



NOVA Gas Transmission Ltd.

North Central Corridor
North Star and Red Earth Sections
Meikle River Compressor Station

Application for Permit and Licence

(October 10, 2008)

ALBERTA UTILITIES COMMISSION

Decision 2008-095: NOVA Gas Transmission Ltd.

North Central Corridor

North Star and Red Earth Sections

Meikle River Compressor Station

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Application No. 1551990

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Fifth Avenue Place, 4th Floor, 425 - 1 Street SW

Calgary, Alberta

T2P 3L8

Telephone: (403) 592-8845

Fax: (403) 592-4406

Web site: www.auc.ab.ca

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**NOVA GAS TRANSMISSION LTD.
NORTH CENTRAL CORRIDOR
NORTH STAR AND RED EARTH SECTIONS
MEIKLE RIVER COMPRESSOR STATION
APPLICATION FOR PERMIT AND LICENCE**

**Decision 2008-095
Application No. 1551990**

1 INTRODUCTION

On November 20, 2007, NOVA Gas Transmission Ltd. (NGTL) filed an application with the Alberta Energy and Utilities Board (EUB), under Part 4 of the *Pipeline Act* R.S.A. 2000, c. P-15, as amended, requesting a permit and licence to construct and operate two pipeline segments (North Star Section and Red Earth Section) and associated compression facilities (Meikle River Compressor Station Units C3 and C4) (the Applied-for Facilities) in respect of the North Central Corridor (NCC) project, and for consequential amendments to licenses numbers 19611 and 14134 (the Application). On January 2, 2008, the Application was transferred to the Alberta Utilities Commission (AUC or Commission), the successor utilities regulator to the EUB, in accordance with section 80 of the *Alberta Utilities Commission Act*, S.A. 2007, c. A-37.2 (the AUC Act).

The purpose of the proposed North Star Section would be to transport natural gas from the proposed Meikle River Compressor Station Units C3 and C4 located at LSD 15-26-094-02 W6M to a pipeline tie-in point at LSD 09-07-091-14W5M. The proposed North Star Section would be approximately 140 kilometres (km) in length with an outside diameter (OD) of 1067 millimetres (mm) (NPS 42). The purpose of the proposed Red Earth Section would be to transport natural gas from the proposed pipeline tie-in point located at LSD 09-07-091-14W5M to NGTL's existing Woodenhouse Compressor Station located at LSD 10-29-086-01W5M. The Red Earth Section would be approximately 160 km in length, with an OD of 1067 mm. The proposed Meikle River Compressor Station Units C3 and C4 would consist of approximately 26 MW of combined site-rated power, associated piping, control buildings, and approximately five bays of high pressure cooling. The purpose of the Meikle River Compressor Station is to add compression to the gas flow. The proposed pipeline would be approximately 300 km in total length with a maximum OD of 1067 mm and would transport natural gas with a maximum H₂S concentration of 0.0 moles per kilomole (0.0 percent).

2 BACKGROUND AND OVERVIEW

2.1 Background

On receipt, the Commission reviewed the Application to determine whether it met established content requirements. The Notice of Application on January 18, 2008 stated that the Application was under review within the AUC to determine technical completeness and other statutory

requirements.¹ Upon completion of the review and having determined that the Application was technically complete, the Commission issued a letter on February 28, 2008 establishing a process schedule to adjudicate the Application along with a preliminary issues list for the proceeding.² On March 25, 2008, the Commission issued a letter advising parties that it would hold a pre-hearing meeting and advising parties that it was prepared to consider the application and the related issues and concerns at a public hearing. The Commission decided to hold a pre-hearing meeting to finalize the issues, clarify the scope of certain issues, consider the remaining process and schedule, and to consider any other matters relating to the conduct of the proceeding. The pre-hearing meeting was held in Edmonton, Alberta, on April 14, 2008, before Commission Chair, Mr. Willie Grieve, and Commissioners Ms. Carolyn Dahl Rees and Mr. Allen Maydonik, Q.C. Those who registered and participated at the pre-hearing meeting are listed in [Appendix 1](#) to this Decision.

Following the prehearing meeting, on April 24, 2008, the Commission issued Decision [2008-035](#)³ in which it established a schedule for remaining prehearing activities and the commencement date for the hearing.

2.2 Motion and Question of Constitutional Law

On June 25, 2008, the Commission received a motion and notice of question of constitutional law from Provident Energy Limited (Provident). The Provident motion referred to an application that TransCanada PipeLines Limited (TCPL) had submitted to the National Energy Board (NEB) for TCPL's Alberta System, requesting a Certificate of Public Convenience and Necessity under section 52 of the *National Energy Board Act*, R.S. 1985, c. N-7, and for related approvals. TCPL's Alberta System is owned directly by NGTL, which is wholly owned by TCPL. The Provident Motion sought the following relief from the Commission:

- a) an Order dismissing the Application;
- b) alternatively, an order staying the Application pending the determination of Phase I of TCPL's application before the NEB; and
- c) in the further alternative, an Order referring the questions of constitutional law in the form of a special case to the Court of Queen's Bench of Alberta, pursuant to section 13(1)(b) of the *Administrative Procedures and Jurisdiction Act*, R.S.A. 2000, c. A-3.

The Commission conducted a written and oral process to consider the Provident motion. On August 4, 2008, the Commission issued Decision [2008-069](#),⁴ which contained the Commission's reasons for denying the Provident motion in its entirety.

¹ Exhibit 001-01

² Exhibit 001-05

³ Decision 2008-035 – Decision on Prehearing Meeting 2008-035 Nova Gas Transmission Ltd. North Central Corridor, North Star and Red Earth Sections, Meikle River Compressor Station Application for Permit and Licence for a Pipeline and Associated Pipeline Installations (Application 1551990) (Released: April 24, 2008)

⁴ Decision 2008-069 and Errata – NOVA Gas Transmission Ltd. Reasons for Decision on Provident Motion and Constitutional Question (Application 1551990) (Released: August 4, 2008, Errata Released: August 8, 2008)

2.2.1 Completeness of the Application

In Section 4 of Decision 2008-035, the Commission outlined the legislative framework within which the Application was filed with the EUB and considered by the AUC. In summary, the Application was made to the EUB under Part 4 of the *Pipeline Act* and was considered by the Commission pursuant to the transition provisions of section 80 of the AUC Act and the jurisdiction granted to the Commission by Section 4.1 of the *Gas Utilities Act*, R.S.A. 2000, c. G-5. The *Pipeline Act*, the *Pipeline Regulation* A.R. 91/2005, and Commission Rule 020: *Rules Respecting Gas Utility Pipelines* contain or incorporate by reference the AUC requirements relating to gas utility pipeline applications. In particular, Section 4 of Rule 020 specifies the portions of ERCB *Directive 56* that apply to gas utility pipeline applications. Section 7 of Rule 020 identifies other ERCB Directives that apply to gas utility pipelines.

NGTL was governed by the provisions of EUB Informational Letter IL 90-8, *Procedures for the Assessment of NOVA Pipeline Applications*, as amended, in the steps it was to take in making a facility application.⁵ Section C of IL 90-8 required that NGTL follow a two-stage application process when it seeks to add facilities to the Alberta System. The first stage is the filing with the Commission of an annual preliminary overall system plan (Annual Plan) containing all planned facility additions and major modifications. The second stage is the filing of the final technical, cost, routing/siting, land, environmental and other information required to complete the application for each facility contained in the Annual Plan. The Application is the second stage of the two stage process.

