National Energy Board | Office national de l'énergie

Reasons for Decision

Petro-Canada

GH-3-2001

December 2001

Facilities

National Energy Board

Reasons for Decision

In the Matter of

Petro-Canada

Medicine Hat Pipeline

GH-3-2001

December 2001

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Approximate Conversions

1 metre	=	3.28 feet
1 kilometre	=	0.62 miles
1 cubic metre	=	35.3 cubic feet
1 gigajoule	=	0.95 MMBtu
1 hectare	=	2.47 acres
1 000 kilopascal	=	145 psi
1 000 cubic metres	=	36.6 gigajoules[1]

[1] This represents the average heating value of gas that would flow on the proposed Medicine Hat Pipeline and is somewhat less than the average heating value of Alberta gas at NOVA Gas Transmission Ltd.'s Empress export delivery point.

Abbreviations

$10^3m^3/d$	thousand cubic metres per day
$10^6m^3/d$	million cubic metres per day
10^6m^3	million cubic metres
AEC	Alberta Energy Company
AEC Suffield	AEC Suffield Gas Pipeline Inc.
Applicant	Petro-Canada
Bcf	billion cubic feet
Board or NEB	National Energy Board
CEAA	*Canadian Environmental Assessment Act*
CSA Z662-99	Canadian Standards Association Z662-99, *Oil and Gas Pipeline Systems*
EPN	Early Public Notification
GFR	*Guidelines for Filing Requirements*
GJ	gigajoules
Hilda Unit	Medicine Hat Hilda Unit
Hilda Non-Unit	Medicine Hat Hilda Non-Unit
km	kilometre
kPag	kilopascals (gauge)
LRS	load retention service
m	metre
MHCU	Medicine Hat Consolidated Unit
mm	millimetre
MMcf/d	millions of cubic feet per day
NEB Act	*National Energy Board Act*
NGTL	NOVA Gas Transmission Ltd.

NPS	nominal pipe size (in inches)
O.D.	outside diameter
OPR-99	NEB's *Onshore Pipeline Regulations, 1999*
psig	pounds per square inch (gauge)
TransCanada	TransCanada PipeLines Limited

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act*, being Chapter N-7 of the Revised Statutes of Canada, 1985, as amended, and the Regulations made thereunder;

AND IN THE MATTER OF the *Canadian Environmental Assessment Act*, being Chapter 37 of the Statutes of Canada, 1992, as amended, and the regulations made thereunder;

AND IN THE MATTER OF an application by Petro-Canada pursuant to Part III of the *National Energy Board Act* for a Certificate of Public Convenience and Necessity permitting the construction of a natural gas pipeline and related facilities.

IN THE MATTER OF Hearing Order GH-3-2001.

HEARD in Calgary, Alberta on Monday 19 November 2001.

BEFORE:

J. S. Bulger	Presiding Member
R. J. Harrison	Member
E. Quarshie	Member

APPEARANCES:

R. A. Neufeld S. Lobban R. Miller	Petro-Canada
T. M. Hughes	AEC Suffield Gas Pipeline Inc.
P. Keys	NOVA Gas Transmission Ltd.
B. Prenevost	Alberta Department of Energy
A. Hudson	National Energy Board

Chapter 1

Introduction

On 25 July 2001, Petro-Canada (the Applicant) applied to the National Energy Board (the Board or NEB) for:

(a) a Certificate of Public Convenience and Necessity pursuant to section 52 of the *National Energy Board Act* (NEB Act) authorizing Petro-Canada to construct and operate a pipeline in southeastern Alberta and southwestern Saskatchewan (Medicine Hat Pipeline); and

(b) an Order pursuant to Part IV of the NEB Act designating Petro-Canada as a Group 2 company for the purposes of toll and tariff regulation.

