

## 1. APPLICATION

IN THE MATTER OF an Application by Foothills Pipe Lines Ltd., on behalf of Foothills Pipe Lines (Alta.) Ltd. for an order of the National Energy Board pursuant to Section 58 of the National Energy Board Act;

To: The Secretary  
National Energy Board  
444 – 7<sup>th</sup> Avenue S.W.  
Calgary, AB  
T2P 0X8

### APPLICATION

1. Foothills Pipe Lines Ltd. and Foothills Pipe Lines (Alta.) Ltd. (jointly “Foothills” or the “Applicant”) are incorporated under the Canada Business Corporations Act, own and operate facilities certificated pursuant to the provisions of the Northern Pipeline Act and the National Energy Board Act, and are companies as defined by the National Energy Board Act (the “Act”).

### BACKGROUND

2. The Applicant owns and operates approximately 380 km (238 miles) of 1067mm (42 inch) OD pipeline, related compression facilities and Decompression/Recompression Facilities (the “De/Re Facilities”) within the province of Alberta between a point of interconnection with the facilities of TransCanada PipeLines Limited (the “Alberta System” or “TransCanada”) near Caroline, Alberta and a point of interconnection with the facilities of Foothills Pipe Lines (Sask.) Ltd. at the Alberta/Saskatchewan border near Empress, Alberta. This segment of the pipeline and related facilities comprise a part of Zone 6 of the Eastern Leg of Phase 1 of the Alaska Natural Gas Transportation System.
3. The Zone 6 facilities were originally constructed in 1982 and were operationally integrated with the Alberta System. The integrated facilities both delivered gas to Empress at relatively low pressure. In June, 1989, the National Energy Board (the “Board”) authorized the construction of the De/Re Facilities adjacent to the Empress II Extraction plant in the SW $\frac{1}{4}$  of Section 12-20-1-W4M in the Province of Alberta. The De/Re Facilities enabled Zone 6 to be segregated from the Alberta System and operated at high pressure consistent with its original design. The initial De/Re Facilities were placed into operation on December 1, 1990.

4. In June 1991 and in January 1997, the Board authorized the expansion of the De/Re Facilities. The revised and expanded facilities configurations were placed into service in September 1992 and December 1998 respectively.

#### APPLICATION

5. The Applicant proposes to construct certain facilities in order to provide three Empress-area extraction facilities with the ability to directly access the natural gas stream transported on Zone 6 in order to remove liquid hydrocarbons which may be entrained from time to time. The proposed facilities are described herein and in a companion application filed concurrently with this Application.

#### IN SUPPORT OF THIS APPLICATION

6. TransCanada holds a transportation service agreement for the full contract volume on Zone 6 of the Foothills system. Certain constituent components of the gas are generally removed at straddle facilities prior to the gas being exported from the Province of Alberta.
7. Foothills is currently interconnected with one straddle facility. Three other Empress-area straddle facilities have requested access to the gas stream transported on the Foothills system. Foothills, TransCanada and the straddle facilities have agreed on the terms that would permit such access.
8. In this Application, Foothills proposes to construct approximately 8 m of 1067mm (NPS 42) pipe, 21 m of 914 mm (NPS 36) pipe, 80 m of 762mm (NPS 30) pipe, 17 m of 610 mm (NPS 24) pipe, valves, flow measurement and associated controls (the "Header Facilities") as part of a shared distribution header and individual supply lines. The Header Facilities will serve each of the NGL extraction plants operated by Petro Canada Oil and Gas ("Petro-Canada"), PanCanadian Petroleum Limited ("PanCanadian") and the Empress V NGL Extraction Facility ("Empress V") (collectively, the "Plants") pursuant to contractual arrangements individually negotiated with each of the Plants. The facilities required upstream of the shared distribution header and downstream of the outlet of the turbo expanders (the "Common Facilities") are the subject of a separate application filed concurrently with this Application.
9. Foothills and the Plants have negotiated the terms by which Foothills will construct, own and operate the Header Facilities. The recovery of Foothills' costs for the Header Facilities those arrangements. Given the commercial nature of each of those agreements, Foothills and the Plants have treated the contracts as confidential.
10. Letters of support for the project from each of the Plants are attached to this Application.