A number of parties indicated in their arguments that IL 90-08 (as amended by IL 98-05) applied to the Application. That was the case at the time the Application was filed with the EUB; however, the Commission wishes to clarify that it did not adopt IL 90-08 and therefore the requirements contained in it will no longer apply to gas utility pipeline applications filed with the Commission by NGTL.

NGTL stated that the Application was complete and met all required legislative and regulatory directives. Most of the parties providing argument agreed with NGTL's assertion or did not take issue with it.⁶ Alliance Pipeline Ltd. (Alliance), however, stated that the Application was deficient in addressing the following four matters:

- the adequacy of supply and forecast incremental supply;
- the demonstrated magnitude, timing and location of the true demand in the North of Bens Lake Design Area (NOBLDA);
- the deficiencies, if any, in the existing or currently approved facilities to meet the true need; and
- alternatives available to meet the true need.

Western Export Group / Tenaska (WEG) stated that the Application provided inadequate information with respect to expected rate impacts. WEG also cited concerns about NGTL's assessment of alternatives but did not argue that this deficiency made the Application incomplete.

⁵ IL 90-8 was amended April 4, 1994 by Addendum to IL 90-8, and further amended May 28, 1998 by IL 98-5.

⁶ For example, Devon / EnCana / Talisman (DET), Industrial Gas Consumers Association of Alberta (IGCAA), Petro-Canada and Petro-Canada Oil Sands Inc. (Petro-Canada) and Syncrude Canada Ltd. (Syncrude) all believed the Application was complete.

WEG also contended there were no requests for FT-A⁷ service on the Applied-for Facilities and no evidence of existing FCS⁸ contracts specifically in respect of the new facilities.⁹ It similarly argued there was no evidence of any Points to Point¹⁰ Contract Demand.

NGTL replied that the purpose of the Applied-for Facilities was for a mainline expansion; not dedicated receipt or delivery extension facilities. Consequently, NGTL would not execute specific new contracts for receipt or delivery services, whether FT-R,¹¹ FT-A or FT-P services, for the Applied-for Facilities. NGTL advised that if any new service requests are received that drive new specific receipt or delivery facilities, then NGTL will execute contracts as required under the tariff.

WEG also argued that NGTL made a serious mistake by not using a forecast of firm transportation contracts as the main justification for the Applied-for Facilities.¹² NGTL advised that it does not forecast intra-Alberta contract demands.

In its argument the Utilities Consumer Advocate (UCA) recommended that the Commission initiate a process to develop a pre-determined and common set of minimum filing requirements for facility applications for all gas transmission pipelines under the Commission's jurisdiction. The Commission considers that the UCA's recommendation is outside the scope of this proceeding. It will consider the UCA's recommendation independent from the decisions it makes in this proceeding.

⁷ Service under Rate Schedule FT-A means the delivery of gas to Customer at Customer's Alberta Delivery Points (the "Service"), which includes the transportation of gas Company determines necessary to provide services under the Tariff. The Service is available to a Customer that has executed a Service Agreement and Schedule of Service under Rate Schedule FT-A at an Alberta Delivery Point and a valid Service Agreement under Rate Schedule FCS is executed by any Customer at such Alberta Delivery Point. Company shall not be required to construct or install Facilities for any Service under Rate Schedule FT-A. If Company determines that new Facilities are required that are directly attributable to Customer's request for Service, Company shall not be required to provide such requested Service unless a valid Service Agreement under Rate Schedule FCS exists in respect of such new Facilities.

⁸ Service under Rate Schedule FCS means the measurement of gas delivered by Company to Customer's facilities at an Alberta Delivery Point, Extraction Delivery Point, or Storage Delivery Point and the provision of any other Facilities that Company determines necessary (the "Service"). The Service is available to any Customer that has executed a Service Agreement and Schedule of Service under this Rate Schedule FCS.

⁹ WEG Argument, pages 1-2

¹⁰ Service under Rate Schedule FT-P means i) the receipt of gas within Alberta from Customer at Customer's Receipt Points, other than a Storage Receipt Point or an Extraction Receipt Point; (ii) the transportation of gas through the Facilities that Company determines necessary to provide services under the Tariff; and (iii) the delivery of gas to Customer at Customer's Alberta Delivery Point other than a Storage Delivery Point or an Extraction Delivery Point. Company shall establish an FT-P Customer Account for each of Customer's Schedule of Service under Rate Schedule FT-P. The Service is available to any Customer that requests a Points to Point Contract Demand of 140.0 103m³/d (5.0 MMcf/day) or greater, has executed a Service Agreement and Schedule of Service under Rate Schedule FT-P and a valid Service Agreement under Rate Schedule FCS is executed by any Customer at such Alberta Delivery Point.

¹¹ Service under Rate Schedule FT-R means the receipt of gas within Alberta from Customer at Customer's Receipt Points (the "Service") which includes transportation of gas that Company determines necessary to provide services under the Tariff. The Service is available to any Customer that has executed a Service Agreement and Schedule of Service under Rate Schedule FT-R.

¹² WEG Argument, page 2

In considering Alliance's comments on the completeness of the Application, the Commission distinguishes between the failure of an applicant to respond to a filing requirement and the failure of an applicant to demonstrate that its proposal satisfies a particular requirement. The first is a true deficiency going to the completeness of the application in that it is a failure to provide any information upon which the Commission could decide that a particular requirement has been met. The second does not result in a deficient application, but it may result in a decision that the applicant has failed to satisfy the Commission, on the evidence, that a particular requirement has been or will be satisfied by the undertakings proposed in the application.

The Commission considers that the Application deficiencies argued by Alliance and described in the first three bullets above are not deficiencies related to the completeness of the Application. The Commission received in the Application, and elsewhere in the record of this proceeding, sufficient information to assess these aspects of the Application. The other deficiency argued by Alliance, described in the fourth bullet above, is considered by the Commission in the following section of this Decision.

The Commission does not consider that WEG's argument that the Application fails to adequately address expected rate impacts constitutes a failure going to the completeness of the Application. The Commission, in Decision 2008-035, described the extent to which the potential impact of the proposed facilities on rates would be considered in this proceeding. In the Commission's view the relevant potential impacts identified in Decision 2008-035 were adequately addressed in this proceeding, and they are discussed elsewhere in this Decision. This Application is for a mainline expansion and as such does not warrant the use of tariff requirements in the decision making process. NGTL has used more reliable methods than intra-Alberta contract demand forecasts to justify the Applied-for Facilities, and therefore the Commission rejects the argument that NGTL made a serious mistake by not using a forecast of firm transportation contracts.

The Commission is satisfied that the Application and the other evidence in this proceeding contain sufficient information to allow the Commission to make a decision on the Application.

For the foregoing reasons, the Commission has determined that the Application is complete, subject to the findings of the Commission in the following section in relation to NGTL's requirement to assess alternatives.

2.2.2 NGTL's Obligation to Assess Alternatives

In Decision 2008-035, the Commission indicated that it would consider whether the proposed facilities represent the least cost alternative, particularly in relation to potential impacts on rates. Both Alliance and WEG stated in their arguments that NGTL failed to adequately address alternatives to the Applied-for Facilities. No other parties took issue with NGTL's least cost alternative assessment.

Alliance stated that although NGTL did put forward alternatives (the South Central Corridor and the Existing Corridor Route) these options were not "real options" but were offered to make the applied-for proposal appear as the best option and to support NGTL's need assessment. Alliance stated that NGTL failed to rigorously examine real options, including a transportation by others (TBO) alternative using the Alliance pipeline.