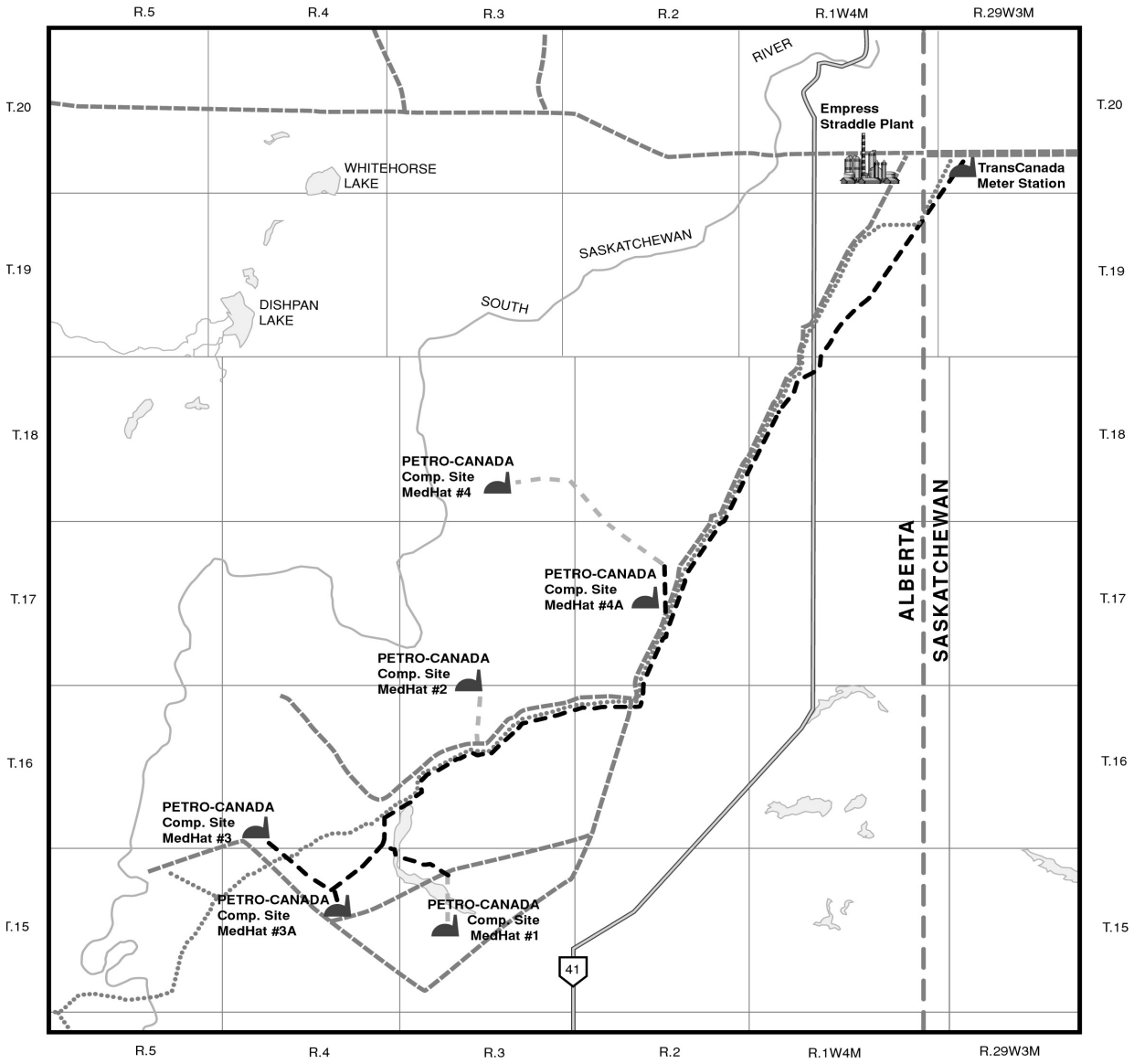
The proposed Medicine Hat Pipeline would consist of approximately 71.3 km of mostly 273.1 mm (NPS 10) outside diameter (O.D.) new natural gas transmission pipeline and associated control facilities, with a design capacity of approximately 1 500 $10^3m^3/d$ (53 MMcf/d). The proposed pipeline route begins near the southeastern side of the Suffield Military Block in Alberta and extends northeast to join TransCanada PipeLines Limited's (TransCanada's) mainline transmission system near Burstall, Saskatchewan (refer to Figure 1-1). The proposed route for the pipeline parallels existing NOVA Gas Transmission Ltd. (NGTL) and Alberta Energy Company (AEC) rights of way for most of its length. With the exception of short new laterals travelling to tie-in points along the south end of the pipeline, the only portion of the proposed route which does not parallel an existing right of way is a section of approximately 14 km in the Middle Sand Hills area located in the area of Township 19 Ranges 1 and 2 W4M. This deviation was undertaken at the request of Alberta Agriculture Food and Rural Development to avoid environmentally sensitive habitat.

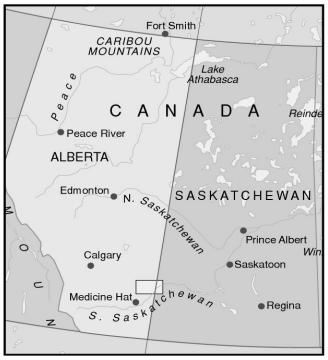
At the time of filing, Petro-Canada proposed to construct the Medicine Hat Pipeline between December 2001 and March 2002, with a proposed in-service date of 1 May 2002 and an estimated capital cost of $9.9 million. Petro-Canada subsequently revised its application and adjusted its construction schedule to the September 2002 to December 2002 time frame. The revised in-service date was 2 January 2003 with an estimated capital cost for the proposed facilities of $10.1 million.

The Board decided to consider the application in an oral public hearing and issued Hearing Order GH-3-2001 on 11 September 2001, which set out the Directions on Procedure for the hearing. The hearing was held in Calgary on 19 November 2001.

As a responsible authority under the *Canadian Environmental Assessment Act* (CEAA), the Board completed an Environmental Screening Report for the Medicine Hat Pipeline pursuant to the CEAA and the Board's regulatory process.

Figure 1-1
Medicine Hat Pipeline





LEGEND :

Proposed new Petro-Canada Pipeline:

Existing Petro-Canada Pipeline:

1998 AEC NEB Pipeline:

Existing NGTL Pipeline:

TransCanada PipeLine:

Petro-Canada Compressor:

Highway:

Chapter 2

Facilities and Pipeline Safety

2.1 Facilities Description and Design

The proposed Medicine Hat Pipeline would collect processed, sweet, dry natural gas from six existing Petro-Canada compressor stations in the Medicine Hat area of Alberta and transport it to a meter station connecting to TransCanada's system near Burstall, Saskatchewan. Petro-Canada indicated that TransCanada has agreed to construct, own and operate the meter station at the tie-in point.

The Medicine Hat Pipeline has been designed with a capacity of 1 500 $10^3m^3/d$ (53 MMcf/d) and would have a maximum operating pressure of 8 000 kPag (1,160 psig). The pipeline would be approximately 71.3 km in length, and its route would be adjacent to an existing utility corridor for the majority of the distance travelled.

The mainline portion of the Medicine Hat Pipeline would begin near Petro-Canada's Medicine Hat #3A compressor station where two new laterals would feed into the 219.1 mm (NPS 8) O.D. mainline. The lateral from Petro-Canada's Medicine Hat #3 compressor station would also be 219.1 mm (NPS 8) O.D. and would be approximately 3.7 km in length. The second lateral would originate at the Medicine Hat #3A compressor station, and would be 168.3 mm (NPS 6) O.D. and approximately 0.5 km in length.

A third new lateral would feed into the mainline approximately 4.3 km downstream of the first two laterals. This lateral would be 114.3 mm (NPS 4) O.D., approximately 4.5 km in length, and would tie into an existing upstream pipeline which currently carries gas for Petro-Canada's Medicine Hat #1 compressor station. The mainline tie-in point of the third lateral is also the location where the mainline diameter would increase to 273.1 mm (NPS 10) O.D. to accommodate the increased volume of gas.