11. As described in the companion application, Foothills' sole shipper on Zone 6, TransCanada, supports the construction of these facilities and has agreed to the inclusion of the cost of the Common Facilities in the Foothills Zone 6 rate base.
12. Prior to filing this Application, Foothills has discussed this Application with the Canadian Association of Petroleum Producers and the Small Explorers and Producers Association of Canada. No concerns were raised by either party.
13. The work will be carried out entirely within the existing De/Re Facility fence line. As the De/Re Facility is an industrial site which is part of a larger industrial complex, any potential environmental impacts are expected to be minimal. It is anticipated that any such impacts can be successfully mitigated using known technology.
14. The Applicant is seeking expeditious approval of its Application in order to permit the Applicant to commence construction toward completion of the installation and operation at the earliest possible date.
15. Given the limited scope of the project and the applied for facilities, the Applicant hereby requests for an exemption from the requirements for Early Public Notification.
16. Attached as Sections 2 through 7 of this Application is supporting information intended to respond to the Board's Guidelines for Filing Requirements dated February 22, 1995. The supporting information is commensurate with the nature and the scope of the project.

WHEREFORE the Applicant hereby applies for:

An order of the Board pursuant to Section 58 of the Act authorizing the construction of the facilities which are more particularly described in this Application and granting exemption to the Applicant from the provisions of Paragraph 30(1)(a), Subsection 30(2), Section 31 and Section 47 of the Act;

An exemption per Part II of the NEB Guidelines for Filing Requirements, Section 6(1)(b), concerning Early Public Notification.

Dated at the City of Calgary in the province of Alberta this 19th day of November, 1999.

Foothills Pipe Lines Ltd.

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H. Hobbs  
Vice-President

All notices and communications in connection with the Application should be directed to:

P. Cochrane  
Senior Supervisor, Customer Service & Regulatory Affairs  
Foothills Pipe Lines Ltd.  
3100 – 707 Eighth Avenue SW  
Calgary, Alberta  
T2P 3W8

## **2. SUMMARY/PROJECT OVERVIEW**

Foothills is proposing to construct a distribution header at its Decompression/Recompression Facilities (“De/Re Facilities”) in order to allow for additional access by extraction facilities to the gas stream on the Zone 6 system. Currently, liquid hydrocarbons entrained in the Zone 6 gas stream are available for removal only by the adjacent Empress II extraction plant. With the construction of a distribution header, the Petro-Canada, PanCanadian and the Empress V extraction facilities (collectively the “Plants”) will be able to access the Zone 6 gas stream.

All of the Zone 6 capacity is contracted by TransCanada PipeLines Limited (the “Alberta System” or “TransCanada”) in order to meet its contractual delivery requirements at the Alberta eastern gate. As Zone 6 operates as a segregated, high pressure system, the amount of natural gas liquids entrained in the Foothills system varies from the commingled stream on the Alberta System eastern mainline. Foothills normally transports a richer gas stream than the Alberta System. Accordingly, the amount of natural gas liquids available for extraction by each of the individual plants varies based on which pipeline(s) they are connected to.

In 1998, the operators of the Empress area extraction facilities approached Foothills and TransCanada to explore alternatives that would permit more direct access to the natural gas stream transported on the Foothills system. The most feasible and cost-effective method to provide such access is through the construction of a distribution header system at the De/Re Facilities.

In this Application, Foothills is proposing to construct a shared distribution header and three supply lines running from the header (the “Header Facilities”) to each of the three Plants. Under separate cover, Foothills is applying to modify existing piping and controls at the De/Re Facilities downstream of the turbo expanders (the “Common Facilities”) to facilitate the installation of the Header Facilities.

## **3. LAND**

The Applicant owns in fee simple the lands on which the De/Re Facilities are located. The De/Re Facilities are located immediately south of the existing Empress II Extraction Plant in the Southwest Quarter of Section 12, Township 20, Range 1, West of the Fourth Meridian, in the Province of Alberta. The location plan shown on Figure 1 identifies the location of the De/Re Facilities in relation to the existing pipeline and plant facilities.

## **4. FACILITIES**

The Header Facilities consist of one shared distribution header with three individual supply lines running from the header to service the individual plants.