WEG stated that the Applied-for Facilities represented only part of a complete facility solution to achieve the same deliveries. WEG argued that it was essential that ratepayers understood exactly

what set of facilities was considered to be a complete alternative relative to other routing options to understand the total cost of the recommended alternative and that the Applied-for Facilities alone would not provide the incremental capacity to meet the demand in the Fort McMurray region. WEG urged the Commission to find that, for the purposes of rate design, the proposed facilities were a part of a larger NCC facility solution. WEG asked the Commission to assess the costs of the Applied-for Facilities in that context.

In Section 3 of the Application, NGTL provided an evaluation of two routing alternatives and two pipe size alternatives to the Applied-for Facilities. Table 3.6 of the Application (subsequently revised in AUC-NGTL 5) summarizes NGTL's capital cost comparison between the alternatives. NGTL's analysis indicates that the Applied-for Facilities are the least cost alternative. NGTL provided additional information regarding cost comparisons with alternative facilities in information responses it provided to the AUC and to BP Canada Energy Company (BP). Other portions of this Decision discuss matters relating to NGTL's cost assessment of the Applied-for Facilities. The Commission has determined that NGTL has provided a sufficient analysis of alternatives to the Applied-for Facilities to allow the Commission to assess the social and economic effects of the project on a least cost alternative basis.

Having determined that NGTL has provided an adequate least cost assessment of alternatives to the Applied-for Facilities, the Commission would consider that requirement to be satisfied unless another party demonstrated that a viable alternative existed that had not been assessed. Alliance argued that NGTL did not adequately assess a TBO alternative using the Alliance pipeline. However in its evidence Alliance stated that its pipeline was fully contracted until 2015 and it did not provide any details of a proposed TBO alternative. Therefore the Commission does not consider that Alliance has identified a viable alternative in respect of which NGTL should be required to provide the Commission with a more rigorous cost assessment.

The Commission has therefore concluded that the Application is complete.

2.3 Decision Overview

In reaching its determinations in this Decision, the Commission has considered all relevant materials comprising the record of this proceeding, including the evidence and argument provided by each party. Accordingly, references in this Decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasons relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record with respect to that matter.

The Commission has considered the submissions of the participants on the issues that are relevant to a determination on the Application.

3 NEED FOR FACILITIES

In the Application, NGTL stated that the Applied-for Facilities were needed to enable NGTL¹³ to:

- address the growth in deliveries to oil sands and heavy oil markets and the reduction in supply in the NOBLDA;
- address the potential growth in supply in the Peace River Design Area (PRDA);
- ensure the long-term utilization of existing facilities in the North and East Project Area, that would enhance NGTL's delivery capability at the Empress and McNeill delivery points;
- provide additional flexibility to deliver to a variety of Alberta and export delivery points; and
- reduce the aggregate Alberta System fuel requirements.

NGTL confirmed that it consulted extensively with its shippers, industry, and other stakeholders in advance of filing the Application and has continued since to engage and work with interested and affected parties.

The gas supply and demand in relation to the Applied-for Facilities are addressed in the following paragraphs.

3.1 NGTL's Demand and Supply Forecasts

3.1.1 Position of NGTL

NGTL provided a comprehensive explanation of its demand forecast methodology¹⁴ and information on the design process.¹⁵

NGTL segmented its service territory into eight design areas,¹⁶ of which one is the NOBLDA. The NOBLDA includes oil sands, residential, commercial and industrial demands in northeast Alberta, and encompasses facilities primarily on the east side of the Province north of the Bens Lake Compressor Station,¹⁷ which is located east of Edmonton. NGTL provided a detailed description of the area, including a map, in the December 2006 Annual Plan.

NGTL originally determined the demand requirements for the Applied-for Facilities based on its 2006 demand forecast. NGTL also provided its NOBLDA demand forecast for 2008¹⁸ which, in NGTL's view, showed relatively little difference from the 2006 demand forecast. The forecast of 2008 deliveries was marginally lower in the near term than the 2006 forecast, but higher in the longer term on both an average day and maximum day basis. In any case, NGTL continues to forecast significant growth in oil sands demand.

NGTL explained that approximately 85 percent of the gas demand in the NOBLDA was driven by the requirements of the oil sands projects, while the remainder was residential, commercial,

¹³ Application Section 2.0, page 3 of 50

¹⁴ PVE-NGTL-18

¹⁵ Chapter 3 of NGTL's December 2006 Annual Plan

¹⁶ NGTL December 2007 Annual Plan Chapter 2, page 2-17

¹⁷ Bens Lake Compressor Station located in S5-TWP54-Rge14-W4

¹⁸ Response PVE-NGTL-18

and other industrial demand. To forecast the oil sands demand, NGTL explained that it obtains and evaluates extensive data and information on oil sands production and oil sands gas demand and gas intensity.¹⁹ It uses this information to ultimately determine a gas demand forecast for the oil sands projects. Furthermore, NGTL advised that it bases its oil sands production forecast on a range of identified projects, which include those currently operating, those under construction, and those proposed. NGTL also develops its own independent view on the timing for individual projects to account for potential construction delays and cost overruns due to materials and labour markets. NGTL prepares a production forecast and compares it to other recognized industry forecasts.

Oil sands gas demand is a function of oil sands production and gas intensity. NGTL derives a forecast of gas intensity based on a number of factors, including measured intensities for operating projects, forecasts of project-specific intensities, and impacts of technological improvements that may reduce gas intensities. NGTL did not expect that new technologies would impact gas demand requirements for oil sands projects before 2015 and as such would not affect the planning horizon for the Applied-for Facilities.

In its 2008 forecast, NGTL accounted for expected project delays, increased target outputs, and new projects that were added between 2006 and 2008, and which have the effect of increasing demand in the post 2014 period. In this respect, NGTL observed that its 2008 demand forecast was conservative compared to the aggregate of its customers' forecasts, on either a maximum day demand or an average day demand basis. NGTL noted that customers hold contracts for service in amounts that exceed the 2008 maximum day forecast. Although customers have not yet signed contracts for all future projects and forecast demand, NGTL expected contract levels to grow as new projects are approved and constructed.

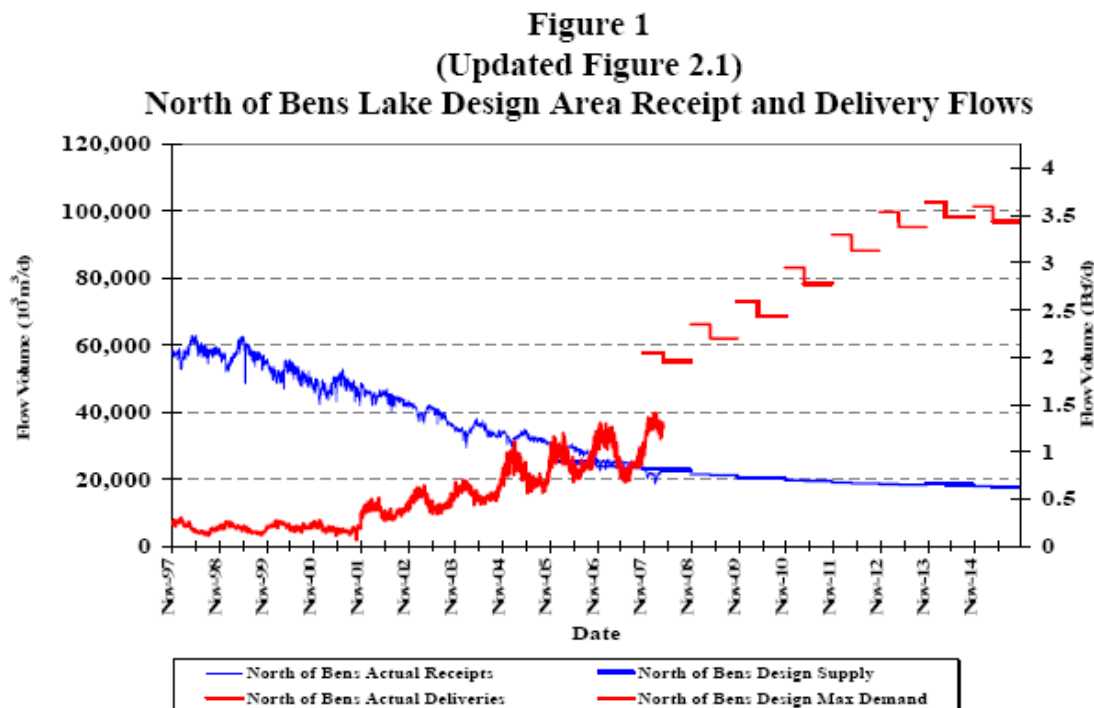
NGTL pointed out that delivery requirements in the NOBLDA have grown steadily since the 2001/2002 gas year, and are forecast to continue to grow into the near future. NGTL explained that much of the forecast growth will be driven by increasing gas demands of oil sands projects in the Fort McMurray, Cold Lake/Kirby and Edmonton/Heartland areas.