The fourth new lateral would be a 168.3 mm (NPS 6) O.D. pipeline approximately 1.0 km in length which would feed production into the mainline from two Petro-Canada compressors, Medicine Hat #4A and Medicine Hat #4. An existing Petro-Canada lateral, which currently connects to an NGTL meter station, would also be tied into the mainline to carry gas from Petro-Canada's Medicine Hat #2 compressor station. Refer to Figure 1-1 for a map of the proposed facilities.

The facilities Petro-Canada applied for would begin at fenced property boundaries at the existing compressor stations or at flanged connections to Petro-Canada's existing lateral pipelines. Petro-Canada submitted that the existing compressor station facilities as well as the existing laterals would continue to operate under licences issued by the Alberta Energy and Utilities Board.

All line pipe would be coated with a polyethylene jacket, and joints would be protected with polyethylene heat shrink sleeves. The pipe size, wall thickness, grade and estimated lengths of the various segments are shown in Table 2-1.

Table 2-1
Pipe Specifications

Pipe Size O.D. (mm)	Wall Thickness (mm)	Grade	Length (m)
273.1	5.2	359 Cat. 1	47 000
273.1	6.4	359 Cat. 1	10 200
219.1	4.0	359 Cat. 1	8 000
168.3	3.2	359 Cat. 1	1 550
114.3	3.2	359 Cat. 1	4 500
Total			**71 250**

In addition to the facilities described above, the Medicine Hat Pipeline would include an impressed current cathodic protection system and a two-phase separator installed on the mainline downstream of the last receipt point, near the Medicine Hat #4A compressor station. Petro-Canada submitted that the separator would be designed to remove any liquid contaminants which potentially could be carried over from the compressor stations.

Petro-Canada stated that the operation of the Medicine Hat Pipeline would be monitored using a remote call-out system at each of the six existing compressor stations. Monitoring would be continuous with call-out alarms in operation 24 hours per day, 7 days per week. Petro-Canada further stated that Emergency Shut Down valves exist at all of the compressor stations feeding into the proposed pipeline.

Petro-Canada proposes to construct the facilities beginning in September 2002 with an expected in-service date of January 2003. The estimated capital cost of the proposed facilities is $10.1 million.

2.2 Safety of Construction and Operation

Petro-Canada submitted that the design, construction and operation of the Medicine Hat Pipeline would meet or exceed the requirements of the *Onshore Pipeline Regulations*, 1999 (OPR-99), the Canadian Standards Association Z662-99, *Oil and Gas Pipeline Systems* (CSA Z662-99), and all applicable standards, specifications and codes that are incorporated by reference into these standards.

Petro-Canada further submitted that it would develop and implement quality assurance and inspection procedures and submit these to the Board prior to construction. The audit and inspection program relating to operations and maintenance would be included in Petro-Canada's Operations and Maintenance Manual. The construction inspection program would be submitted as a separate document prior to construction, pursuant to section 53 of the OPR-99. Petro-Canada would also submit an Emergency Response Manual, which would address the potential effects on area residents and appropriate mitigation measures in the event of an emergency.

In a supplemental response to information requests, Petro-Canada submitted in greater detail how it would comply with section 4 of the OPR-99 using various manuals[1] as tools to achieve compliance. Petro-Canada also submitted Element 3 of its Total Loss Management program which outlined its change management program pursuant to section 6 of the OPR-99.

Views of the Board

Subject to the conditions discussed below, the Board is satisfied that the proposed facilities would be designed, constructed and operated in accordance with the NEB Act, the OPR-99, CSA Z662-99 and other appropriate governing codes.

The Board will impose a condition in any certificate that may be granted requiring Petro-Canada to submit, 14 days prior to the commencement of construction or operation of the Medicine Hat Pipeline, various documents prescribed by the OPR-99. More specifically, Petro-Canada would be required to file (i) a quality assurance program, (ii) a construction inspection program, (iii) a construction safety program, (iv) a field joining program, (v) a pressure testing program and (vi) an Emergency Response Manual. In addition, Petro-Canada has committed to submit its Pipeline Operations and Maintenance Standard, and its Western Canada Oil & Gas Facilities Specifications in confidence pursuant to section 16.1 of the NEB Act.

[1] These manuals include EXCEL Alliance Procedures Manuals (Volumes 1, 2 and 3), Petro-Canada Pipeline Operations and Maintenance Standard, PIPAR 99, Western Canada Oil & Gas Facilities Specifications, and Total Loss Management - National Standards.

Chapter 3

Land, Environment and Socio-Economic Matters

3.1 Route Description

Most of the proposed route for the Medicine Hat Pipeline would be adjacent to existing pipeline and electric powerline rights of way.

Criteria for the proposed route selection between the identified control points included:

- maximizing the use of existing linear disturbances (roads, pipelines, powerlines);
- reducing, to the extent possible, the location of the route in undisturbed native prairie;
- avoiding permanent and larger seasonal wetland areas;
- avoiding known archaeological or palaeontological features;
- minimizing potential conflict with special status wildlife species or species of management concern; and
- avoiding listed rare plants and unique vegetation communities.

The proposed pipeline route is to begin at Township 15, Range 4, W4M, in Alberta, and extend northeast to join the TransCanada system near Burstall, Saskatchewan. There would be a 14 km deviation on the north end of the proposed pipeline route in and around Township 19, Ranges 1 and 2, W4M where the existing utility corridor travels through the Middle Sand Hills.

3.2 Land Requirements

Petro-Canada indicated that a 15 m wide permanent right of way and 5 m of temporary adjacent workspace would be required for construction purposes. Extra workspace would be required for the topsoil and spoil storage at all road, water, wetlands, foreign line crossings, sharp side bends, and areas requiring grading. The proposed pipeline route parallels, for the most part, existing NGTL and AEC rights of way. With the exception of short new laterals travelling to tie-in points along the south end of the pipeline, the only portion of the proposed route which does not parallel an existing right of way is a section of approximately 14 km in the Middle Sand Hills area located in the area of Township 19, Ranges 1 and 2, W4M.

Petro-Canada originally stated that where an existing right of way was contiguous to the proposed pipeline, it would utilize up to 8 m of the existing disturbance as temporary workspace. Petro-Canada later stated that it no longer intends to utilize adjacent right of way for temporary workspace and is confident that a 15 m right of way would be adequate for its construction purposes.

