



**2011 ITS – Schedule F**

**Reference Temperature Agreement**

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**Statement of Agreement**

BETWEEN ENBRIDGE PIPELINES INC., ENBRIDGE ENERGY LIMITED PARTNERSHIP AND THE CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

**Amendments to the 350 Centistokes Project Cost Recovery Methodology**

**Background**

In 1997, the Canadian Association of Petroleum Producers (CAPP), on behalf of industry, and Enbridge Pipeline Inc. ("Enbridge"), introduced facility changes to the Enbridge system to increase the operating viscosity for heavy crude oil movements. The changes increased the viscosity specification from 250 Centistokes to 350 Centistokes in Enbridge's Crude Oil Tariff Rules and Regulations. [National Energy Board, SEP III Application, 350 Centistokes Project (350C Project)]

Subsequent to the implementation of the System Expansion Program (SEP) III program, the 350C Project related system costs exceeded the original estimated costs. A number of operating conditions, such as reduced western Canadian crude supplies and throughput rates were key factors. The system's reference temperature, set to control the viscosity of crude receipts, was increased. The increase in the reference temperature was a causal factor that corresponded to increased operating costs.

**Summary**

In 2003, CAPP and Enbridge negotiated a cost-sharing settlement for the increased 350C Project costs under the existing Incentive Toll Settlement (ITS) in Canada and under the SEP II or Facilities Surcharge structures in the U.S. The sharing of costs includes both an historical recovery for the period from January 2001 to December 2002 ("Historical Recovery"), and costs ongoing from January 2003 ("On going Recovery") associated with an increase in the reference temperature above 10.7 degrees C as per Table 1 and Table 2 respectively. This settlement includes methods to adjust future costs associated with retaining a reference temperature of 11.9 degrees C, as well as a method to calculate costs for further increases above the 11.9 degree C level as per Attachment A.

**Degradation Costs**

Costs related to increases in the reference temperature are primarily for power and degradation. Power costs have been estimated based on actual experience. Degradation has been estimated using a theoretical model developed by Enbridge. CAPP has not accepted the validity of the degradation estimates, as a result, CAPP and Enbridge have agreed to use a mutually selected third party to develop a degradation study that will provide an independent estimate of degradation costs to confirm/increase/decrease the costs estimated by Enbridge. In the interim, CAPP and Enbridge agree to use 75 percent of the Enbridge estimate for 2001/02 as a proxy for degradation costs, (the "Proxy Costs"). Upon completion of the degradation study, the Proxy Costs back to January 2001 will be reconciled with the results of the study. The reconciliation calculations include carrying costs. Carrying costs in Canada will be calculated using the annual average of the monthly Bank Rates as published by the Bank of Canada for Canada; and, in the U.S. the carrying costs will be calculated using the annual average of the 90 day U.S. Treasury Bill rates over the year.

Should the third party study of degradation costs not be completed by December 31, 2006, then CAPP and Enbridge agree to renegotiate the degradation Proxy Costs estimates. The renegotiated degradation cost estimate will be reconciled back to January 2001.

All operating and capital costs associated with the third party study will be shared 50:50 through the ITS in Canada. If costs occur in Canada, then the costs will be charged to Enbridge and shared with CAPP in a manner consistent with the current Cost Performance sharing mechanism in the 2000-2004 ITS. If Enbridge is below the Threshold Earnings, or if no Cost Performance Sharing exists, (such as in the U.S.), then Enbridge will incur half of the costs and CAPP will support an increase in tolls in the following year to recover the other half of the costs.

### **Settlement**

Estimated costs for the adjustments to the reference temperature are largely derived using the cost estimates presented in Attachment A, which presents Schedule B from a December 10, 2002 letter sent by Kent Cornelius on behalf of Enbridge to CAPP. Portions of these costs form the basis of the negotiated settlement of the Historical Recovery.