In contrast to demand, NGTL pointed out that available supply in the NOBLDA had decreased steadily since the 1997/1998 gas year. Prior to the 2005/2006 gas year, NOBLDA area receipts were sufficient to meet area delivery requirements. This is no longer the case. Over the past two years, NGTL has been required to bring gas supply to the NOBLDA from the South of Bens Lake and Marten Hills Design Areas to meet the increasing demand requirements in the NOBLDA. The increase in supply to NOBLDA has been accomplished through relatively inexpensive modifications to the majority of existing compressor stations on the North Lateral in both the North and South of Bens Lake Design Areas. However, NGTL claimed that it will have completed all available low-cost modifications by 2009 and now requires major new system infrastructure in the form of the Applied-for Facilities to meet the growing demand requirements in the NOBLDA.

NGTL provided a simplified illustration of NOBLDA flows to visually illustrate recent changes in actual supply and demand and the forecast of supply and demand requirements to 2015, in Figure 1 (Updated Figure 2.1) of the Application, as in the following Table 1:

¹⁹ Gas intensity is the amount in GJ of natural gas required to produce one barrel of synthetic crude oil.

Table 1. Figure 1 (Updated Figure 2.1) - North of Bens Lake Design Area Receipt and Delivery Flows



The forecast volumes shown in Table 1 – Figure 1 (Updated Figure 2.1) are the receipt and delivery design flow requirements which were developed by applying design flow assumptions to the design forecast as explained in Appendix 8 of the Application. The difference between the receipt and delivery volumes represents the net flow moving out of, or in to, the NOBLDA over time. NGTL used this net flow to establish the facility requirements for the NOBLDA.

The forecast supply within the entire North and East Project Area is insufficient to meet the forecast demands in the NOBLDA as reflected in Table 1 – Figure 1 (Updated Figure 2.1). As a result, NGTL stated that it must increase capability into the North and East Project Area to ensure that future system requirements can be appropriately met. NGTL submitted that it must bring supply from another design area on its entire provincial pipeline system (the Alberta System), in this case from the PRDA to the NOBLDA to meet the demand. NGTL further stated that the Applied-for Facilities represent the least cost and optimal facilities solution to provide the necessary additional capability.

NGTL argued that it demonstrated through hydraulic modeling that the demand in the NOBLDA exceeds the delivery capability of the existing facilities. NGTL noted that Alliance conceded that it had not conducted any hydraulic modeling of the Alberta System to determine existing capabilities.

NGTL argued that it was important to recognize that it forecasts both average day and maximum (or peak day) demand requirements. However, the design condition NGTL used to establish whether shortfalls exist in an area was the peak day delivery requirement. In NGTL’s view it is critical to use peak day delivery requirements to select the proper facility set. NGTL explained that there can be significant differences between average day and peak day requirements in the

NOBLDA.²⁰ The NOBLDA includes markets where demands are highly seasonal, with peak demands typically occurring on cold winter days. The seasonality that is characteristic of residential and commercial markets in the area resulted in differences in the 12 month period ending June 30, 2008 of more than 100 percent between peak and average day delivery requirements. Similar seasonal characteristics were seen on a broader basis for the overall NOBLDA demands, with peak demands in the 12 month period ending May 31, 2008 of more than 35 percent higher than average day delivery requirements.

NGTL considered that the deliverability shortfall event, which occurred in January 2008 during a particularly cold weather period, was illustrative of both the need to plan for peak requirements and the immediate need for additional infrastructure in the NOBLDA to meet those requirements. During that event, NGTL was unable at that date to meet the requirements of delivery customers due to a combination of supply shortfalls exacerbated by cold weather, peak demands, and insufficient pipeline capability to move gas to delivery customers in the area. The consequential impact on oil sands projects, such as those of Syncrude and Suncor, was significant. NGTL argued that it would be a serious mistake for it to plan and design solely on average day requirements instead of peak day requirements. If it did so, all customers (residential, commercial and industrial) would risk delivery shortfalls, given that maximum day delivery demand usually occurs during severe winter weather.

In addition to adjustments based on customer information, NGTL stated that it adjusts its forecast of peak demand requirements through the application of a 90 percent demand coincidence factor (DCF) to recognize the improbability that all demands will peak coincidentally in an area. The coincident peak demand in an area will be less than the sum of the individual peak demands. NGTL determines the value of the DCF in a design area or sub-area using 3 to 5 years of actual delivery data. This analysis reflects actual operating experience.

NGTL observed that the gas demand for oil sands projects is large, firm, and long-term. NGTL expects the demand will not be materially affected by any rate impacts attributable to the Applied-for Facilities or any prospective changes in intra-Alberta rate design. Similarly, NGTL understands that demand likely will not materially change, even if gas prices increase. NGTL argued that the key driver for gas demand for these projects is the price of oil, not the price of gas.

Absent the Applied-for Facilities, NGTL forecast the immediate shortfall in the 2009/2010 winter season to be 110 MMcf/day. The forecast shortfall for the 2010/2011 winter season is forecast to increase to 425 MMcf/day, and to increase again for the 2011/2012 winter season to 830 MMcf/day.

NGTL submitted that the significant annual increases in the shortfalls clearly illustrate the adverse consequences of any delays in the construction of the Applied-for Facilities of even a single year. NGTL requires two winter seasons to construct and place the Applied-for Facilities in service due to the length and scope of the project. If the first winter construction season is missed or otherwise delayed, it would have a domino effect and the second season would also be delayed, resulting in significant shortfalls in both the first and second years.