### **4.1 Distribution Header**

The distribution header is located immediately downstream of the Common Facilities, which are the subject of a separate Section 58 Application filed concurrently with this Application. The distribution header consists of 8 m of 1067 mm (NPS 42) pipe. The gas header has a design flow of approximately 1.5 Bcfd and will interconnect with the three individual supply lines dedicated to Petro-Canada, Empress V and PanCanadian. The flows to each of the plants could reach the following capacity levels:

Empress V	400 MMcfd
PanCanadian	500 MMcfd
Petro-Canada	600 MMcfd

The attached schematic, Figure 2, depicts the arrangement of the Header Facilities.

### **4.2 Petro-Canada Supply Line**

The Petro Canada supply run is comprised of approximately 21m of 914 mm (NPS 36) pipe, approximately 17 m of 764 mm (NPS 30) pipe, 1 NPS 30 Gate Valve, 1 Annubar flow measurement device, 1 NPS 30 Butterfly Flow Control Valve, 1 NPS 30 ESD Ball Valve, associated fittings and instrumentation.

### **4.3 PanCanadian Supply Line**

The PanCanadian supply run is comprised of approximately 21 m of 764 mm (NPS 30) pipe, 17m of 610 mm (NPS 24) pipe, 1 NPS 24 Gate Valve, 1 Annubar flow measurement device, 1 NPS 24 Butterfly Flow Control Valve, 1 NPS 24 ESD Ball Valve, associated fittings and instrumentation.

### **4.4 Empress V Supply Line**

The Empress V supply run is comprised of approximately 42 m of 764 mm (NPS 30) pipe, 1 NPS 30 Gate Valve, 1 Annubar flow measurement device, 1 NPS 30 Butterfly Flow Control Valve, 1 NPS 30 ESD Ball Valve, associated fittings and instrumentation.

## **5. ENVIRONMENT AND SOCIO ECONOMIC MATTERS**

### **5.1 Environment**

#### **5.1.1 BACKGROUND**

The planned gas distribution Header Facilities will consist of a shared header and three supply lines together with associated flow control, flow measurement and emergency shut down devices as described in Section 4 hereof. The header and the upstream portion of the supply lines will be installed above grade within the fenced boundaries of the existing Foothills Decompression/Recompression (“De/Re”) site located near Empress, Alberta (SW ¼ of Section 12-20-1-W4W). The De/Re facilities are situated on land owned by Foothills located immediately south of the Empress II Plant and are operated for Foothills by Amoco Canada Petroleum Company Ltd.

Installation of the Header Facilities will coincide with the installation of additional piping and equipment at the De/Re site, referred to as Common Facilities, as well as with modifications to existing piping, referred to as the Interconnection Facilities. Installation of Common Facilities and the Interconnection Facilities is addressed in a companion application to the National Energy Board. Petro-Canada, PanCanadian and Empress V are currently constructing, or plan to construct, any necessary piping from the Foothills property line to their respective facilities.

#### **5.1.2 ENVIRONMENTAL ISSUES**

Environmental issues associated with the proposed Header Facilities are those related to construction activities, to the release of natural gas when new facilities are connected, to potential incremental noise emissions from the new Header Facility piping during operation and to potential effects arising from the coincidental installation of other facilities both on and off the De/Re site.

#### **5.1.3 ENVIRONMENTAL CONDITIONS**

Climate in the region surrounding the De/Re facility is described as “semi-arid continental”. Mean annual temperature is near 4 degrees C. Mean winter and summer temperatures approach minus 9 and plus 20 degrees C respectively. Annual rainfall varies from 177 to 635 mm. Winds are predominantly from westerly directions and average more than 20 kilometres per hour. Air quality is not presently monitored at the site or in the vicinity.

The De/Re site slopes gently to the south. Underlying bedrock consists of near horizontal Upper Cretaceous strata of marine origin. Surficial deposits are of glacial origin and are over 45 metres thick. The quality of water withdrawn from both bedrock and surficial aquifers in the region is variable. There are no water wells known to be in use in the vicinity of the De/Re facilities. Water is supplied to the

De/Re Facility and the nearby Empress II extraction plant from wells drilled in the South Saskatchewan River valley, some 8 km to the northwest.

The site is a fenced industrial site and is not utilized by wildlife.

