

## **National Energy Board**

Reasons for Decision

In the Matter of

**TransCanada PipeLines Limited**

**GH-5-89**

**November 1990**

Volume 2

Partial Facilities

Minister of Supply and Services Canada 1990

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### **Recital and Appearances**

IN THE MATTER OF the *National Energy Board Act* ("the Act") and the regulations made thereunder:

AND IN THE MATTER OF an application by TransCanada PipeLines Limited ("TransCanada") for a Certificate under Part III of the Act for certain proposed additional facilities for 1991 and 1992;

AND IN THE MATTER OF various associated applications for licences for the export of natural gas pursuant to Part VI of the Act;

AND IN THE MATTER OF applications made by various parties for orders pursuant to s. 71 of the Act;

AND IN THE MATTER OF evidence dated 3 October 1990 filed by TransCanada, pursuant to Part III of the Act, in support of a request for a certificate in respect of a portion of the above facilities for 1991, and for certain exemptions pursuant to section 58 of the Act;

AND IN THE MATTER OF Hearing Order No. GH-5-89.

HEARD at Ottawa, Ontario on 15 and 18 October 1990.

BEFORE:

J.-G. Fredette	Presiding Member
A.B. Gilmour	Member
M.J. Musgrove	Member
R. Illing	Member
K W. Vollman	Member

APPEARANCES:

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(ii)

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P.G. Griffin	Westcoast Energy Inc.
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### Abbreviations

Act	<i>National Energy Board Act</i>
ANE	Alberta Northeast Gas Export Project
Bcf	billion cubic feet
Board	National Energy Board
Consumers'	Consumers' Gas Company Limited, The
CSA	Canadian Standards Association
FAQ	Facilities Application Queue
FERC	(United States) Federal Energy Regulatory Commission
FS	firm service
FST	firm service tendered
GH-1-89	Hearing Order GH-1-89 in respect of TransCanada's application for 1990/91 facilities
GH-4-88	Hearing Order GH-4-88 in respect of TransCanada's application for 1989/90 facilities
GH-5-89	Hearing Order GH-5-89 in respect of TransCanada's application for 1991/92 facilities
GHW-3-89	Hearing Order GHW-3-89 in respect of information on gas supply to be provided by TransCanada in support of its 1991 and 1992 facilities
GJ	gigajoule(s)
GMI	Gaz Métropolitain, inc.
Great Lakes	Great Lakes Gas Transmission Company
ICG (Ontario)	ICG Utilities (Ontario) Ltd.
IGUA	Industrial Gas Users Association

km	kilometre(s)
m	metre(s)
	(vii)
m <sup>3</sup> /d	cubic metres per day
MM	million
mm	millimetre(s)
MMcfd	million cubic feet per day
MW	megawatts
Ontario	Minister of Energy for Ontario
OPCC	Ontario Pipeline Coordinating Committee
Pan-Alberta	Pan-Alberta Gas Ltd.
Paramount	Paramount Resources Ltd.
Simplot	Simplot Canada Limited
STS	storage transportation service
TransCanada	TransCanada PipeLines Limited
U.S.	United States of America
Union	Union Gas Limited
WGML	Western Gas Marketing Limited

## **Overview**

*(NOTE: This overview is provided solely for the convenience of the reader and does not constitute part of this Decision or the Reasons for which readers are referred to the detailed text and tables.)*

## **The Application**

By application dated 29 June 1989, as amended 15 December 1989, TransCanada PipeLines Limited ("TransCanada") sought a certificate, pursuant to Part III of the *National Energy Board Act* ("the Act"), in respect of new facilities to increase natural gas deliveries to its domestic markets in Canada and to export markets in the United States. These facilities consisted of pipeline and compression additions totalling approximately \$2.6 billion.



Due to the complexity of the related issues considered during the public hearing which began in March 1990, and the need for approval by mid-December to allow for winter construction, TransCanada applied for an early authorization of some facilities. The additional facilities under consideration at the partial facilities hearing consisted of 391.4 km of pipeline looping, the 4.5 km Iroquois Extension, and two compressor relocations costing in total \$546 million.

These partial facilities were in addition to three compressor units previously authorized pursuant to section 58 of the Act in June 1990.

These facilities would provide firm transportation service totalling 2 920 10 3m<sup>3</sup>/d (103 MMcfd) for Simplot Canada, Union Gas Limited and Gaz Metropolitan, inc. ("GMi"), and storage transportation service totalling 980 10 3m<sup>3</sup>/d (34.6 MMcfd) for ICG Utilities (Ontario) Ltd. and GMi. These shippers provided executed transportation service contracts to support some of the facilities. The proposed facilities would also provide a level of advance capacity of approximately 1470 10 3m<sup>3</sup>/d (52 MMcfd) which would be made available to other prospective shippers in accordance with the current queuing procedures.

### **Highlights of the Board's Decision**

#### **Supply**

The Board was satisfied with the supply arrangements for the domestic shippers in support of their request for capacity, and with the overall supply required for the partial facilities.

#### **Requirements**

The Board was satisfied that long-term, most assured requirements exist for the FS and STS shippers, and that the provision of advance capacity is appropriate in this case.

#### **Economic Feasibility**

The Board considers that the applied-for facilities are economically feasible.

#### **Land Use and Environment**

The Board found that TransCanada's proposed route selection criteria and proposed routing are satisfactory, and that the facilities would create only insignificant environmental impacts of a local and temporary nature. The Board has recommended that the certificate be subject to several conditions with respect to land use and the environment.

The Board also conducted an environmental screening in accordance with the *Environmental Assessment and Review Process Guidelines Order* to determine whether, and if so, the extent to which, there may be any potential adverse environmental effects arising from the applications considered in the GH-5-89 proceedings. As a result of the screening, the Board found that environmental effects and any social effects directly related to environmental effects of the proposals would be insignificant or mitigable with known technology.

#### **Need for Facilities**

The Board concluded that the proposed facilities were necessary to provide 4 39010 3m<sup>3</sup>/d (155MMcfd) of capacity for November 1991. The Board has recommended that a certificate condition with respect to executed transportation service contracts and U.S. Federal Energy Regulatory Commission authorizations apply to the Iroquois Extension.



## Chapter 1

### Partial Facilities Application

#### 1.1 Background

TransCanada PipeLines Limited ("TransCanada") submitted a facilities application dated 29 June 1989 as amended 15 December 1989, which would provide for new firm transportation service for domestic and export shippers. These facilities consisted of 1592 km of pipeline, 240 MW of compression, and other associated facilities, totalling \$2573 million in estimated capital cost. These new facilities would be used primarily to deliver 23 550 103m<sup>3</sup>/d (831.5 MMcfd) of firm service from Empress for the 1991/92 and 1992/93 contract years, as well as an additional 2 210 103m<sup>3</sup>/d (78 MMcfd) from Kirkwall to Chippawa.

