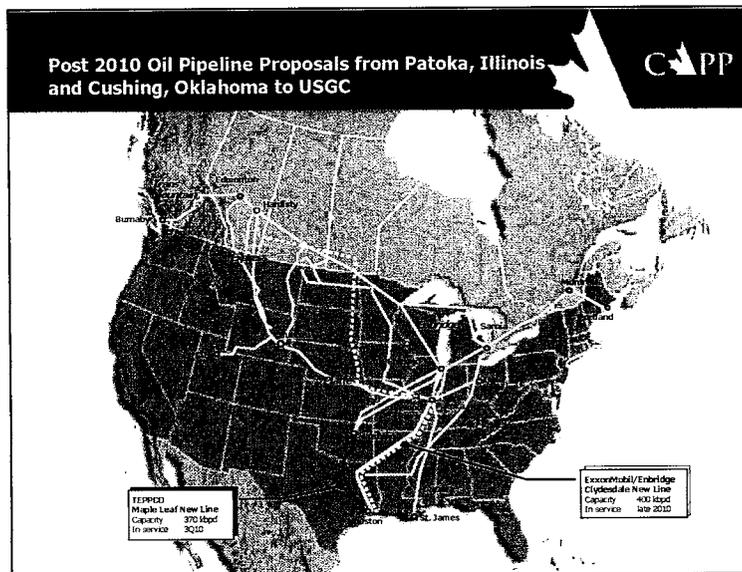
5.6.10 Enbridge Spearhead Looping

Enbridge has indicated that if shipper support exists, it could loop the Spearhead pipeline with 200,000 b/d of capacity that could be in service in about 2011 or 2012.

5.6.11 TransCanada Keystone Cushing Extension

Keystone pipeline, which would extend from Hardisty to Wood River/Patoka, is proposing an extension to Cushing, Oklahoma. With shipper support, it would have an ultimate capacity of 590,000 b/d.

5.7 Post 2010 Crude Oil Pipeline Proposals from Patoka, Illinois and Cushing, Oklahoma to the USGC



5.7.1 ExxonMobil Pipeline – Enbridge Pipelines Joint Initiative

ExxonMobil and Enbridge are jointly developing a project from Patoka to the Beaumont and Houston, Texas areas. The proposed Clydesdale pipeline would be a new 30 or 36-inch heavy crude oil pipeline from Patoka to Beaumont, and then a 24-inch line to Houston with a capacity of 400,000 b/d and a start-up in late 2010. Depending on the size of the pipeline it could expand to either 600,000 b/d or 800,000 b/d.

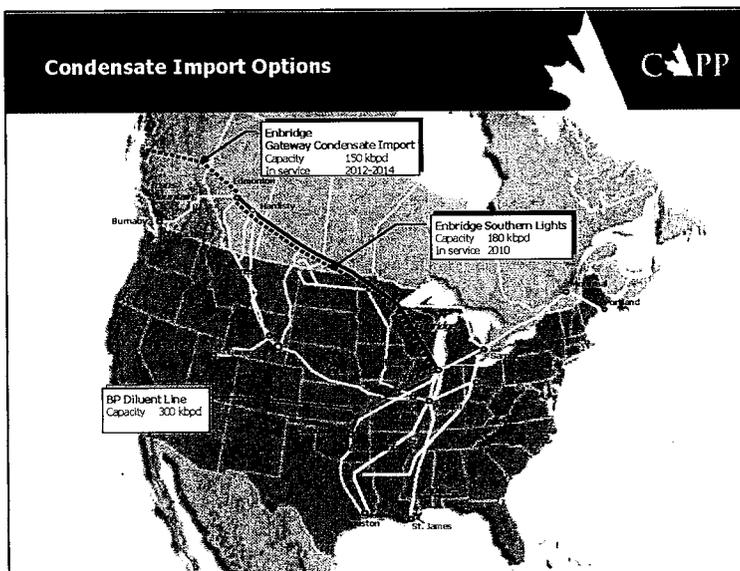
5.7.2 TEPPCO

TEPPCO is proposing to build a new 36-inch line from its Cushing terminal to refineries from western Louisiana to Texas City, Texas. The initial capacity would be 370,000 b/d expandable to about 800,000 b/d. It is seeking non-binding commitments and, if successful, the pipeline would be in service by third quarter, 2010.