3.3 Public Consultation

Petro-Canada implemented a public consultation program to ensure that those with an interest in or those affected by the proposed pipeline had an opportunity to participate in shaping the project. The purpose

of a public consultation program, required under the Board's *Guidelines for Filing Requirements* (GFR), is to inform the public about the project, to seek public input into the route selection, environmental assessment and socio-economic impact assessment, to identify issues and concerns of those potentially affected by the project and to resolve issues.

Petro-Canada submitted that its public consultation goals were:

- to have an open and well-documented process;
- to ensure that all interested and potentially affected parties received information on the project in a timely manner;
- to provide effective, simple, friendly avenues for the public to receive information, share their views, and become involved in the project;
- to ensure public input into identifying and resolving issues and concerns throughout the project; and
- to work in collaboration with interested parties to resolve identified issues and concerns.

Petro-Canada completed in-person project notification with approximately 40 landowners and occupants of freehold and provincial Crown land directly impacted by the proposed pipeline route, all the municipalities within the socio-economic area of the proposed project and key regulatory agencies and environmental groups. Petro-Canada notified other environmental groups and regulatory agencies by mail and, in many cases, by telephone. The general public was advised of the proposed project Open House through advertisements in three local newspapers (Medicine Hat, Maple Creek, and Leader, on 6 and 13 November 2000). The Open House was held 15 November 2000 in Schuler, Alberta. Petro-Canada chose this location because of its proximity to the proposed pipeline route. Petro-Canada provided its information package to all the affected landowners and occupants along the proposed pipeline right of way, the municipalities in the immediate area, a number of environmental non-government organizations in Alberta and Saskatchewan and to the Open House attendees.

In compliance with the GFR, Petro-Canada conducted a public consultation program to inform the public about the project and to seek public input into route selection and the environmental and socio-economic impact assessment. In its application and subsequent filings, Petro-Canada identified issues and concerns raised by the public and undertook to resolve those issues.

Petro-Canada will provide landowners with cultivated lands at least two weeks notice prior to the onset of construction to prevent or reduce impacts to their farming activities. Petro-Canada has committed to provide breaks in the strung and set-up pipe, spoil/topsoil windrows and open ditches to facilitate day-to-day farming operations.

Petro-Canada has committed to continue providing project information to those requesting it and to those who will be potentially affected by or who are interested in the project. It will also continue to consult with landowners and occupants, regulatory agencies, environmental groups, and directly affected stakeholders to ensure that issues and concerns are resolved and potential effects mitigated.

Views of the Board

The Board finds the route selection criteria identified by Petro-Canada to be acceptable. Further, Petro-Canada's approach to route selection has resulted in an appropriate general route for the pipeline.

The potential impacts of the construction of the pipeline on affected landowners, including the amount of land required for permanent easement and temporary work space, have been considered by the Board. The Board finds that Petro-Canada's anticipated requirements for easement and temporary work space are reasonable and justified.

3.4 Environmental Matters

The Board considered environmental matters related to the Medicine Hat Pipeline project pursuant to the NEB Act and the CEAA. As a responsible authority, the Board completed an Environmental Screening Report pursuant to subsection 18(1) of the CEAA. No other responsible authorities were identified. However, Environment Canada provided specialist/expert information or knowledge regarding the proposed pipeline pursuant to subsection 12(3) of the CEAA. Environment Canada's comments were subsequently addressed by Petro-Canada and incorporated within the Environmental Screening Report.

The Environmental Screening Report contains information regarding the environmental assessment, any proposed mitigation, and the environmental conditions to be included in any certificate in respect of the project. The Environmental Screening Report also addresses matters pertaining to public consultation. Pursuant to the GH-3-2001 Directions on Procedure, parties wishing to receive a copy of the Environmental Screening Report for comment were requested to contact the Secretary of the Board before the end of the oral portion of the hearing. Only one party, Environment Canada, requested a copy for review. The Board circulated the Environmental Screening Report for comment to Petro-Canada and Environment Canada. Copies of the report are available on request from the Board's Publication Office.

Views of the Board

The Board considered the Environmental Screening Report and comments received and determined that, taking into account the implementation of Petro-Canada's proposed mitigative measures and those set out in the attached conditions (see Appendix II), the Medicine Hat Pipeline is not likely to cause significant adverse environmental effects. This represents a decision pursuant to paragraph 20(1)(a) of the CEAA, which was taken prior to making a decision under Part III of the Act in respect of the applied-for facilities.

3.5 Socio-Economic Matters

Petro-Canada stated that the overall effects of the Medicine Hat Pipeline on the socio-economic life of the host communities in the project area would be positive. In particular, Petro-Canada expects the project to:

- provide employment for an average of 70 workers over the three month construction period, 25 to 70 percent of whom would be local;

- contribute $1.6 million in employment income during construction;
- benefit local businesses from increased construction related expenditures;
- provide over $4.6 million in increased tax assessments for the two local municipalities; and
- lower gas transmission costs, thus increasing the long-term viability of Petro-Canada's Medicine Hat gas reserves.

Petro-Canada further stated that, by increasing the potential for export, providing another alternative for gas delivery and reducing the costs of delivery for shippers, the life of gas wells in the area would be extended, thus resulting in longer employment and other economic benefits.

Petro-Canada identified a number of potential socio-economic impacts, all of which were minor and would be mitigated. The maximum demand for commercial accommodation would be 8 percent of available supply; the workforce would represent a temporary increase of 0.1 percent in the local population, and construction traffic on Highway 41 between Medicine Hat and the construction spreads would amount to an 8 percent increase. These effects would be mitigated by encouraging the hiring of local workers, by establishing a common marshalling point in Medicine Hat, which also has higher commercial accommodation vacancy rates outside the summer months, and by requiring contractors to obtain permits for the use of roads during construction.

Under the CEAA, the Board also considered indirect socio-economic effects arising from changes in the environment, including potential effects on trapping and agricultural activities. These are addressed in the CEAA Environmental Screening Report referred to in the previous section.