²⁰ Exhibit 002-27 NGTL Reply Evidence, July 22, 2008, page 19

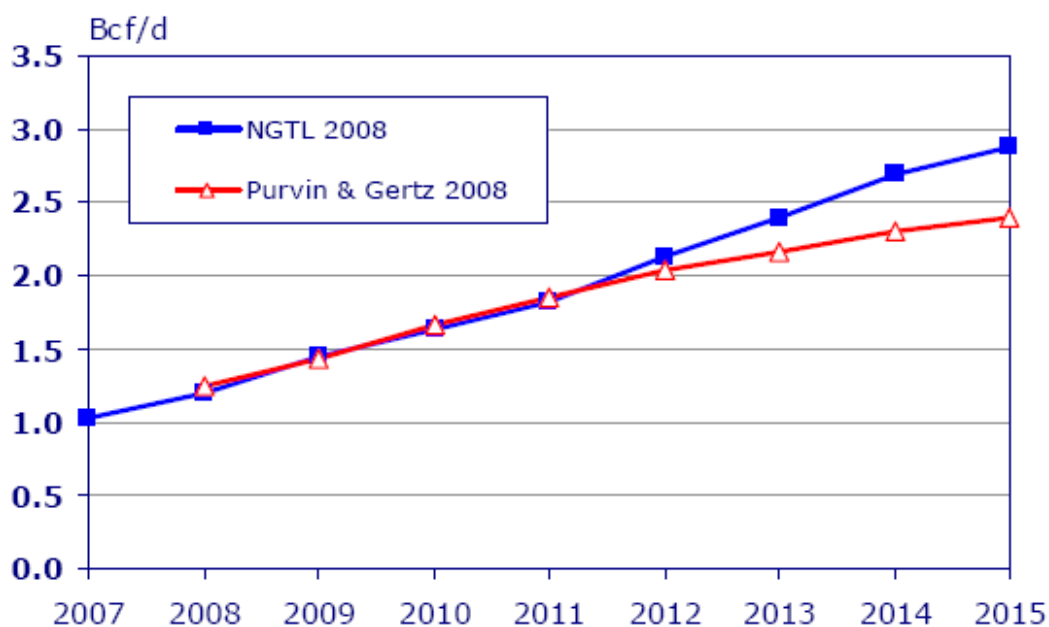
NGTL noted that a corollary benefit of the Applied-for Facilities was enhancing capability at the McNeil Border delivery station (Eastern Gate). The Eastern Gate capability has been declining in recent years in part due to declining supply in the eastern part of the Province coupled with increased demand in the northeast part of the Province. The ability to transport gas across the Applied-for Facilities to the NOBLDA will allow gas from the South of Bens Lake Design Area that would otherwise flow north to meet delivery requirements in the NOBLDA, to be available to flow south to the export delivery points if the market requires it. This event would increase the Eastern Gate capability and provide value to NGTL’s shippers in the form of flexibility in the event of peak demand in eastern export markets.

In Argument and Reply NGTL submitted that the Purvin & Gertz (P&G) forecast filed by Alliance for oil sands gas demand was not comparable to NGTL’s forecast of gas demand for the purposes of facility design or otherwise. The P&G report filed by Alliance, titled “*Purchased Natural Gas Used for Oil Sands Production Inclusive of Cogeneration Demand*” (the P&G Report), provided a forecast of only oil sands demand, rather than an estimate of the total natural gas demand in the NOBLDA. Therefore the P&G Report did not support Alliance’s contention that NGTL had not proven the need from a demand perspective for the Applied-for Facilities.

NGTL in its Reply Evidence graphically compared its 2008 forecast of oil sands average day demand with P&G’s forecast of oil sands average day demand. Given the significance of the comparison, NGTL reproduced Figure 1 – Oil Sands Gas Demand shown below in Table 2:

Table 2. Figure 1 – Oil Sands Gas Demand

Figure 1 – Oil Sands Gas Demand



NGTL argued that the two forecasts were virtually identical until 2011/2012 and that both NGTL and P&G were predicting the same growth in oil sands average day demands for almost the next 5 years.

In addition, NGTL argued that the NOBLDA was broader than the oil sands and included residential, commercial, and other industrial requirements. Excluding oil sands, the remaining demands account for approximately 15 percent of the total demand in the NOBLDA.

Accordingly, P&G's forecast of gas demand could not be properly compared to NGTL's forecast for gas demand in the entire NOBLDA as P&G sought to do in Figure VI-1 of the P&G Report. NGTL explained that there can be significant differences between average and maximum day demands in the NOBLDA. NGTL submitted that in Figure VI-1 of the P&G Report, P&G wrongly compared NGTL's design demand forecast, which was based on peak day demands, to P&G's forecast of average day demands.

In addition, NGTL argued that P&G underestimated the gas demand for the Scotford Upgrader by approximately 110 MMcf/day from 2011 onwards and that P&G also underestimated the requirements for CNRL's Horizon oil sands project by approximately 65 MMcf/day by 2014.

In summary, NGTL submitted it had reliably and accurately established the demand growth in the NOBLDA which justified the requirement for the Applied-for Facilities.

3.1.2 Positions of the Parties on Demand and Supply Forecasts

The Canadian Association of Petroleum Producers (CAPP) argued that the evidence demonstrated the facilities were needed in the short term and stated that a timely approval was required for the Application.²¹

DET argued that the NCC facilities will be needed to satisfy the transportation requirements arising from changes in supply and demand on the NGTL system. Receipts are growing in the PRDA in northwest Alberta. Deliveries (demand) are growing in the NOBLDA in northeast Alberta. The NCC pipeline would physically connect the areas of increasing supply with the areas of increasing demand.²²

IGCAA supported NGTL's demand forecast on the basis that NGTL was uniquely positioned to estimate demand reliably, given its access to confidential customer contract information. IGCAA agreed with the NGTL forecasts and argued that without the Applied-for Facilities, serious shortfalls would occur.²³ IGCAA stated in its evidence that the Applied-for Facilities are essential, and their timing urgent, for providing the necessary gas transmission capacity for industrials in the Fort McMurray area. IGCAA stated that this need was clearly identified through submissions in this proceeding from Suncor Energy Marketing Inc. (Suncor), Syncrude, Petro-Canada, Total E&P Canada Ltd., StatoilHydro Canada, Synenco Energy Inc., Nexen Inc., MEG Energy Corp., Canadian Natural Resources, Japan Canada Oil Sands Limited, and others that supported the Application.²⁴ IGCAA suggested that the customers that have requested services which drive the need for the Applied-for Facilities represent a significant component of the public interest in this proceeding. IGCAA recognized there is a growing demand in northeast Alberta from oil sands parties whose projects were specifically predicated and approved based on the use of natural gas.

²¹ CAPP Argument, August 22, 2008

²² DET Argument, August 22, 2008, page 2

²³ Section 2.5 of NGTL's Application; response to BP-NGTL-1(f)

²⁴ IGCAA Evidence Exhibit 016-02 June 16, 2008, page 3

Imperial Oil Limited and ExxonMobil Canada Energy (Imperial/EMC) submitted that the NCC system expansion was required to meet the growing intra-Alberta demand in the northeast corner of the province, and that the NCC was the least cost alternative to meet this rapidly growing demand.²⁵

Petro-Canada submitted that the Alberta oil sands, which the Applied-for Facilities are proposed to serve, is a key growth area for Petro-Canada. Petro-Canada, as operator of the MacKay River in situ project located 45 kilometres northwest of Fort McMurray, and Petro-Canada Oil Sands Inc., as contract operator of the Fort Hills Project located approximately 90 kilometres north of Fort McMurray, require a secure and reliable source of natural gas supply for their operations. In addition, Petro-Canada is a significant producer of natural gas in the Province of Alberta and utilizes the NGTL pipeline system to transport that production to various markets. Petro-Canada submitted that demand first exceeded supply in the area in the 2005/2006 gas year. Petro-Canada agreed with NGTL that the demand was real, significant, and urgent and that the required supply exists, is growing, and is available for transport on the Applied-for Facilities.²⁶

Shell Canada Energy (Shell) supported the project based on the fact that it was needed to address changes in gas supply and demand within the province of Alberta. Shell observed that while parties expressed doubts and opinions regarding timing and details of market forecasts, and Alliance expressed some generalized contrary opinion regarding project need, Shell argued that NGTL engaged in the same due diligence exercise it has always engaged when gas supply and demand shifted geographically around Alberta over the last number of decades. Shell advised that NGTL talks to its customers and undertakes extensive investigation and analysis. On this basis, Shell submitted that NGTL's evidence regarding project need was acceptable and should weigh prominently when determining whether the project was in the public interest.²⁷