5.7.3 TransCanada Gulf Coast

TransCanada is working on three alternatives to deliver between 400,000 b/d and 600,000 b/d to the Gulf Coast from Cushing, Oklahoma. It is seeking expressions of interest in 2007 and depending on the results it will conduct an open season in the first quarter 2008 with a target completion date of the fourth quarter 2012.

5.8 Diluent Pipeline Proposals



5.8.1 Enbridge Southern Lights

Enbridge applied to the National Energy Board in March, 2007 for approval of its Southern Lights project. The project was initiated by Enbridge in response to demand for additional diluent supply in western Canada from sources in the U.S. Midwest. The project includes: a new 16-inch diluent line from Flanagan, Illinois (near Chicago) to Clearbrook, Minnesota; the reversal of Line 13 from Clearbrook to Edmonton, Alberta to ship diluent; a capacity replacement project to expand its mainline capacity by modifying pump units on Line 2; and constructing a 20-inch 185,000 b/d light sour crude oil pipeline from Cromer, Manitoba to Clearbrook in the fourth quarter 2008.

The result of these changes would increase the light crude oil system capacity by 45,000 b/d from Edmonton to the U.S. Midwest. The capacity of the proposed diluent import line is 180,000 b/d, of which 77,000 b/d is for committed shippers. It will coincide with expansions of the Enbridge mainline system (i.e. Southern Access and Alberta Clipper) in order that crude oil capacity is unaffected. The project is expected to be in service by June 2010.

5.8.2 Enbridge Gateway Diluent

As part of its Gateway crude oil export project, Enbridge is proposing a 150,000 b/d diluent import pipeline that would extend from Kitimat, British Columbia to Edmonton, Alberta. It would supply diluent to western Canadian heavy crude oil producers. The in service date will coincide with the export pipeline – between 2012 and 2014.

5.8.3 BP Pipelines (North America)

BP is considering options to move diluent into the Chicago area. They include the conversion of the Cushing to Chicago pipeline or the Chicap/Capline into a diluent line.

Both of these options would take diluent to the Chicago area where the Enbridge Southern Lights pipeline would ship it to Hardisty and Edmonton.

6 CONCLUSIONS

CAPP's western Canadian crude oil supply forecast in the Pipeline Planning Case is slightly below last year's in the early years, but higher later in the period. The CAPP refinery survey indicates that the crude oil supply outlook is aligned with refinery demand for western Canadian crude oil. There is, however, potential for expansions into new markets such as Québec, eastern PADD I, southern and eastern PADD II, PADD III, California and Asia.

By 2011, western Canadian crude oil supply rises by almost 1 million b/d in the Pipeline Planning Case, and in the same year, it is expected that almost 1.3 million b/d of additional crude oil pipeline capacity will be available from western Canada. These crude oil pipeline expansions will provide additional access to the core markets (e.g. Ontario, PADD II).

Looking out past 2011, there are numerous crude oil pipeline proposals from western Canada to the U.S. Midwest, the United States Gulf Coast, the west coast of British Columbia and to eastern PADD I. In light of the expected growth in oil sands supply after 2011, industry will need to decide in the near future on the various crude oil pipeline options. The lead time to receive regulatory approvals and construct a new crude oil pipeline is at least four years.