Views of the Board

The Board notes that the minor socio-economic effects identified in the CEAA Environmental Screening Report will be mitigated and that the project fits in with the local economy. The Board finds the project's overall socio-economic effects to be beneficial.

Chapter 4

Financial Matters and Method of Regulation

4.1 Financial Matters

In its application, Petro-Canada indicated that the cost of the proposed pipeline would be approximately $10.1 million and stated that it would assume all of the financial risk of the project. Petro-Canada further submitted that the total cost of the construction would be financed internally. No concerns about financial matters were raised during the GH-3-2001 proceeding.

4.2 Tolls and Tariffs

Initially, Petro-Canada proposed to offer service to third parties but later stated that it had not decided whether tolls would be charged or whether the third party shippers would be offered an equity interest in the pipeline. Subsequently, Petro-Canada advised that there would be no third party shippers as it would be purchasing and shipping the gas for its own account.

NGTL contended that Petro-Canada is required to file a toll pursuant to subsection 60(2) of the NEB Act if it intends to ship its own gas. NGTL further submitted that Petro-Canada should be required to file with the Board copies of any gas purchase and sales arrangements it may make. Then the Board could ensure that any deemed tolls, pursuant to subsection 72(3) of the NEB Act, would be in accordance with section 62 of the NEB Act and that those tolls would be charged equally to all persons for transportation under substantially similar circumstances and conditions.

Petro-Canada reiterated that it intended to ship the gas for its own account and would not be charging a toll. It advised that a toll or tariff would be filed prior to shipping gas for third parties.

4.3 Method of Regulation

Petro-Canada applied to the Board to be regulated as a Group 2 Company for the purposes of toll and tariff regulation of the Medicine Hat Pipeline. Petro-Canada's request was not contested during the proceeding.

Views of the Board

On the basis of the financial information filed, the Board has determined that Petro-Canada is able to finance the proposed project.

The Board notes that Petro-Canada only intends to ship its own gas on the Medicine Hat Pipeline and will not be charging a toll. Accordingly, the Board sees no need for Petro-Canada to file with the Board copies of its gas purchase and sales agreements. If, in the future, third parties express an interest in shipping on the Medicine Hat Pipeline, the Board will require Petro-Canada to file a tariff.

Having regard to the size of the pipeline project, the Board finds the Group 2 method of regulation to be acceptable for Petro-Canada. Therefore, for administrative purposes, Petro-Canada will be regulated as a Group 2 Company in accordance with the Board's *Memorandum of Guidance on the Regulation of Group 2 Companies* dated 6 December 1995. Further, since Petro-Canada has advised that there are to be no third party shippers in the near future, the Board, pursuant to subsection 129(1.1) of the NEB Act, grants Petro-Canada exemption from the filing of audited financial statements until such time as Petro-Canada contemplates charging tolls or if there is to be a significant change in the operation of the pipeline, both of which require Petro-Canada to advise the Board accordingly. At that time, it may be necessary for the Board to reconsider the exemption from filing audited financial statements.

Chapter 5

Supply, Markets, Economic Feasibility and the Public Interest

5.1 Overview

Petro-Canada filed its application for a certificate of public convenience and necessity pursuant to section 52 of the NEB Act, which sets out the obligations of the Board with respect to an application. That section is as follows:

> The Board may, subject to the approval of the Governor in Council, issue a certificate in respect of a pipeline if the Board is satisfied that the pipeline is and will be required by the present and future public convenience and necessity and, in considering an application for a certificate, the Board shall have regard to all considerations that appear to it to be relevant, and may have regard to the following:
>
> (a) the availability of oil or gas to the pipeline;
> (b) the existence of markets, actual or potential;
> (c) the economic feasibility of the pipeline;
> (d) the financial responsibility and financial structure of the applicant, the methods of financing the pipeline and the extent to which Canadians will have an opportunity of participating in the financing, engineering and construction of the pipeline; and
> (e) any public interest that in the Board's opinion may be affected by the granting or refusing of the application.

Matters relevant to the design of the facilities (Chapter 2), land, environment and socio-economic matters (Chapter 3), and financial matters (Chapter 4) have been discussed in earlier sections of these Reasons for Decision. Remaining issues of supply (paragraph 52(a)), markets (paragraph 52(b)), economic feasibility (paragraph 52(c)) and other relevant public interest matters (paragraph 52(e)) are discussed in this chapter. First, the general comments of Petro-Canada and NGTL on the Board's application of section 52 are provided.

Petro-Canada stated that section 52 offers a number of guideposts which suggest what ought to be considered in determining whether the public interest has been satisfied. The answers to those issues or sub-issues are all designed to contribute to the ultimate answer to the broader question of whether the proposal is in the public interest. Petro-Canada maintained that the Medicine Hat Pipeline meets all of the criteria that the Board normally considers in assessing a section 52 application.

NGTL argued that the Medicine Hat Pipeline should not be approved. NGTL stated that it believed that in a regulated environment reasoned limits must be imposed on capacity additions to ensure that broader public interests and policies are protected and promoted. NGTL noted that the Board has, through its

decisions in prior bypass cases, established certain boundary criteria that guided it in approving those applications and which NGTL believes set the threshold limits for future proposals.

According to NGTL, the circumstances of the Medicine Hat Pipeline application test the bounds of the threshold limits. In NGTL's view, the facts in this case are a bit thinner and a little less compelling than the facts that successfully underpinned any of the prior cases. NGTL submitted that, if the Board approves the Medicine Hat Pipeline, the Board will essentially be lowering the established standards governing the approval of capacity additions.

5.2 Supply

Petro-Canada indicated that the proposed pipeline project would rely on gas supply from five producing properties operated by Petro-Canada in the Medicine Hat area. These five properties are Medicine Hat Project #1, Medicine Hat Project #2, Medicine Hat Hilda Unit (Hilda Unit), Medicine Hat Hilda Non-Unit (Hilda Non-Unit) and Medicine Hat Consolidated Unit (MHCU). Project #1, Project #2 and the Hilda Non-Unit are 100 percent owned by Petro-Canada, while Petro-Canada owns 82 percent of the Hilda Unit and 41 percent of the MHCU. The remaining ownership is held by four third parties, namely Gulf Canada Resources, the estate of H.T. Hargrave, Imperial Oil Resources and Mayfair Energy Ltd.