The total costs to be recovered for the January 2001 to December 2003, the Historical Recovery, are presented in Table 1. The detailed calculations as input for Table 1 are provided in Tables 1a. Table 1b provides the calculation methodology for degradation costs. CAPP supports the recovery of \$3.77 million in costs, for the January 2001 to December 2002 period, on the Enbridge Pipelines system. Of this amount, \$3.69 million has already been recovered through ITS sharing. The remaining \$0.09 million will be recovered as a charge (including a carrying cost component) to be collected through 2004 tolls. In addition the 2004 tolls will include a cost recovery for 2003 for the amount of \$0.35 million. Total cost recovery in Canada including the carrying charges is \$0.453. CAPP also supports the recovery of US\$2.36 million, for historical 2001-02 costs on Enbridge Lakehead, as part of a surcharge in the 2004 Lakehead tolls. In addition, for the Lakehead 2004 tolls will include a cost recovery for 2003 for an amount of \$4.132 million. Total cost recovery for the U.S. including the carrying charges is \$4.2 million.

As noted, the degradation costs are estimates and subject to reconciliation based on the third party study.

The treatment and estimation used for the future, go-forward costs are set out in Table 2.

### **Regulatory Recovery Mechanics**

On going Recovery costs of the 350C Project costs as per Table 2 will be recovered through an adjustment to annual tolls. Enbridge Canadian costs associated with operating with the reference temperature up to and equal to 11.9 degrees C will be covered as an adjustment to system tolls through a non-routine adjustment (NRA) under the ITS in Canada. Enbridge Lakehead costs for operating with increases up to 11.9 degrees C will be recovered as an adjustment to either the SEP II Surcharge or the Facility Surcharge.

For both systems, costs calculated for increases in reference temperature greater than 11.9 degrees C will be recovered through a revision to the heavy crude oil surcharge, currently set at 22 percent of light tolls. An incremental heavy surcharge will be calculated to recover an amount equal to the incremental costs in the U.S. from the higher reference temperature. The incremental heavy surcharge will equal the U.S.

incremental costs from the higher reference temperature divided by the product of the light transmission rate per mile and annual barrel mile forecast . The light transmission rate per mile excludes both SEPII and EEP Facilities Surcharge. The resulting incremental heavy surcharge will be rounded to the nearest 50 basis points and added to the base heavy surcharge currently set at 22% on all heavy Canada will adopt the same heavy surcharge as the U.S. to remain consistent and any revenue or shortfall generated in Canada compared with the actual incremental costs in Canada from the higher reference temperature will be refunded or recovered through an NRA variance. If to keep the Canadian and U.S. surcharge the same, the estimated Canadian excess revenue or shortfall is greater than \$3 million then the surcharge in Canada will change.

### **Future Changes in Reference Temperature**

Should CAPP request an increase in reference temperature from 11.9 degrees C to 12.5 degrees C, Enbridge agrees to implement the increase, subject to the usual notice to producers, feeder pipelines, and shippers and in accordance with the agreed cost calculation method as described above.

CAPP may also request further increases in the reference temperature exceeding 12.5 degrees C. Enbridge agrees to review the feasibility and the implementation of such an increase in a timely manner. As part of the implementation of such change in reference temperature; Enbridge has the option to review system costs and raise with CAPP costs adjustments needed because the agreed cost calculation method does not accurately reflect system costs incurred with reference temperatures above 12.5 degrees C.

### **Future Determination of Costs and Logistics**

As costs associated with changes to the reference temperature could experience material changes due to different crude slates, and/or system configuration changes, Enbridge will provide annual forecasts to CAPP, of the costs that are associated with reference temperatures above 10.7 and 11.9 degrees C in ~~Canada and the U.S.~~ This information will assist CAPP when deciding to request a change to the reference temperature.

Annual regulatory filings at the end of March will include forecast annual power and degradation costs for the agreed to Reference Temperature and the variance between actual and forecast power and degradation costs for the previous year including carrying costs.

**Other**

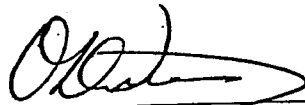
The seasonal distribution of monthly reference temperatures currently being utilized will continue to be utilized to create a monthly distribution to any annual reference temperature. No change in density specification is involved

Both parties agree that since there are mechanisms to request changes in either reference temperature levels or the appropriate cost recovery levels, that the term of this agreement is ongoing.

In the event of any disagreements, both parties agree to utilize the arbitration procedures incorporated in the 2000-2004 CAPP/Enbridge ITS. In the event that the dispute relates to the Lakehead portion of the system, both parties agree to pursue arbitration in the same spirit and approach as outlined in the ITS.