7 APPENDICES

7.1 CAPP Canadian Crude Oil Production Forecast 2007 - 2020

Pipeline Planning Case

	Thousand barrels per day						Forecast													
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CONVENTIONAL																				
Light & Medium																				
Alberta	481	438	414	389	374	360	346	332	319	306	294	282	271	260	249	239	230	221	212	203
B.C.	43	42	37	35	30	29	28	28	27	27	26	26	25	24	23	22	21	21	20	19
Saskatchewan	143	139	138	137	141	145	146	147	146	144	143	140	136	130	125	120	115	111	106	102
Manitoba	11	11	11	11	14	19	19	19	19	19	18	18	18	17	16	16	15	15	14	14
N.W.T.	25	24	22	21	19	19	18	17	16	15	15	14	14	13	13	12	12	11	11	11
Total Conv. Light and Medium	704	653	622	593	577	572	557	543	527	511	496	480	463	445	428	411	394	379	364	349
Heavy																				
Alberta Conv. Heavy	240	222	216	211	197	183	176	169	162	155	149	143	138	132	127	122	117	112	108	103
Saskatchewan Conv. Heavy ¹	283	282	282	286	278	284	285	286	285	283	282	279	276	271	265	257	247	237	228	218
Total Conventional Heavy	523	504	498	497	476	467	461	455	446	439	431	422	414	403	392	379	364	349	335	322
TOTAL CONVENTIONAL	1 226	1 157	1 120	1 089	1 053	1 039	1 018	998	973	950	927	903	877	848	820	790	758	728	699	671
PENTANES/CONDENSATE	186	163	164	162	160	166	165	164	164	163	162	161	160	159	159	158	157	156	156	155
OIL SANDS																				
Oil Sands Mining	349	441	514	608	552	634	730	819	902	932	1 003	1 117	1 354	1 531	1 666	1 832	2 056	2 152	2 276	2 397
Oil Sands In-Situ	310	303	349	386	438	499	562	702	856	1 077	1 225	1 384	1 546	1 624	1 706	1 772	1 818	1 869	1 929	1 963
TOTAL OIL SANDS	659	744	863	994	991	1 133	1 292	1 521	1 759	2 009	2 227	2 501	2 900	3 155	3 372	3 604	3 874	4 021	4 205	4 359
WESTERN CANADA OIL PRODUCTION	2 071	2 065	2 147	2 245	2 204	2 338	2 474	2 683	2 895	3 122	3 316	3 565	3 937	4 162	4 350	4 552	4 790	4 905	5 060	5 185
EASTERN CANADA OIL PRODUCTION	149	286	337	314	305	305	375	365	335	310	285	270	250	235	220	205	190	175	165	150
TOTAL CANADIAN OIL PRODUCTION	2 220	2 350	2 484	2 560	2 509	2 643	2 849	3 048	3 230	3 432	3 601	3 835	4 187	4 397	4 570	4 757	4 980	5 080	5 225	5 335

Notes:

1. Statistics Canada reports Saskatchewan Area III Medium as heavy crude. CAPP reallocates this to the Light & Medium Category. Reserves data shows about 17% of Area III is > 900 kg/m3

June 2007

7.2 CAPP Canadian Crude Oil Production Forecast 2007 - 2020

Moderate Growth Case

	Thousand barrels per day			Actuals		Forecast															
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
CONVENTIONAL																					
Light & Medium																					
Alberta	481	438	414	389	374	360	346	332	319	306	294	282	271	260	249	239	230	221	212	203	
B.C.	43	42	37	35	30	29	28	28	27	27	26	26	25	24	23	22	21	21	20	19	
Saskatchewan	143	139	138	137	141	145	146	147	146	144	143	140	136	130	125	120	115	111	106	102	
Manitoba	11	11	11	11	14	19	19	19	19	19	18	18	18	17	17	16	16	15	15	14	
N.W.T.	25	24	22	21	19	19	18	18	17	16	15	15	14	14	13	13	12	12	11	11	
Total Conv. Light and Medium	704	653	622	593	577	572	557	543	527	511	496	480	463	445	428	411	394	379	364	349	
Heavy																					
Alberta Conv. Heavy	240	222	216	211	197	183	176	169	162	155	149	143	138	132	127	122	117	112	108	103	
Saskatchewan Conv. Heavy ¹	283	282	282	286	278	284	285	286	285	283	282	279	276	271	265	257	247	237	228	218	
Total Conventional Heavy	523	504	498	497	476	467	461	455	446	439	431	422	414	403	392	379	364	349	335	322	
TOTAL CONVENTIONAL	1 226	1 157	1 120	1 089	1 053	1 039	1 018	998	973	950	927	903	877	848	820	790	758	728	699	671	
PENTANES/CONDENSATE	186	163	164	162	160	166	165	164	164	163	162	161	160	159	159	158	157	156	156	155	
OIL SANDS																					
Oil Sands Mining	349	441	514	608	552	634	730	819	902	932	1 003	1 102	1 187	1 395	1 534	1 671	1 780	1 966	2 016	2 148	
Oil Sands In-Situ	310	303	349	386	438	499	551	669	792	909	1 023	1 172	1 280	1 367	1 420	1 476	1 506	1 529	1 572	1 616	
TOTAL OIL SANDS	659	744	863	994	991	1 133	1 281	1 489	1 694	1 841	2 026	2 274	2 466	2 762	2 954	3 146	3 286	3 494	3 589	3 765	
WESTERN CANADA OIL PRODUCTION	2 071	2 065	2 147	2 245	2 204	2 338	2 464	2 651	2 831	2 954	3 115	3 338	3 503	3 769	3 933	4 094	4 201	4 379	4 443	4 591	
EASTERN CANADA OIL PRODUCTION	149	286	337	314	305	305	375	365	335	310	285	270	250	235	220	205	190	175	165	150	
TOTAL CANADIAN OIL PRODUCTION	2 220	2 350	2 484	2 560	2 509	2 643	2 839	3 016	3 166	3 264	3 400	3 608	3 753	4 004	4 153	4 299	4 391	4 554	4 608	4 741	