Petro-Canada's estimate of remaining reserves as of 31 December 1999 for the five properties totals 6 046 10^6m^3 (213.4 Bcf), with its working interest in the properties representing 4 694 10^6m^3 (166 Bcf) of these reserves. The Applicant expects reserves growth of some 3 374 10^6m^3 (119 Bcf) over the subsequent five years based on a comparison with average expected growth in Alberta. Total production from the five properties was estimated to reach a level of some 1 500 $10^3m^3/d$ (53 MMcf/d) during the year 2002, remaining flat until 2006 and declining thereafter to approximately 336 $10^3m^3/d$ (12 MMcf/d) by the year 2021. Petro-Canada's working interest represents approximately 60 percent of this production.

Petro-Canada's analysis indicates that further development would be required in both Hilda properties to optimize recovery from the region. Petro-Canada is optimistic that additional drilling in these properties would lead to additional reserves and longer producing life.

5.3 Markets and Transportation Contracts

Petro-Canada stated that its Medicine Hat gas is currently going to markets via the NGTL and TransCanada systems and that it would continue to go to the same markets if the Medicine Hat Pipeline were built. Further, continued market growth and demand in areas served by TransCanada and downstream pipelines interconnecting with TransCanada ensure that there is, and will continue to be, a long-term need for gas that would be transported on the Medicine Hat Pipeline. The existence of markets was not challenged by any party.

NGTL commented that the Medicine Hat Pipeline is different from previous bypass pipeline applications because there are no long-term transportation contracts for the proposed pipeline, nor are there likely to be any. Consequently, the Board does not have the traditionally accepted evidence that the pipeline would be used at a reasonable level and that the demand charges would be paid over its economic life.

NGTL also argued that there was no definitive evidence on the availability of third-party volumes for transport on the Medicine Hat Pipeline. NGTL noted that Petro-Canada hoped to arrange purchase of third-party volumes, but has not yet completed the negotiations. Petro-Canada stated that the gas purchase agreements with third party shippers are very close to completion and that no problems are anticipated as the process is finalized.

Petro-Canada said that it is prepared to finance and pay for the Medicine Hat Pipeline itself, and in the Applicant's view, this is far better evidence of the need for the pipeline than the fact that it may have a 15- or 20-year transportation service agreement with a marketing affiliate.

5.4 Economic Feasibility

Petro-Canada considered the economic feasibility of the Medicine Hat Pipeline to be a "non-issue". The annual savings available to Petro-Canada if it were to build the Medicine Hat Pipeline range from $4.2 to $4.7 million as compared to shipping on NGTL. Also, Petro-Canada estimated that its annual savings compared to shipping on the AEC South Suffield Pipeline would be in the range of $100,000 to $600,000. Further, to make the AEC option feasible, Petro-Canada would have had to incur substantial costs including $2.5 million for the installation of compression and $1.2 million for tie-ins, not including downtime costs or production losses.

NGTL questioned whether Petro-Canada would realize the savings it projected from the Medicine Hat Pipeline, because it has over 376 $10^3m^3/d$ (13 MMcf/d) tied to NGTL firm receipt service until November 2006. Petro-Canada also has contracts for 44 000 GJ per day of firm export delivery service on NGTL's system at Empress, 16 700 GJ per day of which will not expire until November 2008.

Petro-Canada responded that it intended to transfer the 376 $10^3m^3/d$ (13 MMcf/d) in receipt service contracts to other locations within the Project Area. This transfer is permitted under the NGTL tariff and would form part of Petro-Canada's monthly transportation optimization program. Further, Petro-Canada stated that it has a variety of supply arrangements in place at Empress, and that there would always be a mismatch in the Petro-Canada portfolio between export delivery contracts and firm receipt service contracts as a function of its marketing efforts.

5.5 Other Public Interest Matters

5.5.1 Competition

Petro-Canada argued that the Medicine Hat Pipeline would allow for a functioning gas transportation market. It is in the public interest to allow a functioning market and new entrants to the market should be encouraged. Petro-Canada stated that competition lowers transportation costs. When costs are lowered, drilling is encouraged and the life of reserves is increased which benefits producers, governments collecting royalties and ultimately consumers.

In Petro-Canada's view, responding to "untenable" tolls by building the proposed pipeline is a competitive, market-driven response. The response of a customer leaving NGTL if its reasonable requirements are not satisfied is a sign of pure competition and the market in operation.

NGTL contended that Petro-Canada's application was not about a real need to promote greater area competition or to foster customer choice in transportation services; rather the application was about price and nothing more. In NGTL's view, Petro-Canada simply wants to build the proposed facilities to move its gas at a lower cost than is possible on NGTL.

5.5.2 Potential Duplication of Existing Facilities and Commercial Impacts

NGTL argued that the Medicine Hat Pipeline would not add incremental pipeline capacity from the Western Canada Sedimentary Basin, since the project is a pure physical duplication of existing NGTL facilities. The Medicine Hat Pipeline would offload volumes from existing NGTL facilities, facilities that NGTL stated were designed, approved and constructed to transport those volumes. NGTL stated that the costs in lost revenues associated with the offloaded volumes would be borne by the remaining NGTL system shippers. NGTL maintained that even small amounts matter, and that the Board could not be certain whether the offloading would be short lived or in the long term.

NGTL questioned when it would be in the public interest for a party to construct a physically superfluous bypass pipeline for no other reason than to reduce its own transportation costs on the incumbent pipeline. NGTL remarked that, ironically, the Medicine Hat Pipeline would essentially parallel the existing AEC South Suffield pipeline which was itself a bypass of NGTL's system that the Board approved in its GH-2-98 Reasons for Decision[1]. The primary objective of the AEC South Suffield Pipeline was to promote competition and greater customer choice, while NGTL suggested that Petro-Canada's position, in this instance, is that AEC's services are not competitive enough. Petro-Canada prefers to build yet another pipeline in largely the same corridor that is used by the NGTL and AEC facilities.