Suncor agreed that the Applied-for Facilities represented the least-cost and optimal facilities to meet the system-wide receipt and delivery requirements. Suncor submitted that the Applied-for Facilities were needed to address the growth in deliveries to the oil sands and the reduction of supply in the NOBLDA and therefore, submitted that the Application should be approved before October 15, 2008 to enable NGTL to mobilize and commence construction in the 2008/2009 winter season. Any delays subsequent to that date would result in a potential significant impact to Suncor.²⁸

Syncrude operates integrated oil sand mines, extraction facilities and an upgrader (Syncrude Project) in the Fort McMurray region. Syncrude strongly endorsed approval of the Applied-for Facilities as the optimal solution to meet forecast growth in demand in the Fort McMurray area and expressed concern about the possibility of the whole northeast area being short 830 MMcf/day of deliveries within a couple of years. Syncrude submitted that when the EUB approved the Syncrude Project, it approved Syncrude's use of natural gas as a key component of its operations.²⁹ On the basis of those approvals, the Syncrude Project was designed and constructed to use natural gas in three ways:

²⁵ Imperial/EMC Argument, August 22, 2008

²⁶ Petro-Canada Argument, August 22, 2008, paragraph 15

²⁷ Shell Argument, August 22, 2008, page 4

²⁸ Suncor Argument, August 22, 2008, page 3, last paragraph

²⁹ Syncrude Argument, August 22, 2008, page 1, paragraph 1

- (1) to produce hydrogen for the upgrading process (utilizing approximately 60 percent of its natural gas requirements);
- (2) to produce steam for the extraction process (utilizing approximately 20 percent of its natural gas requirements); and
- (3) to produce electric power (utilizing approximately 20 percent of its natural gas requirements).

Syncrude emphasized in the hearing that it has \$17 billion invested in infrastructure specifically built based on its continued use of gas. Syncrude argued that it cannot produce bitumen or synthetic crude oil without natural gas. Even if Syncrude sought to move away from gas as a feedstock to its processes, Syncrude argued that it would take at least 10 years to move to an alternate energy supply, assuming it was even economic for it to do so.³⁰ Syncrude consequently considered itself a captive customer³¹ to natural gas. Any disruption in gas supply affects oil sands production, and even a relatively short disruption of gas supply would result in massive financial losses. Syncrude explained that it also depends on natural gas to operate its flares, which are absolutely essential, especially in emergency situations, to dispose of dangerous gases and maintain a safe work environment for approximately 3,000 employees.

Syncrude argued that the NGTL system is currently the only system available to Syncrude for a secure and reliable supply of natural gas. Syncrude explained that it has been a gas consumer for nearly thirty years and has bitumen reserves and capacity in place to enable it to continue to be a significant gas consumer for at least the next thirty years. Syncrude's demand for natural gas is large, stable, firm and long term.

Syncrude supported the timely approval of the Application. Syncrude argued that the Applied-for Facilities were needed right now and approval of the Application was in the overall public interest. Without the Applied-for Facilities, new projects scheduled to start up in the near future would further reduce the capability of the NGTL system to deliver gas volumes at the required pressure to the Fort McMurray region.³²

Alliance developed its own view of a demand forecast, based on publicly available information, and also sought independent expert advice from P&G. Alliance filed the P&G Report, which provided a natural gas demand forecast for oil sands related projects within the Fort McMurray and Athabasca Portion of NGTL's North and East Project Area. Alliance argued that the P&G Report aligned well with other independent industry reports (ERCB, NEB, CAPP) and showed steady growth in this market sector, albeit less growth than forecast by NGTL in the same timeframe. Alliance argued that no material challenge was mounted regarding its expert evidence on demand.

Alliance submitted that "NGTL's own evidence showed that NGTL has created an artificial 'need for speed' to address what could, on the facts, be viewed as nothing more than a manufactured shortfall in capability associated with the delivery of available supply to the NOBLDA."³³

³⁰ Transcript Volume 6, page 1244, lines 14 to 18

³¹ Syncrude Argument, page 1, paragraph 1, and Transcript Volume 6, page 1238, lines 8-13

³² Syncrude Argument, August 22, 2008, paragraph 5

³³ Alliance' Argument, August 22, 2008, page 6, paragraph 3, and page 7, paragraph 1

Alliance observed that NGTL's adjustments indicated that the amount by which the customers' peak would exceed their average requirements increased from approximately 80 percent in 2007/2008 to 100 percent in 2016/2017. Alliance argued that NGTL's method of forecasting the peak requirements was flawed. Alliance asserted that the positions advanced by parties such as Suncor or Syncrude did not show expectations of a peak that would be 100 percent above their average day requirement, and that NGTL had not provided an explanation to justify a peak volume exceeding the average volume by 100 percent. Alliance argued that no evidence existed in any submission, Application, Annual Plan or Information Response, that showed peak requirements exceeding average requirements by 100 percent in the Fort McMurray region. Alliance argued that the gap between customer forecasts and NGTL's forecasts was closing in most areas of the province except for Fort McMurray, where a significant divergence was taking place between what customers were forecasting in terms of their needs, versus the NGTL forecast.

In assessing the need for the Applied-for Facilities, Alliance submitted that the demand presented in the Application represented the whole NOBLDA demand, including the City of Edmonton, Fort Saskatchewan, Cold Lake and Fort McMurray. This was a new approach adopted by NGTL for purposes of this Application and resulted in the demand number being significantly increased above what would have been presented had the past approach of examining each sub-area separately been utilized. In addition, when NGTL made reference to design capacity and design flow requirements, NGTL was discussing the design facilities required to meet the forecast aggregate maximum peak day design demands of all its customers, including those indirectly served, in this full geographic area.

Alliance argued that NGTL had not attempted to quantify the possibility of a simultaneous peak in demand across the whole NOBLDA, although NGTL acknowledged that the possibility was low. According to Alliance, NGTL had never done a probability analysis of all 28 projects and the residential market, plus the Edmonton market, peaking on the same day.

Alliance argued that the existing NGTL system had excess capacity of approximately 43 percent over actual peak day experienced in 2007/2008. Alliance cast doubt on the existence of a shortfall as it stated that the average day demand was 1.05 Bcf/day whereas the area capacity was approximately double this requirement. Specifically in the Fort McMurray area, Alliance argued that evidence demonstrated that without the Applied-for Facilities, the capacity of the Alberta System in the Fort McMurray area was presently approximately 1.3 Bcf/day, as compared to the actual peak day requirements in the area for the period June 2007 to May 2008 of 719 MMcf/day. This amount was some 581 MMcf/day or approximately 45 percent below the maximum capability of the existing system to deliver volumes to the Fort McMurray area. This excess capacity was even more startling when compared to the average day requirements of only 540 MMcf/day. In Alliance's view, the existing system has well over double the capacity to meet the average day deliveries.

Alliance argued that the 90 percent coincidence factor did not seem to be reflective of the current reality wherein some oil sands projects were delayed, and that it ignored the fact that as more currently approved facilities are being constructed, the likelihood of a coincident peak would be reduced.

While the delivery shortfall incident of January 2008 was unfortunate, Alliance submitted that the evidence indicated that the incident was primarily due to a shortage of gas supply and not

inadequate delivery capability of the NGTL system. Alliance argued that the maximum requirements for Syncrude could be met with a fraction of the existing capacity.