In February 1990, it became apparent that the complexity of the Parts III, IV and VI issues to be considered in the upcoming facilities hearing would preclude a National Energy Board ("Board" or "NEB") decision in time for TransCanada to order materials and complete its entire 1991 construction program in time for a 1 November 1991 in-service date. As part of the information request process, the Board asked TransCanada to consider a procedure whereby some early Part III authorizations could be sought to allow for the timely completion of certain facilities to meet its most assured market requirements.

On 30 March 1990, TransCanada submitted a section 58 application for the installation of three new compressor units at Stations 116, 1206 and 1217, with an estimated cost of \$62.5 million. TransCanada stated that these units had to be ordered by June 1990 to be ready for service by November 1991. Together with significant looping additions to be considered in the future for 1991 construction, these facilities would provide firm transportation service for shippers in the 1991/92 Facilities Application Queue or, as a minimum, for what was characterized as TransCanada's most assured market requirements. On 1 June 1990, the Board issued Order XG-5-90, exempting the three compressor units from certification conditional upon the execution of the necessary transportation contracts. At that time, it was contemplated that further authorizations for the associated looping would be considered some time later during the GH-5-89 proceedings.

On 31 August 1990, TransCanada requested that the Board issue a decision, with reasons, authorizing partial facilities early in November, ahead of the issuance of final certificate and licence decisions, to allow for winter construction. TransCanada asserted that these partial facilities would allow for 2 980 103m<sup>3</sup>/d (105 MMcfd) of new capacity for certain shippers, and 1 420 103m<sup>3</sup>/d (50 MMcfd) of advance capacity. This construction would also provide and continue service to the GH-1-89 shippers in the 1991 summer, which could be utilized until completion of a Great Lakes Gas Transmission Company ("Great Lakes") T-4 capacity increase of 11830 103m<sup>3</sup>/d (417.5MMcfd), and would provide for rapid growth in capacity during 1992 if TransCanada's remaining authorizations were received. Absent this winter construction, TransCanada stated that it could only provide 1420 103m<sup>3</sup>/d (50 MMcfd) of service for 1 November 1991.

#### 1.2 The Application

On 3 October 1990, TransCanada submitted its evidence in connection with its application for a partial facilities certificate pertaining to the installation of 2 980 103m<sup>3</sup>/d (105 MMcfd) of firm service transportation required by specific domestic shippers, and 1420 103m<sup>3</sup>/d (50 MMcfd) of advance capacity for 1 November 1991. The proposed facilities would consist of 391.4 km of system-wide pipeline looping, the 4.5 km Iroquois Extension, and the relocation of two portable compressors costing in total \$546 million, to be used in conjunction with the three 14 MW compressors previously authorized. A breakdown

of the details and the costs of these facilities is included in Table 1.1. TransCanada also requested that a 26 MW compressor unit authorized in 1989 by Certificate GC-77 be relocated from the Western Section to its North Bay station due to the early retirement of an existing 12 MW unit. TransCanada stated that the installation of these facilities would result in an increase of approximately three cents per gigajoule ("GJ") in the Eastern Zone firm service toll.

TABLE 1.1  
SUMMARY AND ESTIMATED COST OF PROPOSED  
FACILITIES

1991 Winter Construction		Capital Cost (\$MM, 1990)
<b>Central Section</b>		
1067 mm loop; Manitoba	12.3 km	16.7
Northern Ontario	211.5 km	293.4
<b>1991 Summer Construction</b>		
<b>Western Section</b>		
1219 mm loop;	Saskatchewan	76.9 <del>88.0</del>
	Manitoba	34.8 <del>42.9</del>
<b>Central Section</b>		
1067 mm loop;	Northern Ontario	48.3 <del>75.8</del>
Portable compressor relocations, Stations 43 and 62		5.4
<b>Montreal Line</b>		
914 mm loop; Eastern Ontario	7.6 km	12.2
762 mm Iroquois Extension	4.5 km	12.2
	395.9 km	546.6

NOTE: These facilities are additional to the three 14 MW compressor units, totalling \$62.5 million, previously approved by Board Order XG-5-90.

On 18 October 1990, the Board announced that it had completed an environmental screening related to the facilities applied for by TransCanada under Hearing Order GH-5-89. As a result of the screening, the Board found that environmental effects and any social effects directly related to any environmental effects of the proposals would be insignificant or mitigable with known technology. The facilities screened included those which are the subject of these Reasons.

## Chapter 2

### System Requirements

#### 2.1 Most Assured Requirements

The facilities proposed in this application consist of those which could be installed in time to provide sufficient flexibility to TransCanada to meet its most assured system requirements for the contract year beginning 1 November 1991. The design also takes into account the long-term system requirements and the design of the associated facilities of the main GH-5-89 application.

So that there would be evidence of the pressing unconditional need for the partial facilities, the Board had ruled that TransCanada was required to provide it with transportation service contracts executed by those shippers willing to contract for the capacity. The most assured system requirements associated with the partial facilities application were justified by TransCanada by its filing of firm service ("FS") transportation contracts with the following shippers:

	103m3/d(1)	MMcfd(1)
Simplot	70	2.5
Union	1320	46.7
GMI	<u>1530</u>	<u>54.0</u>
	<u>2920</u>	<u>103.2</u>

In addition, to ensure that the offering of this capacity to these particular shippers, who were near the bottom of the 1991/92 Facilities Application Queue ("FAQ"), did not unfairly discriminate against or prejudice the queuing rights and system requirements of those shippers higher in this queue, the Board also ruled that TransCanada was required to demonstrate that those shippers in the queue ahead of Simplot Canada Limited ("Simplot"), Union Gas Limited ("Union") and Gaz Metropolitan, inc. ("GMI") had been offered this capacity and had declined to accept it.

(1) This table reflects the withdrawal of Northland Power's request for 56 103m3/d (2 MMcfd) of FS to northern Ontario.

Accordingly, by letter dated 11 September 1990, TransCanada requested confirmation that these other shippers were not in a position to sign transportation contracts for the capacity. The letter contained a provision stipulating that a nil response would be deemed to be a confirmation that the shipper was not in a position to execute the contract. TransCanada filed the responses, indicating that no shipper to whom a letter had been sent was requesting the capacity. The majority of shippers who responded generally supported the concept of this partial facilities application, but were not yet ready to commit to contractual transportation obligations. They declined the offer of capacity on the understanding that their position in the queue, in the special circumstances of this application, would be unaffected.

The proposed partial facilities design also incorporated the necessary facilities to provide additional storage transportation service ("STS") from underground storage fields in southwestern Ontario to delivery points in eastern Canada for the 1991/92 contract year. Executed STS amendments, increasing deliveries within the Eastern delivery area, were filed as support for these facilities. These contracts were with:

	103m3/d	MMcfd
ICG(Ontario)	300	10.6

GMI	<u>680</u>	<u>24.0</u>
	<u>980</u>	<u>34.6</u>

In addition, the proposed facilities design included the necessary facilities to service an increase in the base requirements as a result of The Consumers' Gas Company Ltd.