NGTL asserted that it is nonsense to continue to add small pipelines, each of which serves the same physical purposes as its neighbour. It suggested that this kind of facilities proliferation cannot be in the greater public convenience and necessity. NGTL observed that Petro-Canada itself has acknowledged that a large single pipeline between two points provides efficiencies of economy and scale over multiple smaller lines between the same two points.

NGTL claimed that it was not necessarily a simple option for it to offer a load retention service (LRS) in response to a competitive bypass proposal. It cannot offer every party a special rate as certain standards and criteria must be met. NGTL must address each instance on a case-by-case basis. A commercial solution was not achievable in either the AEC North or AEC South Suffield Pipelines. NGTL remarked that had it been able to offer AEC LRS rates, then other area shippers, including Petro-Canada, would not have been far behind demanding similar treatment for similar service.

Petro-Canada argued that there is no evidence of any potential commercial impact on NGTL as a result of the Medicine Hat Pipeline. Further, it is not known how much of the lost revenue would be absorbed by NGTL and how much by its customers. NGTL could be completely insulated from the losses that would accrue as a result of Petro-Canada shipping its own gas if the small (in the third decimal point)

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[1] AEC Suffield Gas Pipeline Inc., GH-2-98, Reasons for Decision dated August 2000

impact on tolls were passed on to all NGTL customers. Petro-Canada noted that no NGTL customers have voiced opposition to the proposed facilities.

Petro-Canada stated that if NGTL wishes to respond to Petro-Canada's initiative with discussions on LRS or some other arrangement, it can do so. Petro-Canada noted that the Board has previously commented that NGTL has the tools to respond to proposals such as the Medicine Hat Pipeline, and if it did not have such tools NGTL could pursue them with its regulator. To date, NGTL has not offered a competitive response.

Petro-Canada explained that it actively pursued the negotiation of an LRS rate and also offered to purchase the necessary facilities from NGTL for the opportunity cost of the Medicine Hat Pipeline project of $10.1 million. In addition, Petro-Canada stated that it had pursued shipping on the AEC South Suffield pipeline, but there was not enough readily available capacity. Also, in order to ship on AEC, Petro-Canada would have had to incur the costs outlined in Section 5.4. Overall, these costs in addition to the AEC toll of $.104/GJ would have made it less economic to ship on the AEC South Suffield Pipeline than to build the Medicine Hat Pipeline.

Views of the Board

The Board is satisfied that Petro-Canada has adequate supply to support the proposed facilities. The Board agrees that the savings offered by the new facilities would enable Petro-Canada to optimize recovery of the reserves in the properties supporting the proposal and may result in the addition of new reserves in the area. While Petro-Canada's approach to estimating reserves growth resulted in a higher estimate of growth than may occur, based on the historical data for the respective properties, its approach to estimating future production from the area was conservative. On balance, the Board accepts Petro-Canada's view that there will be adequate supply over the life of the project.

Gas transported on the Medicine Hat Pipeline will supply existing markets in Eastern Canada and the United States. Continued market growth is expected in these areas. The Board therefore finds that the Medicine Hat Pipeline will have sufficient markets to support the proposed facilities over the life of the project.

The Board notes that Petro-Canada is committing 822 10^3 m^3/d (29 MMcf/d) of proprietary gas volumes to the Medicine Hat Pipeline and has stated that it is close to completing gas purchase agreements with third party shippers for 680 $10^3 m^3$/d (24 MMcf/d). The Board finds that the facilities are likely to be used at a reasonable level of their designed capacity over their economic life.

Compared to shipping on the AEC South Suffield Pipeline, Petro-Canada would save up to $600,000 annually by constructing the Medicine Hat Pipeline. This does not take into account the costs Petro-Canada would incur in pursuing the AEC option which include $3.7 million for the installation of compression and tie-ins, downtime costs and production losses. Compared to shipping on NGTL, Petro-Canada would save up to $4.7 million annually, and its investment of $10.1 million would be paid out in less than three years of operating the pipeline. As stated in Chapter 4, the Board believes that Petro-Canada is able to finance the proposed project. Putting aside the issue of the

duplication of facilities, the preceding facts satisfy the Board that the proposed pipeline has met the economic feasibility criteria of section 52.

The Board recognizes that the Medicine Hat Pipeline is a duplication of facilities in the region. However, the uncontradicted evidence establishes that Petro-Canada diligently explored all available alternatives to constructing the Medicine Hat Pipeline, including trying to negotiate an LRS rate with NGTL, shipping on the AEC South Suffield Pipeline and offering to purchase NGTL facilities. Petro-Canada is also currently involved in a cost study of NGTL's system which may lead to changes in NGTL's tolling structure in the future. In the meantime, Petro-Canada concluded that construction and operation of the Medicine Hat Pipeline represents its most economic gas transportation option.

The Board agrees that the public interest will be served by the Medicine Hat Pipeline by lowering transportation costs, the benefits of which will not only accrue to Petro-Canada and any third parties selling their gas to the Applicant, but also to the region as a whole. Enhanced recovery of gas resources will be another benefit of the Medicine Hat Pipeline. The Board notes that no party, other than NGTL, raised objections to the Medicine Hat Pipeline project.

Based on the preceding views, the evidence that the Medicine Hat Pipeline meets all of the criteria of section 52, and the overall benefit to the public interest, the Board finds that the Medicine Hat Pipeline is and will be required by the present and future public convenience and necessity.

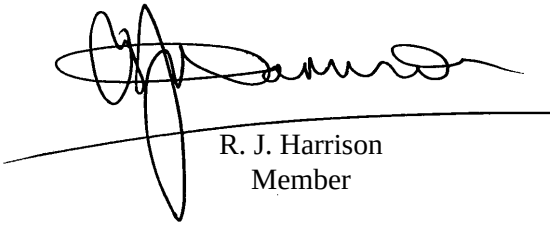
Chapter 6

Disposition

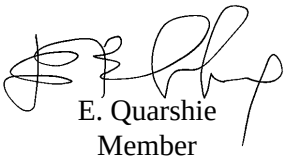
The foregoing constitutes our Decision and Reasons for Decision in respect of the Application heard before the Board in the GH-3-2001 proceeding.