Dated: August       , 2004

Sep. 27/04



Canadian Association of Petroleum Producers

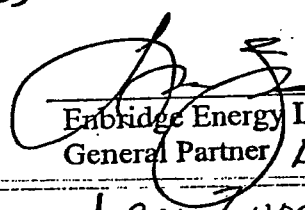
O. DEURRIES

GENERAL MANAGER, OIL SANDS  
& OIL MARKETS



Enbridge Pipelines Inc. GREG SEVICK

VICE PRESIDENT, DEVELOPMENT & SERVICES



Enbridge Energy Limited Partnership by its  
General Partner LEON ZUPAN

Leon Zupan  
Vice President, OPERATIONS

Table 1

<b>Historical Recovery</b>	
	<b>Million of Dollars</b>
<b><u>Enbridge Canada (C\$)</u></b>	
<b>Jan 2001 to Dec 2002</b>	
Cost recovery	\$3.770
Cost recovered through ITS	<u>\$3.690</u>
Remaining cost recovery in 2004	\$0.090
<b>Jan 2003 to Dec 2003</b>	
Cost recoveries 10.7 to 11.9	\$0.288
Cost recoveries 11.9 to 12.5 April	<u>\$0.062</u>
Subtotal	\$0.350
<b>Total Cost</b>	<b>\$0.440</b>
Carrying cost (shared 59%)	<u>\$0.013</u>
<b>Total Canadian Cost with Carrying Cost</b>	<b>\$0.453</b>
<b><u>Enbridge Lakehead U.S. (US\$)</u></b>	
<b><del>Jan 2001 to Dec 2002</del></b>	
U.S. cost recoveries	\$2.362
<b>Jan 2003 to Dec 2003</b>	
U.S. cost recoveries 10.7 to 11.9	\$1.694
U.S. cost recoveries 11.9 to 12.5 April	<u>\$0.076</u>
<b>Total Cost</b>	<b>\$4.132</b>
Carrying cost (shared 59%)	<u>\$0.068</u>
<b>Total U.S. Cost with Carrying Cost</b>	<b>\$4.200</b>

Table 1a

Reference Temperature Analysis and Cost Detailed Worksheet from Schedule B											
Canada											Recoveries as per letter of agreement
Dec. 10 Schedule B Jan 1/01 to Dec 31/02			Dec. 10 Schedule B Jul 1/01 to Dec 31/02			Negotiated Settlement					
ITS Sharing			ITS Sharing			ITS Sharing					
Total Costs	CAPP	Enbridge	Total	CAPP	Enbridge	Total Costs	CAPP Settlement Offer	Regulatory recovery	Costs Enbridge absorbs	To be recovered	
Power	1.75	1.75	0	1.43	1.43	0	1.75	1.75	1.75	0	0
Degradation	2.30	1.15	1.15	1.60	0.80	0.80	2.30	1.15	1.15	1.15	0
Meters	0.30	0	0.30	0.30	0.15	0.15	0.30	0	-	0.30	0
Repairs	0.30	0.15	0.15	0.30	0.15	0.15	0.30	0.15	0.15	0.15	0
Upgrades											
Total 10.7 to 11.9	4.65	3.05	1.60	3.33	2.38	0.95	4.65	3.05	3.05	1.60	
Total 11.9 to 12.5	0.72	0.64	0.09				0.72	0.72	0.64	0	0.090
Total Canadian recovery for 2001-02											0.090
Canadian recovery for Jan to Dec 2003 10.7 to 11.9 (see going forward sheet)											0.288
Canadian recovery for April 2003 11.9 to 12.5 See March 27,2003 letter)											0.062
Total historical recovery											0.440
Carrying costs shared @ 59% (see carrying cost sheet)											0.013
Total Canadian Cost Recoveries											0.453
U.S. (US\$)											Recoveries as per letter of agreement
Dec. 10 Schedule B Jan 1/01 to Dec 31/02			Dec. 10 Schedule B Jul 1/01 to Dec 31/02			Settlement					
ITS Sharing			ITS Sharing			Includes partial Jan 1/01 to Jul 1/01 compensation					
Total	CAPP	Enbridge	Total	CAPP	Enbridge	Total	CAPP Settlement Offer	Regulatory recovery	Costs Enbridge absorbs		
Power	1.94	0	1.94	1.41	0	1.41	1.41	0.85	0	0.56	0.846
Degradation	1.53	0	1.53	1.03	0	1.03	1.03	0.62	0	1.03	0.618
Meters	0.20	0	0.20	0.15	0	0.15	0.15	0	0	0.15	0
Repairs	0.15	0	0.15	0.15	0	0.15	0.15	0	0	0.15	0
Upgrades											
Total 10.7 to 11.9	3.83	0	3.83	2.59	0	2.59	2.59	1.46	0	1.75	1.464
Total 11.9 to 12.5							0.90	0.90	0	0	0.900
Total (US\$) for 2001-02											2.362
U.S. recovery for Jan to Dec 2003 10.7 to 11.9 (see going forward sheet)											1.694
U.S. recovery for April 2003 11.9 to 12.5 (Mar 27,2003 letter)											0.076
Total U.S. historical recovery											4.132
Carrying costs shared @ 59% (see carrying cost sheet)											0.068
Total U.S. Cost Recoveries											4.200