("Consumers") election to take 100 percent of its firm service tendered ("FST") requirements rather than its previously forecast level of 90 percent.

### *Views of Intervenors*

All intervenors agreed that the evidence put forward by TransCanada with respect to domestic requirements for both long-term firm transportation service and for long-term firm storage transportation service fully supported the need for the construction of facilities required to provide this capacity.

### *Views of the Board*

The Board is satisfied that long-term requirements of 2 920 103m<sup>3</sup>/d (103 MMcfd) exist for domestic FS shippers and that, likewise, there is a requirement for 980 103m<sup>3</sup>/d (34.6MMcfd) for domestic STS shippers. These requirements support the facilities requested in the partial facilities application

## **2.2 Advance Capacity**

The facilities were originally proposed to provide for a level of advance capacity to the Eastern Zone of 1420 103m<sup>3</sup>/d (50 MMcfd). With the subsequent withdrawal of Northland Power's request, an additional 56 103m<sup>3</sup>/d (2MMcfd) of firm advance capacity became available to northern Ontario. TransCanada requested that the upstream facilities for advance capacity be certificated without conditions pertaining to the execution of transportation contracts.

TransCanada maintained that the evidence on domestic and export market requirements for November 1991, and the extent of firm service requests in the FAQ, would easily justify the need for advance capacity. TransCanada made the assumption that, barring any certificate conditions to the contrary, this advance capacity, after receipt of Governor in Council approval, would be offered to the shippers in the FAQ and would be allocated to those parties in the queue who were ready to sign unconditional transportation service contracts and to meet the Availability Provisions of the FS tariff. If, after offering such capacity to the FAQ, any capacity remained unallocated, it would be offered to the Contract Year Queue. TransCanada also expected to receive firm commitments for the remaining 2 500 103m<sup>3</sup>/d (88 MMcfd) of Great Lakes transportation capacity considered in GH-1-89.

### *Views of Intervenors*

With the exception of the Industrial Gas Users Association ("IGUA"), all intervenors supported the inclusion of 1470 103m<sup>3</sup>/d (52 MMcfd) of advance capacity as part of the requirements for the proposed facilities. IGUA opposed the inclusion of advance capacity for two basic reasons.

Firstly IGUA believed that, in the circumstances of this case, TransCanada should have been able, but had failed, to demonstrate a demand for this advance capacity. According to IGUA, without signed transportation service commitments from prospective shippers, there was no evidence supporting a market demand over and above that associated with executed transportation contracts.

Secondly, IGUA opposed the concept of a facilities design that included advance capacity when significant available





## **Chapter 3**

### **Gas Supply**

In the GHW-3-89 Reasons for Decision, the Board set out the information that TransCanada was required to provide in order to demonstrate the adequacy of gas supply in support of the facilities it was applying for in the GH-5-89 proceedings. The two aspects of supply to be addressed by TransCanada were identified as project-specific supply and overall supply.

The Board was of the view that flexibility could be afforded with regard to the nature of the project-specific supply information required to be submitted by TransCanada at the time of filing, provided that the incremental volume for a particular shipper represented normal growth in the shipper's existing market. In such circumstances, TransCanada was required, at the time of filing, to outline the shipper's existing gas supply arrangements, its gas supply acquisition process and the status of supply acquisition for the incremental volumes.

#### **3.1 Project-Specific Supply**

The application for an early certificate includes facilities that would increase capacity to serve the additional requirements of four domestic shippers, as well as a level of advance capacity.

The domestic shippers consist of three local distribution companies, Union GMi and ICG (Ontario), as well as Simplot.

##### ***Simplot***

The capacity requested by Simplot is to provide feedstock for a fertilizer plant in Brandon, Manitoba. Simplot has signed a gas purchase agreement with Paramount Resources Ltd. ("Paramount") for 7010 3m<sup>3</sup>/d (2.5 MMcfd) over a ten-year period. Paramount holds removal permits from Alberta sufficient to provide for the sale to Simplot.

The Applicant provided detailed supply data for the Liege Field in Alberta.

Simplot has also signed a backstopping agreement with NATGAS CANADA INC. to provide up to 280103m<sup>3</sup>/d (10 MMcfd) through to 31 October 1999.

##### ***GMi***

GMi is requesting additional capacity of 1530103m<sup>3</sup>/d (54 MMcfd). It currently has firm gas supply contracts with Western Gas Marketing Limited ("WGML"), SOQUIP and Pan-Alberta Gas Ltd. ("Pan-Alberta"), as well as additional direct purchase contracts with 16 producers.

GMi's current contracts with WGML, SOQUIP and Pan-Alberta provide 84 percent of the additional supply. At the time of the hearing, GMi indicated that it expected to have the balance of its supply under contract by 1 November 1990. GMi stated it has an additional 71106m<sup>3</sup>/year (2.5 Bcf/year) available on a day-to-day basis from WGML, but that it did not anticipate that those volumes would be needed.

##### ***ICG (Ontario)***

ICG (Ontario) has requested additional capacity in order to allow it to optimize its current supply arrangements by utilizing storage. No additional gas supply is required for these facilities.

##### ***Union***

Union has applied for additional capacity of 1320103m<sup>3</sup>/d (46.7 MMcfd). Union provided a schedule of its current gas supply contracts, which consist of both long and short-term arrangements. The majority of Union's supply is purchased on a firm basis and is supplemented with a small amount of spot gas. Union estimated that, for the 1991/92 contract year, 87 percent of its gas supply would come from western Canada, six percent from indigenous Ontario sources, two percent on a firm basis from the U.S. and the remainder from spot gas. Union indicated that it tenders for new gas supplies from Canadian producers and brokers, as well as advertising its purchase plans. Potential suppliers must meet certain performance standards.

Union indicated that it had binding firm gas supply purchase agreements in place for the additional capacity requested; these consist of three gas purchase agreements for western Canadian gas, each with a term extending beyond 2001.

### ***Views of the Board***

TransCanada provided the information outlined in the GHW-3-89 Reasons for Decision with regard to the project-specific gas supply for the shippers included in this application. The Board notes that, even in those cases where the flexibility in provision of supply information outlined in the GHW-3-89 Reasons was exercised, almost all of the respective shippers had already signed binding gas supply agreements for the requested incremental volumes. Therefore, the Board is satisfied with the supply arrangements outlined by the domestic shippers in support of their requests for capacity.

The nature of advance capacity is such that the Board is not required to assess the adequacy of project-specific supply in support of the capacity included in this application. The Board notes, however, that in this case there exist in the GH-5-89 FAQ already licensed export volumes for which the adequacy of supply has previously been assessed by the Board.