The Board is satisfied from the evidence that the proposed Medicine Hat Pipeline is and will be required by the present and future public convenience and necessity. The Board approves Petro-Canada's Application made pursuant to section 52 of the NEB Act for new pipeline facilities and will, subject to the approval of the Governor in Council, issue a certificate subject to the conditions set out in Appendix II.

J. S. Bulger
Presiding Member



R. J. Harrison
Member



E. Quarshie
Member

Calgary, Alberta
December 2001

Appendix I

List of Issues

The Directions on Procedure identified, but did not limit itself to, the following issues for discussion in the GH-3-2001 proceeding:

1. The need for the proposed facilities.

2. The economic feasibility of the proposed facilities.

3. The potential commercial impacts of the proposed project.

4. The potential environmental and socio-economic effects of the proposed facilities, including those factors outlined in subsection 16(1) of the *Canadian Environmental Assessment Act*.

5. The appropriateness of the general route of the pipeline.

6. The method of toll and tariff regulation.

7. The appropriateness of the design of the proposed facilities.

8. The terms and conditions to be included in any approval which may be issued.

Appendix II

Certificate Conditions

General

1. Petro-Canada shall cause the approved facilities to be designed, manufactured, located, constructed and installed in accordance with those specifications, drawings and other information or data set forth in its application or as otherwise adduced in evidence before the Board in the GH-3-2001 proceeding.

2. Petro-Canada shall implement or cause to be implemented all of the policies, practices, mitigative measures, recommendations and procedures for the protection of the environment referred to in its application, any subsequent filings made in support thereof, or as otherwise adduced in evidence before the Board during the GH-3-2001 proceeding.

Prior to the Commencement of Construction

3. Petro-Canada shall file with the Board, at least 30 days prior to the commencement of any construction activity or as otherwise directed by the Board, a detailed construction schedule(s) identifying major construction activities and shall notify the Board of any modifications to the schedule(s) as they occur.

4. Petro-Canada shall submit to the Board for approval, at least 30 days prior to the commencement of any construction activity or as otherwise directed by the Board, a detailed outline of information related to environmental protection measures which will be presented to all field personnel during the oral safety and environmental orientation.

5. Petro-Canada shall demonstrate to the satisfaction of the Board that it has obtained the consent and necessary agreements for all road, railway, utility and pipeline crossings.

6. Petro-Canada shall file with the Board, at least 14 days prior to the commencement of any construction activity or as otherwise directed by the Board, the following documents:

    (a) a quality assurance program for the construction of the Medicine Hat Pipeline;

    (b) a construction inspection program that includes a detailed list of the number of each inspection position, including job descriptions, qualifications, roles, responsibilities, decision-making authority and reporting structure of personnel responsible for inspection of the various pipeline construction activities, including environment and safety;

    (c) the construction safety manual required pursuant to section 20 of the *Onshore Pipeline Regulations, 1999* (OPR-99); and

    (d) the joining program required pursuant to section 16 of the OPR-99.

7. Petro-Canada shall demonstrate to the satisfaction of the Board that it has acquired all the required Crown Land.

During Construction

8. Petro-Canada shall, during construction, maintain for audit purposes at each construction site a copy of the welding procedures and non-destructive testing procedures used on the project together with all supporting documentation.

9. Petro-Canada shall file construction progress reports with the Board on a bi-weekly basis in a form satisfactory to the Board. The reports shall include information on the activities carried out during the reporting period, any environmental and safety issues and non-compliances, and the measures undertaken for the resolution of each issue and non-compliance.

10. Petro-Canada shall file with the Board, at least 14 days prior to pressure testing, a pressure testing program pursuant to section 23 of the OPR-99, and any specific mitigative measures that Petro-Canada intends to use for hydrostatic testing.

Post-Construction

11. Petro-Canada shall file with the Board, at least 14 days prior to the commencement of operation, the following documents:

    (a) the operations and maintenance manual required pursuant to section 27 of the OPR-99; and

    (b) the emergency procedures manual for use during operations, as required pursuant to section 32 of the OPR-99.

12. Within 30 days of the date that the approved facilities are placed in service, Petro-Canada shall file with the Board a confirmation by an officer of Petro-Canada that the approved facilities were completed and constructed in compliance with the above-noted conditions. In the case of non-compliance with any of the conditions, Petro-Canada shall file with the Board a statement of reasons for the non-compliance.

13. Petro-Canada shall file with the Board, within six months of the date that the facilities are placed in service or as otherwise directed by the Board, a Post-Construction Environmental Report. The report shall describe the environmental issues that have arisen up to the date the report is filed and shall:

    (a) state whether the issues have been resolved; and

    (b) describe the measures Petro-Canada proposes to take in respect of unresolved issues.

14. Petro-Canada shall file with the Board, on or before the 31 January that follows each of the first, second, and third complete growing seasons following the filing of the Post-Construction Environmental Report or as otherwise directed by the Board, a report which describes:

(a) the status of any unresolved environmental issues identified in the Post-Construction Environmental Report and any other environmental issues that have arisen since that report was filed;

(b) a description of the measures Petro-Canada proposes to take in respect of any unresolved environmental issues; and

(c) an assessment of the effectiveness of the reclamation measures undertaken on the right of way based on a comparison with the land use and condition of lands adjacent to the right of way.

15. Petro-Canada shall file with the Board a Rare Plant Monitoring Report. Unless otherwise directed by the Board, the report shall:

(a) be filed within six months of the completion of the monitoring surveys;

(b) be completed for five complete growing seasons following the date that the facilities are placed in service;

(c) set out the occurrences of rare plants in any areas disturbed during construction; and

(d) provide an analysis of the effectiveness of any rare plant mitigation measures which were employed during construction of the project.

Expiration of Certificate

16. This certificate shall expire on 31 December 2003 unless the construction and installation with respect to the applied-for facilities have commenced by that date.