Alliance argued that NGTL had significantly overstated the purchased natural gas consumption of the Scotford Upgrader, particularly since the source of that gas would have been from the ATCO Pipelines system.³⁴ Alliance submitted that the evidence presented by P&G was correct, as it relied on actual material balances and information from the Shell applications themselves.

As well, Alliance argued that NGTL appeared to have materially overstated the theoretical purchased natural gas requirements associated with potential offsite upgrading by a factor of approximately 2.4 (i.e., 700 MMcf/day rather than 294 MMcf/day) by the year 2015.³⁵

In addition, Alliance pointed out that “at the outset NGTL seemed to rely upon an argument that the NCC Project would enhance capability at the Eastern Gate to support its Application. As time passed the emphasis on this point was downplayed and it became an ancillary benefit.”³⁶ Alliance viewed that increased Eastern Gate capacity was already more than adequate, and by inference of little merit in substantiating the NCC project need.

Alliance concluded that NGTL’s existing system had current capability to deliver volumes far in excess of any peak that had been experienced in the past; and far in excess of the alleged future potential shortfall that was forecast by NGTL using its new methodology. Alliance concluded that the need for the Applied-for Facilities was not justified on the basis of the record and that the Application should be denied.

The findings of the Commission in respect of the demand and supply forecast are set out in Section 3.3 below.

3.2 Gas Supply Adequacy, Location and Timing

3.2.1 Position of NGTL

In the Application, NGTL indicated that the Applied-for Facilities would accommodate the future aggregate growth in supply in the PRDA by allowing a portion of the supply to be directed to the northeast part of the Province. NGTL forecast that additional supply from the Upper and Central Peace River Design Sub-Areas was expected to increase through 2014 approaching previous historical peak receipts in the 2001/2002 Gas Year. NGTL indicated that if gas from the Mackenzie Valley (Mackenzie Gas) entered the Alberta System, additional facilities would be required to move those incremental receipts. At the time of filing its Application, NGTL indicated an expectation that Mackenzie Gas might be available by 2014/2015, but subsequently indicated that the project may be delayed until 2016/2017.

NGTL pointed out that because the existing facilities in the PRDA are presently operating near design capacity, there would not be sufficient capacity in the facilities to accommodate significant additional supply, whether from Mackenzie Gas or B.C. shale gas.³⁷ Consequently, NGTL considered that the Applied-for Facilities would be required for NGTL to efficiently and

³⁴ Alliance’s Reply Argument, September 3, 2008, page 17

³⁵ Exhibit 50-06

³⁶ Alliance Argument August 22, 2008, page 30

³⁷ Transcript Volume 3, page 626, lines 1-21; Transcript Volume 3, page 728, lines 8-13

effectively move any large incremental supply out of the PRDA to markets in the NOBLDA and other parts of the Alberta System.

NGTL did not include shale gas potential in its supply forecasts and the effect on the design of the Applied-for Facilities. However, NGTL suggested that based on recent developments that volumes from the Montney and Horn River areas of northeast British Columbia could and should now reasonably be considered as a potential significant supply source for the Applied-for Facilities.³⁸ NGTL indicated that in late July 2008, TCPL completed a non-binding open season to solicit interest in new pipeline facilities to connect the shale gas supplies in the Horn River and Montney areas of northeast British Columbia to the Alberta System. TCPL received requests exceeding 1 Bcf/day of gas transmission service by 2012 for each of the Montney and Horn River areas, with these volumes increasing in subsequent years.³⁹ NGTL described that the volumes resulting from the open season, if connected to the Alberta System in the requested time frame, would contribute supply to the Applied-for Facilities in its first year of full operation in 2010/2011.⁴⁰

NGTL highlighted that, while it included Mackenzie Gas in its supply forecasts, the need for the Applied-for Facilities was not dependent upon arrival of Mackenzie Gas.⁴¹ Nonetheless, NGTL maintained that it was appropriate to include provision for Mackenzie Gas in its supply forecasts. NGTL stated that “we do have contracts executed with the proponents of that project, so it should go forward, we do anticipate the volumes will come through the system”⁴² to receive Mackenzie Gas volumes on the NGTL system and has also filed an application which was before the Commission for approval to construct facilities to connect these volumes to the existing infrastructure.⁴³

3.2.2 Positions of the Parties

Petro-Canada, Shell, IGCAA, DET and Syncrude supported NGTL’s position with regard to the adequacy, location and timing of gas supply.

Alliance expressed concern that NGTL had initially excluded the potential supply impact associated with B.C. shale gas, but subsequently in the process came to place more reliance upon this potential supply. Alliance considered that it was premature to include provision for the B.C. shale gas supply and suggested that NGTL was placing reliance upon non-binding expressions of interest without contracts for transportation from potential shippers. Alliance suggested that this information was introduced too late in the proceeding without proper opportunities for testing, and that it should be given no weight by the Commission. Consequently, Alliance considered that the only incremental supply upon which NGTL could rely would be associated with Mackenzie Gas forecast to be available not sooner than eight to nine years in the future. Alliance suggested that the proponents of the Mackenzie Valley project had not reached a decision to proceed with the project and that NGTL had not provided rigorous assessments with respect to the economic viability of the project. Alliance considered that if incremental supply was required

³⁸ Transcript Volume 3, page 723, lines 5-9; Exhibit 002-16; response to PVE-NGTL 17, page 5; Transcript Volume 5, page 1052, lines 16-20; Transcript Volume 5, page 1091, lines 23-25

³⁹ Exhibit 002-16; response to PVE-NGTL 17, page 5; see also Transcript Volume 3, page 555, lines 6-12

⁴⁰ Transcript Volume 3, page 745, lines 17-23

⁴¹ Transcript Volume 3, page 698, Alliance-NGTL 26(a)

⁴² Transcript Volume 3, page 698, lines 12-15

⁴³ Transcript Volume 3, page 576, lines 2-9

elsewhere than the NOBLDA, it could be sourced from the South of Bens Lake Design Area.⁴⁴ Alliance suggested that this meant that volumes used as the source for the Applied-for Facilities were not incremental and would only displace supply volumes flowing on existing facilities thereby reducing their utilization. Alliance considered that from a supply perspective, the Applied-for Facilities were not essential and would only represent a pre-build for potential and speculative future volumes.

3.3 Findings of the Commission

The Commission has considered the evidence of all the parties in respect of the need for the Applied-for Facilities, including the issues of supply and demand forecasts, supply adequacy, location of supply and timing.

The Commission considers that the need for any new facilities will be based upon forecasts for demand and the location of associated supply. The Commission understands that every forecast is an estimate and that the probability of the forecast materializing decreases as the time line increases into the future. Therefore, the Commission holds the view that forecasts of the near and medium term, up to five years into the future, are expected to be more reliable than forecasts beyond five years and especially those forecasts beyond ten years. Accordingly, the Commission will place more weight on information substantiating the need for the Applied-for Facilities using the forecasts for the near to medium term with less weight on the forecasts for the long term.

Regarding the forecasts of demand for the oil sands, which included a significant part of the NOBLDA demand, as shown in Table 2, the Commission notes that the average forecast demand provided by NGTL and P&G was almost identical for the period from 2008 to 2012.⁴⁵

In addition to the oil sands demand, the Commission evaluated the forecast demand for the balance of customers in the NOBLDA including the residential, commercial and other industrial customers in the Fort Saskatchewan area.