### **3.2 Overall Supply**

In the GHW-3-89 decision TransCanada was required to provide evidence that adequate natural gas supply exists, or will exist, to ensure continued utilization of its total pipeline capacity in the long term.

TransCanada relied upon the Sproule study, entitled "The Future Natural Gas Supply Capability of the Western Canadian Sedimentary Basin", to demonstrate the adequacy of long-term supply for its current and applied-for facilities in the GH-5-89 proceeding. TransCanada stated that the results of this study demonstrate that sufficient long-term supply exists to support the partial facilities applied for in this proceeding.

With regard to the future apportionment of the western Canadian gas supply to TransCanada's markets, TransCanada pointed out that, based upon the existing pipeline infrastructure within the provinces and the cost and timing of any alternatives, its markets in eastern Canada and the U.S. northeast would continue to be long-term and viable and gas thus would continue to flow on its pipeline.

### ***Views of Intervenors***

None of the intervenors in this proceeding challenged TransCanada's evidence regarding overall supply. The Ministry of Energy for Ontario ("Ontario") indicated that it had concerns with regard to the Sproule study, but that it would address these concerns in the full GH-5-89 proceeding.

### ***Views of the Board***

The Board has considered the evidence provided by TransCanada with regard to overall supply and is satisfied, given the modest size of this proposed expansion, that adequate supply exists to ensure continued utilization of the expanded system in the longer term. The Board will comment in greater detail on the Sproule study in the GH-5-89 Reasons for Decision in the context of the total facilities expansion.



## Chapter 4

### Economic Feasibility

TransCanada argued that the applied-for facilities would be economically feasible for the following reasons:

- (i) there is a long-term market for the gas;
- (ii) there is an adequate long-term supply of gas to serve the proposed markets;
- (iii) executed firm transportation contracts exist for 2 920 10 m<sup>3</sup>/d (103 MMcfd) of the applied-for capacity;
- (iv) the TransCanada system is, and will remain, competitive with current and potential pipelines serving eastern Canadian and U.S. northeast markets; (v) there is no market failure with respect to the price signals sent to shippers because the rolled-in toll is representative of the long-run marginal cost of providing transportation on TransCanada;
- (vi) the incremental revenues from gas sales will provide the sellers with a market-based return; and
- (vii) there is industry support for the application.

TransCanada also noted that, although it did not believe that a quantitative test was necessary to determine whether the new facilities were economically feasible, the evidence indicates that the gas sales underpinning the application would provide net benefits. With respect to the 1 470 10 m<sup>3</sup>/d (52 MMcfd) of advance capacity, TransCanada argued that, in light of the demands for firm service on its system as reflected in the FAQ, it is confident that this capacity will be contracted for prior to the inservice date of 1 November 1991.

All parties to the hearing, with the exception of IGUA, agreed that the proposed facilities, including those needed for advance capacity, were economically feasible.

IGUA agreed that the facilities required to support the 2 920 103 m<sup>3</sup>/d (103 MMcfd) of additional capacity which is underpinned by firm service transportation contracts were justified but argued that there was insufficient evidence to support the conclusion that the proposed 1 470 10 3 m<sup>3</sup>/d (52 MMcfd) of advance capacity would be economically feasible. In IGUA's view, statements of industry support that are conditional upon toll methodology should not be accepted as evidence that the proposed facilities are economically feasible. On the contrary, the lack of commitment to the capacity should be interpreted by the Board as an indication that the facilities in question are not economically feasible.

### *Views of the Board*

The Board is persuaded by TransCanada's evidence that the applied-for facilities will be economically feasible.

The Board notes that, for 2 920 10 3 m<sup>3</sup>/d (103 MMcfd) of the requested capacity, firm service transportation contracts exist. These contracts are to provide for normal growth in domestic markets which have proven to be of stable long-term duration. The Board is confident that the demand charges associated with these volumes will be paid over the terms of these contracts and that these markets constitute a long-term market for natural gas delivered via the TransCanada system.

With respect to the advance capacity requested, the Board expects that, in light of the current excess supply of gas and the high demand for firm service on TransCanada, this capacity will be taken up prior to the inservice date of 1 November 1991, and that the demand charges associated with these volumes will be paid.

## **Chapter 5 Land Use and Environmental Matters**

### **5.1 Land Use**

#### ***5.1.1 Route Selection***

The line pipe applied for by TransCanada consists of 29 loop sections, and the Iroquois Extension, covering a total distance of 395.9km in the provinces of Saskatchewan, Manitoba and Ontario. The locations of those facilities and their respective land requirements are set out in Table 5-1. TransCanada intends to install the new loop sections either within or adjacent to existing easements. The 4.5 km Iroquois Extension, however, requires new pipeline right-of-way and, if certificated, could be subject to a detailed routing assessment before construction could commence.

**Table 5-1**

**New Land Requirements**

Loop Description	Name	Length (km)	Permanent Easement		Temporary Workspace	
			Width	Length	Width	length
<b>Saskatchewan</b>						
MLV 4 to MLV 4 + 11.4	Cabri Loop	11.4			30	11.4
MLV 5 to MLV 6	Cabri Loop	14.6			30	14.6
MLV 6 to MLV 6 + 13.0	Cabri Loop	13.0			30	13.0
MLV 18 to MLV 18 + 11.6	Vibank Loop	11.6			30	11.6
MLV 21 to MLV 22	Grenfell Loop	26.3	20	26.3	20	26.3
<b>Manitoba</b>						
MLV 28 + 19.8 to MLV 29	Rapid City Loop	6.6			30	6.6
MLV 29 to MLV 29 + 5.1	Rapid City Loop	5.1			30	5.1
MLV 30 to MLV 30 + 7.9	Rapid City Loop	7.9	20	7.9	20	7.9
MLV 33 to MLV 34	Portage La Prairie Loop	15.2			30	15.2
MLV 43 to MLV 43 + 12.3	Sandilands Loop	12.3	20	12.3		
<b>Ontario</b>						
MLV 46 to MLV 46 + 5.6	Camp Lake Loop	5.6	20	5.6		
MLV 50 + 8.5 to MLV 51	Crane Lake Loop	18.9	20	4.3		
MLV 54 to MLV 55	Dryden Loop	9.8	27.4	9.0		
MLV 55 to MLV 55 + 10.0	Dryden Loop	10.0	20	6.9	10	1.0
MLV 65 to MLV 66	Thunder Bay Shortcut Loop	21.3	15	21.3		
MLV 67 to MLV 67 + 10.0	Thunder Bay Shortcut Loop	10.0	15	10.0		