Notes:

1. Statistics Canada reports Saskatchewan Area III Medium as heavy crude. CAPP reallocates this to the Light & Medium Category. Reserves data shows about 17% of Area III is > 900 kg/m³

June 2007

7.3 CAPP Canadian Crude Oil Supply Forecast 2007 - 2020

Pipeline Planning Case

Blended Supply to Trunk Pipelines and Markets

	Thousand barrels per day						Forecast													
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CONVENTIONAL																				
Total Light and Medium	704	653	622	593	567	568	553	539	523	507	492	476	459	441	424	407	390	375	360	345
Net Conventional Heavy to Market	463	443	418	395	379	366	358	351	342	333	324	313	304	291	279	264	246	230	214	198
TOTAL CONVENTIONAL	1 166	1 097	1 041	988	946	934	911	890	865	840	816	790	763	732	702	670	637	605	574	544
NGL Mix	37	37	30	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
OIL SANDS																				
Upgraded Light (Synthetic)	377	465	492	560	495	589	671	706	857	865	1 073	1 229	1 479	1 589	1 727	1 795	2 003	2 073	2 155	2 259
Heavy Equivalent																				
Dil Bit Blend and Synthetic Heavy	435	446	531	587	669	716	784	843	863	915	1 218	1 288	1 408	1 448	1 524	1 595	1 836	1 826	1 842	1 848
Syn-Bit	6	5	7	69	87	90	113	259	324	537	302	349	381	485	474	564	407	486	569	610
Total Heavy Equivalent	441	451	538	656	756	806	897	1 101	1 187	1 452	1 520	1 637	1 788	1 933	1 999	2 159	2 243	2 312	2 410	2 457
TOTAL OIL SANDS AND UPGRADERS	818	917	1 030	1 216	1 251	1 395	1 568	1 807	2 045	2 317	2 592	2 867	3 268	3 522	3 725	3 954	4 247	4 385	4 565	4 716
Total Light Supply	1 118	1 156	1 144	1 175	1 084	1 179	1 246	1 267	1 402	1 395	1 587	1 728	1 960	2 052	2 172	2 223	2 416	2 470	2 537	2 626
Total Heavy Supply	904	895	956	1 051	1 135	1 172	1 256	1 453	1 529	1 784	1 843	1 951	2 092	2 224	2 277	2 423	2 490	2 542	2 624	2 656
WESTERN CANADA OIL SUPPLY	2 021	2 051	2 100	2 226	2 219	2 351	2 502	2 720	2 931	3 179	3 431	3 678	4 052	4 276	4 449	4 646	4 906	5 011	5 161	5 282

June 2007

7.4 CAPP Canadian Crude Oil Supply Forecast 2007 - 2020
Moderate Growth Case
Blended Supply to Trunk Pipelines and Markets