Table 1b

**Degradation Cost Methodology**

Changes in degradation costs for Reference Temperatures above or below 11.9 C. prior to completion of the degradation study will be estimated as follows:

- Take the degradation costs as presented by Enbridge in Schedule B of Dec. 10, 2002 letter (Attachment A) for the period in 2001-02 when the reference temperature was between 11.9 and 12.5 to represent deemed costs of changes in reference temperature.
- These estimated costs will be reduced by 25% to reflect the proxy nature of them until the Degradation study is complete. These costs are separated by the US and Canada and divided by the 6 tenths of a degree that the reference temperature was above 11.9
- In Canada adjustment is required for cost recovery, if applicable, through the current ITS or any subsequent agreements.

	Canada (C)	U.S. (US)
11.9 to 12.5 Costs for 1 Year Period in 2001/02 when ref temp @ 12.5	\$170,000	\$200,000
75% of such costs	\$127,500	\$150,000
Proxy cost change/tenth of degree change	\$21,250	\$25,000
Regulatory recovery within ITS through CPS	\$14,166	N/A
Proxy cost change/tenth of degree change assuming continuation of regulatory recovery	\$7,083	N/A

These Proxy Costs will be applied to any change in reference temperature from 11.9 requested and agreed to by CAPP and Enbridge for going forward periods. Generally changes will be done in increments of at least 0.5 of a degree.

Table 2

Costs and On going Recoveries Going Forward for 2003 and Beyond

Enbridge Canada						
Reference Temperature 10.7 to 11.9 (recovered from base system) (C\$ Millions)						
	2003 Annual Costs			ITS Sharing Credit	To be Recovered from Base System	
	Cost	Settlement				
Power	1.25	100%	1.250	1.250		Based on 2003 estimated actuals
Degradation	1.15	75%	0.863	0.575		Degradation study completed. (Derived using the Dec. 10, 2002, Schedule B)
<b>Total</b>			<b>2.113</b>	<b>1.825</b>	<b>0.288</b>	
Example of Reference Temperature Increase from 11.9 to 12.5						
	2003 Annual Costs			ITS Sharing Credit	To be Recovered from Base System	
	Cost	Settlement				
Power	0.55	100%	0.550	0.550		These costs are estimated each year and trued up to estimated actuals. Example base on 2001/2002 estimated costs. This "Proxy" of 7,083/tenth of degree change from 11.9 utilized until Degradation study complete
Degradation	0.17	75%	0.128	0.085	0.043	
<b>Total</b>	<b>0.72</b>		<b>0.678</b>	<b>0.635</b>	<b>0.043</b>	

Lakehead U.S.						
Reference Temperature 10.7 to 11.9 (recovered via a surcharge) - (US\$ Millions)						
* Costs in US\$						
	2003 Annual Costs			ITS Sharing Credit	To be Recovered from Base System	
	Cost*	Settlement				
Power	1.12	100%	1.120			Based on 2003 estimated actuals
Degradation	0.765	75%	0.574			These "Proxy Costs" utilized until Degradation study completed
<b>Total</b>			<b>1.694</b>			
Example of Reference Temperature Increase from 11.9 to 12.5 (To be recovered through charges in heavy surcharge)						
	2003 Annual Costs			ITS Sharing Credit	To be Recovered from Base System	
	Cost	Settlement				
Power	0.70	100%	0.700			These costs are estimated each year and trued up to estimated actuals. Example base on 2001/2002 estimated costs. This "Proxy" of 25,000/tenth of degree change from 11.9 utilized until Degradation study complete
Degradation	0.20	75%	0.150			
<b>Total</b>	<b>0.90</b>		<b>0.850</b>			

Schedule B: Kent Cornelius Letter of December 10, 2002

Enbridge Pipelines Inc.