MLV 69 + 18.6 to MLV 71	Thunder Bay Shortcut Loop	7.1	20	7.1		
MLV 71 to MLV 72	Thunder Bay Shortcut Loop	24.4	20	24.4		
MLV 75 + 18.0 to MLV 76	Macdiarmid Loop	10.0	20	4.0	10	3.7
MLV 76 to MLV 76 + 11.2	Macdiarmid Loop	11.2	20	6.2		
MLV 80 to MLV 82	Geraldton Loop	16.9	20-30	5.4		
MLV 87 + 3.0 to MLV 87 + 15.1	Shekak River Loop	12.1			15	12.1
MLV 88 + 5.6 TO MLV 89	Hearst Loop	24.3	20-27.4	1.6	15	23.2
MLV 97 to MLV 97 + 13.1	Fauquier Loop	13.1			15	3.7
MLV 100 to MLV 100 + 12.4	Cochrane Loop	12.9	13.7-27.4	1.6	15	12.9
MLV 102 to MLV 103	Cochrane Loop	29.3	24.4-50.3	25.7	15	3.5
MLV 107 + 5.0 to MLV 108	Swastika Loop	14.5	27.4	10.1	15	2.7
MLV 110 to MLV 110 + 8.4	Haileybury Loop	8.4	27.4	0.8		
Iroquois Extension	Iroquois Extension	4.5			12.2	4.5
MLV 147 + 13.9 to MLV 147 + 21.5	Montreal Line Loop	7.6	20.0	7.6		
Total		395.9		198.1		179.0



#### ***5.1.1.1 Facilities Within Existing Easements***

In TransCanada's view, new facilities located within existing easements and requiring only temporary workspace do not present any route-related issues. A total of 81.6 km of temporary workspace is required on the following sections in Saskatchewan and Manitoba: Cabri, Vibank and Portage La Prairie; and the following sections in Ontario Shekak River and Fauquier.

#### ***Views of the Board***

In respect of the above-mentioned loops, the Board is satisfied with TransCanada's proposed use of existing easements with associated temporary workspace and considers that the general routes proposed by TransCanada for the above-noted loop sections are acceptable.

#### ***5.1.1.2 Facilities Located Adjacent to Existing Easements***

Where existing easements are not sufficiently wide to accommodate new facilities, TransCanada proposed locating facilities adjacent to existing easements, provided that environmental, engineering, construction and safety concerns were adequately met.

New facilities in this category are located at Grenfell, Saskatchewan; Rapid City and Sandilands, Manitoba; and at Camp Lake, Crane Lake, Dryden, the Thunder Bay Shortcut, MacDiarmid, Geraldton, Hearst, Cochrane, Swastika, Haileybury and the Montreal Line Loop in Ontario. The total length of the above-noted loop sections is 300.4 km and the length of the required new easement is 198.1 km.

#### ***Views of the Board***

The Board concurs with TransCanada's proposal to install new facilities adjacent to existing easements, and accepts the routes proposed by TransCanada for the above-noted loop sections.

#### ***5.1.1.3 Iroquois Extension***

The 4.5 km Iroquois Extension extends from MLV 145 + 9.7 km to the Canada-United States border near Iroquois, Ontario.

In its route selection process, TransCanada considered engineering and construction options, and environmental and right-of-way constraints, including physical, natural and cultural factors. In TransCanada's view, surrounding land uses are compatible with the general route and facilities proposed, and no sensitive areas will be affected.

#### ***Views of the Board***

No route-related concerns have been identified, and the proposed general route for the Iroquois Extension is acceptable to the Board.

### ***5.1 Land Requirements and Temporary Work Space***

### ***Land Requirements***

The Board concerns itself with the potential impact of land requirements for pipeline construction (easements) on affected landowners. TransCanada provided, for each loop location, schematics of the land requirements and a description of its existing easements, the pipeline location within those easements, and the terrain conditions. TransCanada submitted its general policy on land requirements, which is summarized below.

Once the preferred location for a proposed line is established, land requirements are assessed on the basis of proximate land uses, terrain features and the location of other pipelines. TransCanada has submitted that it uses only enough land to permit the safe and efficient installation, and operation and maintenance of its facilities.

In open terrain or cultivated lands, a line separation of 10 m from existing facilities and a setback from the right-of-way limit of 3 m is established to ensure safety, access for operations and maintenance of the facility. In areas where a green belt exists, line separation is generally 15m.

In wet or swampy terrain, line separation is generally 15 to 20 m, which serves to ensure that existing lines are not disturbed. In cases where the orientation of existing facilities warrants it, additional permanent easements may be required to achieve this separation.

### ***Easements***

Easements ranging in width from 13.7 to 42.7m are required by TransCanada along the 29 proposed loop sections.

### **Temporary Workspace Requirements**

TransCanada requires from 10 m to 30 m width of temporary workspace for machinery movement, for the storage of soil, and to ensure that no environmental or landowner considerations are jeopardized. This is in accordance with TransCanada's Pipeline Construction Specifications, 1988.

### ***Views of the Board***

The Board finds that TransCanada's anticipated requirements for easements and temporary work space are reasonable and justified.

### ***5.1.3 Early Public Notification***

In accordance with the Board's Draft Memorandum of Guidance regarding early public notification, TransCanada sent information packages to municipalities, provincial government agencies and local interest groups of which it was aware; twice ran public notice advertisements in newspapers during the period from 13 December 1989 to 12 January 1990; and replied to correspondence and telephone contacts with parties responding to its public notice program. It is TransCanada's policy to maintain liaison with agencies having an interest in the proposed facilities in order to address their concerns during the finalization of project design, scheduling, construction and restoration.

### ***Views of the Board***

In the Board's view, TransCanada has conducted a satisfactory public notification program.

#### ***5.1.4 Exemptions from Paragraphs 31(c) and (d) and Section 33 of the Act***

TransCanada requested, inter alia, that certain of the applied-for line pipe sections be exempted, pursuant to section 58 of the Act, from the provisions of paragraphs 31(c) and 31(d) and section 33 thereof. Such exemptions would relieve TransCanada from the necessity of filing plans, profiles and books of reference and, as a consequence, from the procedures involved in obtaining Board approval thereof.

### ***Views of the Board***

In deciding whether or not to exempt facilities from the provisions of paragraphs 31(c) and 31(d) and section 33 of the Act, the Board has been mindful of the rights of neighbouring landowners. The Board is of the opinion that due to the nature of the facilities' locations, i.e., on existing easements or new easements adjacent thereto, those landowners would not be adversely affected by the proposed construction.

In order to protect the interests of the owners of lands proposed to be acquired by TransCanada, the Board is only prepared to exempt the facilities from the provisions of paragraphs 31(c) and 31(d) and section 33 of the Act on condition that all necessary option or easement agreements be executed by such landowners prior to the commencement of construction. An exemption order would be issued by the Board after Governor in Council approval of the certificate.

## **5.2 Environmental Matters**

### ***Environmental Assessments***

In its GH-5-89 application, TransCanada submitted an environmental assessment for each of the proposed pipeline loops, and adopted its recommendations to prevent or mitigate adverse environmental impacts resulting from the construction of each IOOD.