	Thousand barrels per day										Forecast									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CONVENTIONAL																				
Total Light and Medium	704	653	622	593	567	568	553	539	523	507	492	476	459	441	424	407	390	375	360	345
Net Conventional Heavy to Market	463	443	418	395	379	366	358	351	342	333	324	313	304	291	279	264	246	230	214	198
TOTAL CONVENTIONAL	1 166	1 097	1 041	988	946	934	911	890	865	840	816	790	763	732	702	670	637	605	574	544
NGL Mix	37	37	30	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
OIL SANDS																				
Upgraded Light (Synthetic)	377	465	492	560	495	589	674	709	863	879	1 005	1 141	1 229	1 416	1 540	1 623	1 765	1 965	1 995	2 071
Heavy Equivalent																				
Dil Bit Blend and Synthetic Heavy	435	446	531	587	689	716	787	826	839	835	1 094	1 115	1 135	1 218	1 276	1 323	1 340	1 346	1 388	1 470
Syn-Bit	6	5	7	69	87	90	98	234	270	410	270	353	434	449	456	511	480	473	487	493
Total Heavy Equivalent	441	451	538	656	756	806	884	1 061	1 109	1 245	1 365	1 468	1 570	1 667	1 732	1 834	1 820	1 819	1 876	1 963
TOTAL OIL SANDS AND UPGRADERS	818	917	1 030	1 216	1 251	1 395	1 558	1 770	1 972	2 124	2 370	2 609	2 798	3 084	3 272	3 457	3 585	3 784	3 871	4 034
Total Light Supply	1 118	1 156	1 144	1 175	1 084	1 179	1 249	1 270	1 408	1 408	1 519	1 639	1 710	1 880	1 986	2 052	2 178	2 362	2 377	2 439
Total Heavy Supply	904	895	956	1 051	1 135	1 172	1 243	1 412	1 450	1 578	1 688	1 782	1 873	1 958	2 010	2 098	2 066	2 049	2 089	2 161
WESTERN CANADA OIL SUPPLY	2 021	2 051	2 100	2 226	2 219	2 351	2 491	2 682	2 859	2 986	3 208	3 420	3 583	3 838	3 996	4 150	4 244	4 410	4 466	4 600

June 2007

7.5 Historical Production

Thousand Barrels Per Day	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Heavy	1 037	990	930	890	858	848	851	907	886	862	834	799	709	684	654	603	572	543	527	521
Light & Medium	181	201	205	208	227	238	243	282	279	281	280	308	324	320	349	440	432	463	382	496
Synthetic	116	130	129	135	123	127	132	134	149	164	237	282	244	289	309	301	432	581	609	637
Bitumen	3	3	3	3	3	4	5	6	6	6	7	8	9	9	10	10	11	12	13	15
Condensate	108	113	116	114	119	132	145	161	155	169	185	187	186	185	176	153	153	150	147	151
Pentanes	1 640	1 727	1 672	1 664	1 663	1 726	1 799	1 864	1 941	2 004	2 117	2 128	1 999	2 047	2 070	2 061	2 147	2 245	2 204	2 336
Total	1 640	1 727	1 672	1 664	1 663	1 726	1 703	1 864	1 941	2 004	2 117	2 128	1 999	2 047	2 070	2 061	2 147	2 245	2 204	2 336
British Columbia	40	36	38	37	39	41	41	41	42	46	53	57	50	55	55	53	49	47	42	41
Alberta	1 352	1 434	1 366	1 368	1 364	1 410	1 360	1 503	1 532	1 557	1 620	1 632	1 586	1 587	1 550	1 550	1 643	1 741	1 709	1 828
Saskatchewan	206	212	202	212	214	231	258	296	324	361	404	399	374	417	427	422	420	423	419	429
Manitoba	14	13	12	13	12	11	11	11	11	11	11	11	11	10	11	11	11	11	11	19
NWT	28	32	33	34	34	33	33	32	32	30	29	28	28	26	26	25	24	23	20	20
Total	1 640	1 727	1 672	1 664	1 663	1 726	1 703	1 864	1 941	2 004	2 117	2 128	1 999	2 047	2 070	2 061	2 147	2 245	2 204	2 336

Thousand m3 Per Day	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Heavy	31	46	46	50	53	60	67	66	74	83	90	86	84	89	91	88	87	87	84	82
Light & Medium	165	157	148	141	136	135	135	144	141	137	133	127	113	109	104	96	91	86	84	83
Synthetic	29	32	33	33	36	38	39	42	44	45	46	49	51	51	56	70	69	74	61	79
Bitumen	18	21	21	22	19	20	21	21	24	26	38	45	39	46	49	48	69	84	97	101
Condensate	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Pentanes	17	18	18	18	19	21	23	26	25	27	29	30	30	29	28	24	24	24	23	24
Total	261	274	266	264	264	274	286	299	308	318	336	338	318	325	329	328	341	357	350	371
British Columbia	6	6	6	6	6	6	6	6	7	7	8	9	8	9	9	8	8	7	7	6
Alberta	215	228	220	217	217	224	216	239	243	247	257	259	244	244	246	246	261	277	272	290
Saskatchewan	33	34	32	34	34	37	41	47	51	57	64	63	60	66	68	67	67	67	67	68
Manitoba	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
NWT	4	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	3
Total	261	274	266	264	264	274	271	299	308	318	336	338	318	325	329	328	341	357	350	371