#### 5.1.4 ASSESSMENT OF ENVIRONMENTAL IMPACTS

The Header Facilities will be designed, constructed and operated to meet all applicable regulatory requirements. Construction activity will take place within the fenced boundaries of the existing De/Re site. The installation will not affect surface water or ground water resources. Topsoil, if present, will be removed during excavation, conserved and stockpiled. New pipe situated near rotating equipment with a potential to introduce unwanted noise will be insulated with acoustic installation and no significant incremental noise is expected to result from operation of the Header Facilities. Natural gas that must be removed from existing piping to allow connection of new pipe, will be flared. The only natural gas that will be released during construction of the Header Facilities will be that required to purge air from new piping. It is estimated the volume required for purging will be approximately  $2.6 \times 10^3 \text{m}^3$ . Construction will be carried out under the supervision of Foothills' site supervisor. Foothills' site supervisor will work with Amoco personnel and ensure that construction activity conforms with environmental protection and other procedures established for the De/Re site by Amoco. Contractors will be required to carry out the work in compliance with Foothills' construction specifications. Foothills' site supervisor will monitor and inspect the work, report spills and incidents and document site activity. As a result of the above approaches, construction and operation of the Header Facilities is not expected to alter environmental quality at the site, result in adverse impacts to surrounding environments or to change land use in the vicinity.

#### 5.1.5 CUMULATIVE EFFECTS

Approval of the applied-for facilities will lead to two related activities. First, additional piping and a control valve (the Common Facilities), will be constructed. The piping will be placed in existing pipe racks on the De/Re site and the control valve will be situated on the adjacent Empress II Plant Site (see Figure 2). Second, changes to existing De/Re piping (the Interconnection Facilities) will be made.

Construction of Common Facilities and the Interconnection Facilities will be subject to the same environmental protection measures outlined for Header Facilities above and are not expected to result in any adverse cumulative effects.

## **5.2 Socio-Economic**

The construction, operation and maintenance associated with this project will be conducted by operations personnel and contract personnel. Given the limited magnitude of the project, it is not expected to affect regional population, land use, local employment or the local economy. Accordingly, Foothills requests exemption from the Early Public Notification requirements contained within the Board's Guidelines for Filing Requirements.

## **6. CONSTRUCTION SCHEDULE AND SPECIFICATIONS**

### **6.1 Schedule**

The construction schedule is attached (Figure 3). Foothills is requesting that the Board proceed expeditiously to review this Application given the commercial nature of the project. The construction and in-service timing of the facilities is now dependent upon the ordering and receipt of certain long-lead time materials. Orders will be placed for such items following Board approval for the project.

### **6.2 Regulations, Standards, Codes and Specifications**

The Header Facilities' design, construction and operations will comply with the latest editions of the following regulations, standards and codes as applicable:

#### **National Energy Board**

The National Energy Board Act  
SOR 99-294 Onshore Pipeline Regulations, 1999

#### **American National Standards**

ASME B31.3	Process Piping
ASME B16.5	Pipe Flanges and Flanged Fittings
ASME B16.9	Factory-Made Wrought Steel, Buttwelding Fittings
ASME B16.11	Forged Steel Fittings, Socket-Welding and Threaded
ASME B16.34	Valves – Flanged, Threaded and Welding End

ASME B&PV Code, Section VIII Rules for Construction of Pressure Vessels  
Divisions I and II and Section IX, Welding and Brazing Qualifications

#### **Canadian Standards Association**

CSA-Z662	Oil and Gas Systems
CSA C22.1	Canadian Electric Code Pt I, Safety Standards for Electrical Installations

### **American Petroleum Institute Standards**

API-RP 500 Recommended Practice for Areas for Electrical installations

### **Province of Alberta**

Electrical Protection Act of the Province of Alberta  
Applicable Provincial Regulations and Codes

### **Others**

National Building Code of Canada  
Occupational Health and Safety Act  
Applicable Municipal Regulations

*Note:* The Header Facilities will be designed and constructed in accordance with ASME B31.3 except that butt welded joints on the gas piping will be 100% radiographed, and hydrostatic testing will be done in accordance with CSA Z662.

## **7. CAPITAL COST AND TOLLS**

Capital and operating costs for the Header Facilities will be excluded from Foothills' Zone 6 cost of service. Foothills has negotiated individual commercial arrangements with each of the three Plants for the construction and operation of the Header Facilities.