The environmental descriptions, impact assessments and mitigation recommendations contained in the Company's Environmental and Socio-Economic Assessments focussed on a range of environmental concerns. An Environment Issues List, which included the recommended methods to prevent or reduce specific environmental impacts, was provided for each proposed pipeline loop.

### ***Agriculture***

One environmental issue of concern was the potential loss of agricultural capability through wind erosion of sandy soils, in particular in the Great Sand Hills (MLV 4 to MLV 4 + 10 km), mixing of highly saline subsoil with less saline topsoil (Vibank and Rapid City Loops); and the rutting and compaction of fine textured agricultural soils.

TransCanada submitted a reclamation plan for the pipeline loop through the Great Sand Hills of Saskatchewan. In the case of saline subsoils, TransCanada submitted that, if highly saline subsoil was encountered during pipeline construction, it would segregate it from the topsoil. Standard mitigative procedures and construction techniques would be implemented to relieve rutting and compaction.

## ***Hydrology***

The environmental issues on the proposed pipeline loops across northern Ontario related to water and water quality. Those issues included potential arsenic contamination as a result of exposing arsenic-rich rocks to weathering, re-suspension of mercury-contaminated sediments at the crossing of the Wabigoon river, preservation of the quality of the Town of Hearst's water during construction of the Mattawishwia River crossing 2.5 km upstream of the Town's water supply inlet, and preservation of the quality of water in wells within 100 m of the pipeline centreline.

TransCanada submitted that, with respect to the Ministry of Environment - North Bay District's concern about arsenic contamination on the Haileybury loop (MLV 110 to MLV 110 + 9.4 km), its consultants were looking into the matter and had had discussions with the Ontario Ministries of Environment and Northern Development and Mines. TransCanada did believe, however, that the increase in arsenic concentration that would result from the weathering of blast rock could not be distinguished from the high natural background concentrations of arsenic in those areas.

For the Wabigoon River, core samples would be taken at the proposed crossing site and leachate toxicity tests would be performed on the samples. TransCanada testified that it would file the results of those tests with the Board. In addition, based on the results of these tests, TransCanada would establish its procedures for the disposal of dredged material.

TransCanada submitted that it would implement the procedures in its Pipeline Construction Specifications, 1988 to minimize the extent and duration of siltation from construction activities while maintaining an unimpeded flow of water, thus protecting the quality of the Town of Hearst's water supply.

In areas on the proposed pipeline loops requiring blasting, TransCanada has undertaken to monitor wells within 100 m of the pipeline centreline. Monitoring would include measuring static water levels, and depths of wells as well as water quality analyses.

## ***Stream and River Crossings***

TransCanada has developed standard mitigative measures which are to be followed for all watercourse crossings. TransCanada submitted that those measures would limit the potential environmental impacts associated with water crossings. The Ontario Ministry of the Environment had made comments in respect of the St. Lawrence River Crossing on the Iroquois Extension and several stream crossings on the Montreal loop (MLV 147 + 13.9 km to MLV 147 + 21.5 km). TransCanada met with personnel from the Ontario Ministry of Environment and advised the Board that the Company and the Ministry had come to an agreement regarding the Ministry's concerns.

## ***Wildlife Resources***

TransCanada indicated that on the Vibank loop (MLV 18 + 3.5 km to MLV 19) waterfowl habitat was considered to be of generally good quality. For that reason, TransCanada indicated that it would adjust its construction schedule to permit construction of the pipeline loop outside of the critical May and June waterfowl nesting period in that area.

In Ontario, there is a moose concentration area on the Cochrane loop between MLV 102 + 3.2 km and MLV 102 + 5.2 km. TransCanada had not yet had any discussions with the Ministry of Natural Resources, however, it anticipates receiving comments prior to construction of the pipeline loop.

## ***Heritage Resources***

TransCanada provided information on heritage resources for the proposed pipeline loops in Saskatchewan. That was based on information on file with Saskatchewan Culture, Multiculturalism and Recreation and three previous heritage resource impact assessment studies (Kelly, 1982, Mallory, 1984 and TransCanada, 1989).

TransCanada indicated that it was prepared to accept the offer from Saskatchewan Culture, Multiculturalism and Recreation for terms of reference for a Heritage Resource Impact Assessment. The Heritage Resource Impact Assessment would be undertaken in early spring 1991.

### ***Ecologically Significant Areas***

TransCanada indicated that the Sandilands loop in Manitoba would traverse an area designated as an ecologically significant area for the Great Grey Owl (MLV 43 + 4 km to MLV 43 + 7.5 km). TransCanada testified that it did not contemplate rerouting the proposed loop in order to avoid the Great Grey Owl nesting area. The Company did indicate, however, that the proposal calls for no clearing of additional temporary work room, and that tree cutting will be kept to a minimum through the Great Grey Owl nesting area.

### ***Environmental Monitoring***

TransCanada submitted that an environmental seminar will be held so that all environmental undertakings, standard operating procedures, specifications, and responsibilities, are understood by TransCanada's Technical Inspectors and the Contractor's supervisory staff.

An Environmental Inspector will be on site throughout construction to ensure that TransCanada's practices and procedures to minimize environmental effects are carried out, to provide expertise as required, and to ensure compliance with environmental legislation.

### ***Ontario Pipeline Coordinating Committee***

The Ontario Pipeline Coordinating Committee ("OPCC") had negotiations with TransCanada to ensure that TransCanada was aware of Ontario's concerns and that an agreement could be reached on the procedures to be followed to protect the environment in Ontario. TransCanada testified that, as a result of those negotiations, it had agreed to 11 undertakings regarding water crossings, blasting, notification of Ontario personnel and the provision of post-construction and as-built reports. The OPCC submitted that the Board should include the undertakings as general terms and conditions in any certificate to be issued.

### ***Views of the Board***

If the measures for environmental protection are implemented, the construction of the proposed loops should create only minimal environmental impacts of a local and temporary nature. TransCanada will be required to submit to the Board environmental information regarding heritage resource surveys, the proposed St. Lawrence River crossing and toxicity tests at the Wabigoon River crossing.

The Board has noted the undertakings made to the OPCC and will recommend to the Governor in Council that any certificate issued include a general condition requiring TransCanada to respect those undertakings.

The Board will require TransCanada to implement the policies and recommendations contained in the application and the environmental reports, including the Environmental Issues List. TransCanada will also be

required to implement all undertakings made to the Board during the hearing.