Incremental Operating Cost Summary for Reference Temperature Above 10.7°C

Reference Temperature 10.7°C to 11.9°C	Cost Item	2001				2002				2001 & 2002	
		Jan 1 to Jun 30		Jul 1 to Jul 31		Jan 1 to Jul 31		Aug 1 to Dec 31		Canada	US
		Canada	US	Canada	US	Canada	US	Canada	US	Canada	US
	Power	0.32	0.53	0.05	0.09	0.60	0.51	0.52	0.38	1.75	1.94
	Degradation	0.70	0.50	0.10	0.10	0.50	0.30	0.50	0.30	2.30	1.53
	Meter Repair	0.30	0.20	-	-	0.30	0.15	-	-	0.30	0.20
	Meter Upgrades	-	-	-	-	0.30	0.15	-	-	0.30	0.15
	<b>Total Costs</b>	<b>1.32</b>	<b>1.23</b>	<b>0.15</b>	<b>0.19</b>	<b>1.40</b>	<b>0.96</b>	<b>1.02</b>	<b>0.68</b>	<b>4.65</b>	<b>3.83</b>
	Allocation of Costs										
	TRV	0.32		0.05		0.60		0.52		1.75	
	CPS	0.50		0.05		0.40		0.25		1.45	
	<b>Total Shipper Share</b>	<b>0.82</b>	-	<b>0.10</b>	-	<b>1.00</b>	-	<b>0.77</b>	-	<b>3.20</b>	-
	Enbridge Share	0.50	1.23	0.05	0.19	0.40	0.96	0.25	0.68	1.45	3.83

Reference Temperature 11.9°C to 12.5°C	Cost Item	2001				2002				2001 & 2002	
		Jan 1 to Jul 31		Aug 1 to Dec 31		Jan 1 to Jul 31		Aug 1 to Dec 31		Canada	US
		Canada	US	Canada	US	Canada	US	Canada	US	Canada	US
	Power	-	-	-	-	0.38	0.40	-	-	0.55	0.70
	Degradation	-	-	-	-	0.09	0.10	-	-	0.17	0.20
	Meter Repair	-	-	-	-	-	-	-	-	-	-
	Meter Upgrades	-	-	-	-	-	-	-	-	-	-
	<b>Total Costs</b>	-	-	-	-	<b>0.47</b>	<b>0.50</b>	-	-	<b>0.72</b>	<b>0.90</b>
	Allocation of Costs										
	TRV	-	-	-	-	0.38	-	-	-	0.55	-
	CPS	-	-	-	-	0.05	-	-	-	0.09	-
	<b>Total Shipper Share</b>	-	-	-	-	<b>0.42</b>	-	-	-	<b>0.64</b>	-
	Enbridge Share	-	-	-	-	0.05	0.50	-	-	0.09	0.90

Requested Compensation (excludes meter repairs and upgrades)	2001		2002		2001 & 2002	
	Canada	US	Canada	US	Canada	US
	0	0	0.05	0.19	0.30	1.31
			0.24	0.24	0.25	0.68
			0.24	1.17	0.80	3.35

- Notes:
- Canadian Costs are in C\$ millions and US Costs are in US\$ millions
  - Degradation costs actual Jan 1 2001 to Aug 31 2002, estimated Sep 1 2002 to Dec 31 2002.
  - Under the Incentive Tolling Settlement in Canada, all power costs and half of the operating costs are recovered by CAPP, if Enbridge's earnings remain above the Threshold Earnings level. In the U.S. all of the incremental costs associated with the higher reference temperature have been borne by Enbridge Energy Partners. Therefore, the requested compensation outlined above is significantly lower for Canada than for the U.S.