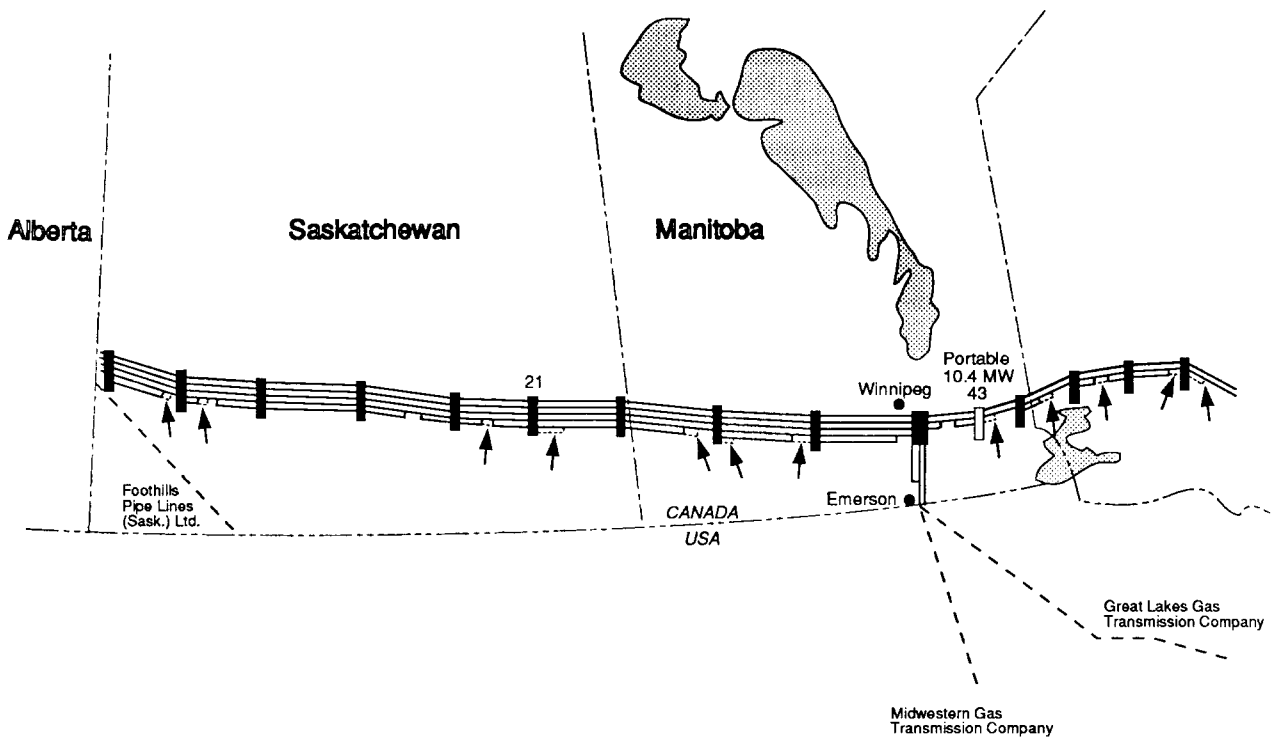
To determine whether the environmental objectives have been achieved, the Board will require TransCanada to file a postconstruction environmental report within six months of the date that leave-to-open is granted. That report should discuss all the issues that have been identified up to that time, along with a report on their status, as well as the measures to be implemented for the resolution of any outstanding issues.

The Board will require TransCanada to file a similar report by 31 December following each of the first two full growing seasons after construction.


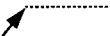





## **Chapter 6**

### **Need For Facilities**

As summarized in Table 1.1, the portion of the GH-5-89 facilities considered for early certification consists of 224 km of Central Section looping scheduled for winter construction, 168 km of system-wide looping to be constructed in the 1991 summer, the 4.5 km Iroquois Extension, and two compressor relocations. These facilities are a subset of the proposed GH-5-89 expansion, representing approximately one-quarter of the total project.



### Legend

-  Existing and Approved Pipeline
-  Proposed Pipeline Loop
-  Proposed Pipeline
-  Existing Compressor Station
-  Existing Compressor Station No. with Proposed Additions in MW
-  116
-  New Compressor Station

Note: Additions to Stations 88, 116, 1206, and 1217 will consist of units previously authorized by Board Order XG-5-90 and Certificate GC-77.



Figure 6.1

# TransCanada PipeLines Limited

## Location of Partial Facilities Applied For

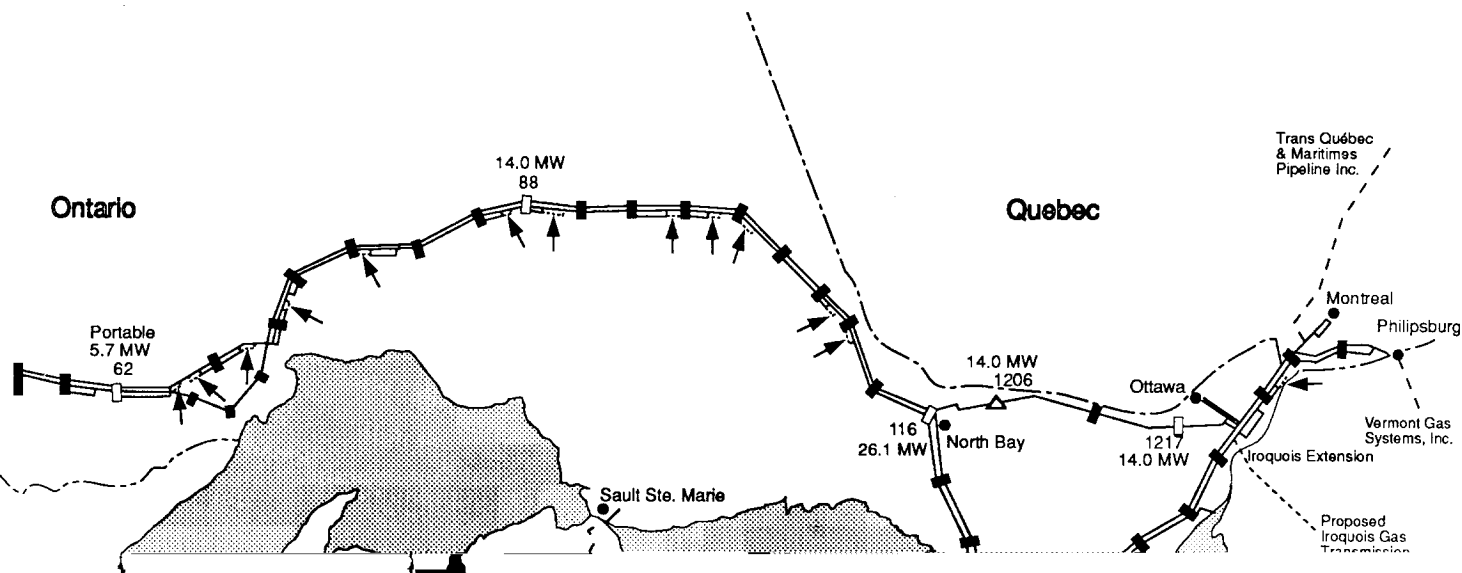


Figure 6-1

Figure 6-2

### *Views of Intervenors*

Interested parties who provided evidence and argument did not submit specific comments on the design of the facilities needed for TransCanada's proposal. However, parties which included the domestic shippers for which executed contracts were filed (Simplot, Union, GMi, ICG (Ontario)), other shippers (ANE and Consumers') and governments (Alberta Petroleum Marketing Commission and Ontario), all supported TransCanada's application to provide 4 390 10 3m<sup>3</sup>/d (155 MMcfd) of new capacity. IGUA limited its support to those facilities necessary to provide only the 2 920 103m<sup>3</sup>/d (103 MMcfd) of contracted capacity (see Section 2.2).

### *Views of the Board*

The applied-for facilities represent a reasonable expansion of the TransCanada system to provide required new firm transportation services to eastern Canada by November 1991. The Board recognizes that the facilities may not be optimal in the short run to provide 4 390 103m<sup>3</sup>/d (155 MMcfd) should no further expansion be required. This is due to constraints imposed by applying for a portion of a larger expansion program, and the need to construct several loop sections in northern Ontario during the winter months of the 1990-91 season.

The Board also agrees that the proposed 37 km of additional security looping should be installed on the Thunder Bay Bypass, in light of developments associated with stress corrosion cracking on Line 2, and other pipeline incidents on Line 1 in these isolated areas. It is also acknowledged that the proposal for western looping has been complicated by operating problems of 12 MW Spey compressor units such as the one installed at North Bay. The Board notes TransCanada's decision to install a previously authorized 26 MW unit here instead of at Station 21 on the western section. Some additional FS requests are expected to ripen in the near future, thereby justifying some future additional facilities. This should minimize the impact of problems associated with the upstream looping, such as the early authorization of Line 6 construction.

The total cost of these facilities to deliver 4 390 103m<sup>3</sup>/d (155 MMcfd) represents a higher than average unit cost of expansion. Difficulties have arisen from the move of the 26 MW unit from Station 21, as well as recent problems with the 1990 western looping program caused by the late delivery of the two other large western units approved by Certificate GC-77. The Board views these as examples of detrimental effects on the efficient expansion of the pipeline system when major compressor units are not ordered in a timely manner. These effects contribute to higher unit costs of expansion. Besides the three 14 MW units authorized by Order XG-590, none of the other fourteen new mainline compressor units proposed in GH-5-89 are forecast to be in service before March 1992. The Board expects TransCanada to make every effort to order compressor units within a timeframe which will allow for a more balanced, efficient combination of looping and compression to be available to meet forecast requirements.

### *Decision*

**The Board will recommend to the Governor in Council the issuance of a certificate in respect of all of the facilities proposed for early certification, consisting of 391.4 km of looping, the 4.5 km Iroquois Extension and two compressor relocations. The certificate would be subject to the conditions outlined in Section 7.**

## Chapter 7

### Certificate Conditions

#### 7.1 Requirements

TransCanada supported the facilities to deliver 2 920 103m<sup>3</sup>/d (103 MMcfd) by providing executed FS and STS transportation contracts with ICG (Ontario), Simplot, Union and GMi, as discussed in Section 2. The Company requested that, since the remaining

470 103m<sup>3</sup>/d (52 MMcfd) was advance capacity, there was no need to impose a condition requiring the submission of executed transportation contracts before commencement of construction.

TransCanada requested that the Iroquois Extension be conditioned only upon the issuance of a FERC certificate for construction of downstream facilities, and not upon the execution of signed transportation contracts as had been proposed originally in its August 1990 Procedural Proposal.

#### *Views of the Board*

Most certificates issued by the Board include conditions related to the filing of executed transportation contracts before the commencement of construction. The Board notes that contracts supporting the 2 920 103m<sup>3</sup>/d (103 MMcfd) of capacity were filed at an early stage in this process. The Board agrees that it would be consistent with the definition of advance capacity to not require the filing of additional contracts before the commencement of construction of the mainline facilities in this application. These facilities will be available for use by any domestic or export shipper which satisfies the requirements of the queuing procedures.

However, the Board believes that the Iroquois Extension facilities can only be used by specific shippers, namely, those providing service destined for the Iroquois pipeline. Accordingly, the Board will include a condition related to the filing of the necessary executed transportation contracts before commencement of construction of this extension.

#### *Decision*

**The Board will recommend to the Governor in Council that a condition be included in the certificate providing that, prior to commencement of construction of the 4.5 km Iroquois Extension, and unless the Board otherwise directs, TransCanada shall demonstrate to the Board that:**

- (i) all necessary U.S. regulatory approvals have been granted in respect of any necessary downstream facilities and transportation services; and**
- (ii) the necessary transportation service contracts have been**

#### 7.2 Technical Matters

TransCanada was requested to comment on the appropriateness of certain technical conditions that had been attached to previous certificates. These conditions required the submission of:

- (i) a detailed construction schedule;
- (ii) construction progress and cost reports;
- (iii) welding and non-destructive testing procedures;
- (iv) certain drawings and specifications; and
- (v) environmental reports.

TransCanada stated that the condition pertaining to the submission of welding procedures 21 days before commencement of pipeline welding is unnecessarily onerous. The Company suggested that these documents should be submitted at the time of application for leave to open, or that the condition should be dropped because leave to open applications attest to conformance with the *Onshore Pipeline Regulations*.

#### ***Views of the Board***

Section 21 of the *Onshore Pipeline Regulations* requires Board approval of welding procedures. Those procedures which are in accordance with Canadian Standards Association ("CSA") standards are deemed to be approved by the Board and normally need not be filed with the Board. Procedures which deviate from CSA standards must be filed for Board approval. All procedures must be maintained by the company and be available for Board audit. Since TransCanada must comply with the *Onshore Pipeline Regulations* at the time of construction and pipeline welding, the condition requiring the filing of welding and non-destructive testing procedures will not be included in the certificate.

The Board also notes that, although preliminary studies for the St. Lawrence River crossing indicate preference for an open-cut installation, studies have not yet been completed. Accordingly, TransCanada is required to file, for Board approval, the documentation supporting its proposed method for crossing the St. Lawrence River, before the commencement of construction of the river crossing.

#### ***Decision***

**The Board will recommend to the Governor in Council that the above technical conditions be included in the certificate, with the exception of the condition requiring the filing of qualified welding and non-destructive testing procedures. In addition, the Board will recommend that a condition be included regarding prior approval of the construction method for the St. Lawrence River crossing. Additional conditions pertaining to environmental and right-of-way matters are addressed in Section 5.0.**

## **Chapter 8**

### **Disposition**

The foregoing chapters constitute our Decisions and Reasons for Decision in respect of the partial facilities application.

J.G. Fredette

Presiding Member

A.B. Gilmour  
Member

M.J.Musgrove  
Member

R. Illing  
Member

K.W. Vollman  
Member

Ottawa, Canada  
November 1990