Given the forecast demand in the NOBLDA, the Commission evaluated the evidence related to the current capability of NGTL's existing pipeline to deliver the gas demand to the NOBLDA and the oil sands customers in the Fort McMurray sub-area. A significant factor in determining the capability to deliver the demand is the location of the commensurate supply and whether the supply is nominated from NOVA Inventory Transfer (NIT)⁴⁶ or from Points-to-Point service. The Commission notes that NGTL segmented its system into eight Design Areas, of which the NOBLDA and the PRDA are significant when determining the location of supply and therefore, the related infrastructure in each Design Area. The Commission accepts NGTL's method of segmenting its system into the eight Design Areas as an acceptable method for performing area capacity and design analysis. The Commission is of the view that any different Design Area configuration would likely yield similar results due to the need to account for the total system supply and demand regardless of the Design Area configuration. For this reason, the

⁴⁴ Alliance reference Figure 4.3.2 from NGTL's 2007 Annual Plan

⁴⁵ The Commission notes in PVE-NGTL-18, NGTL provided a peak demand forecast for NOBLDA. P&G did not provide a peak demand forecast for the entire NOBLDA on a similar basis.

⁴⁶ NIT is a mechanism used to exchange or transfer gas to and from accounts at any notional point on the NGTL system using the NrG platform and providing the primary single pricing point for gas in Alberta in a non-regulated market.

Commission does not accept Alliance' contention that the demand in the NOBLDA was exaggerated due to NGTL's segregation methodology.

The Commission recognizes that the demand in the oil sands sub-area predominantly relates to high load factor processes in operations that are not influenced by weather to any degree. Process loads are held relatively constant throughout the year.

The Commission reviewed NGTL's method of reducing the total aggregate forecast peak demand by applying a coincidence factor to the total coincident demand in the oil sands sub-area. Although the coincidence factor was not established through the use of a mathematical probability analysis, the Commission considers that NGTL's use of a 90 percent coincidence factor yields a reasonable result. Therefore, the contribution of the oil sands demand to the total peak demand in the NOBLDA, as reduced by the coincidence factor, is acceptable on this basis.

Regarding Alliance's evaluation that the NGTL pipeline system in the NOBLDA currently had 43 percent extra capacity over the actual peak day experienced in January 2008, and that NGTL forecast peak demand was some 50 percent above the actual peak experienced in January 2008, the Commission notes NGTL's reply evidence that P&G incorrectly compared the average day demand for the oil sands with the total peak day demand for the NOBLDA.

The Commission notes that NTGL in Argument⁴⁷ verified that it had accounted for expected project delays, increased target outputs, and new projects that were added between 2006 and 2008. The Commission does not accept Alliance's argument that the NGTL system has excess capacity to serve the demand in the NOBLDA. The Commission considers Alliance's argument regarding the effect on demand for these factors is not supported by the evidence. The Commission does not believe it is reasonable to reduce the forecast of demand in the NOBLDA for project delays, in addition to those projects delays already accounted for by NGTL.

The Commission finds that the deliverability shortfall incident of January 2008 was the consequence of a number of factors including high demand, a supply shortfall in the NOBLDA and the inability of the existing pipeline system to deliver gas from elsewhere in the province. The Commission considers this event is indicative of the need for the Applied-for Facilities, especially given the forecast for increasing demand in the NOBLDA

The Commission considers that NGTL had likely double counted the demand from ATCO Pipelines to serve the Fort Saskatchewan industrials. The hydrogen gas sourced from Dow operations in Fort Saskatchewan is a by-product of its ethylene manufacturing process and any natural gas used by Dow would have been sourced from the ATCO Pipelines system. This gas would have been accounted for in NGTL's determination of gas delivered to the ATCO Pipelines system in the Fort Saskatchewan area. NGTL also appears to have overstated the purchased natural gas consumption of the Scotford Upgrader. Nevertheless, the Commission considers that these double-counted volumes are not sufficient to offset the evidence of increasing demand in the oil sands sub-area and therefore does not obviate the need for additional facilities.

The Commission does not consider the aggregate gas supply availability, including Mackenzie Gas and northeast B.C. shale gas, to be determinative of the need for the Applied-for Facilities. Instead, the demand requirements, particularly those in northeastern Alberta are more significant

⁴⁷ NGTL Written Argument, page 49 of 80

to the determination of need. The aggregate supply from the PRDA and NOBLDA appears adequate to meet the demand requirements in the NOBLDA. The Commission considers that NGTL has demonstrated a need for incremental facilities to connect the PRDA supply to the NOBLDA demand requirement.

The Commission acknowledges that the Applied-for Facilities would provide increased flexibility and capacity at the Eastern Gate. However, the Commission agrees with Alliance that the increase in capacity and flexibility at the Eastern Gate are not significant considerations with respect to the project need.

In future the gas supplies into the NCC pipeline may displace existing flows on other pipelines, or may come from incremental sources such as Mackenzie Gas, northeast B.C. shale gas or Alaska gas. The Commission considers that there is a reasonable likelihood that in future, some or all of these incremental supply sources may materialize to flow into the NGTL system and be available for flow through the Applied-for Facilities. However, the Commission finds that the gas supply related need for the Applied-for Facilities is not dependent upon the arrival of incremental future gas supply volumes from Mackenzie Gas, B.C. shale gas or Alaska gas. The Commission also considers that there will be adequate supply to meet the projected demand through the Applied-for Facilities.

The Commission therefore finds that the need for the facilities has been established.

4 FACILITY SELECTION

4.1 Route Alternatives to the Applied-for Facilities

Position of NGTL

In the Application NGTL evaluated two routing alternatives in addition to the Applied-for Facilities.

The additional two routing alternatives were:

- a facility expansion that followed existing major rights-of-way on the Alberta System (Existing Corridors Route); and
- a facility expansion that followed existing major rights-of-way on the Alberta System in the PRDA and NOBLDA as well as a new pipeline corridor through the center of Alberta (South Corridor Route).

NGTL's analysis of the routing alternatives indicates that the NCC routing is less costly than either of the two alternate routes. The CPVCOS of the Applied-for Facilities, as reported by NGTL, was \$1.830 million lower than the Existing Corridors Route and \$1.540 million lower than the South Corridor Route.⁴⁸

NGTL argued that it had assessed the option of utilizing the Alliance existing or incremental infrastructure and decided it was not a viable option.⁴⁹

⁴⁸ Exhibit 002-01 NGTL Application, pages 15 and 18

⁴⁹ NGTL response to AUC-NGTL 5, page 8; NGTL Reply Argument, pages 31-32

Positions of the Parties

Alliance submitted that NGTL failed to examine all real alternatives, and specifically that the SCC alternative consisted of a new, greenfield pipeline, even though the South Corridor route could be located in the Alliance right of way and would run parallel to the Alliance system.⁵⁰ Alliance stated it was currently fully contracted until 2015 and was uncertain how much of the 1.8 Bcf/day capacity might be available at that time to serve Fort Saskatchewan demand.⁵¹ Alliance also stated that it was in the process of offering a short haul, intra-Alberta delivery service of up to 700 MMcf/day.⁵²

Alliance did not provide details on the cost of an existing or new Alliance infrastructure and why it would serve as a better alternative to the ones presented and defended by NGTL in the proceeding. In the context of this Application, the Commission was unable to assess the merits of any option urged on it by Alliance.

WEG stated that NGTL provided very little detail related to the North Central and South Corridor alternatives. WEG also argued that the Applied-for Facilities do not represent the complete set of NCC facilities required to be compared to the other alternatives by the Commission in this proceeding.⁵³

Findings of the Commission

The Commission notes that WEG did not answer IRs asked of it and did not file any evidence refuting or challenging information provided by NGTL, including that provided in the filed Annual Plans. Due to the lack of evidence, the Commission is unable to accept WEG's assertions related to the North Central and South Corridor alternatives.

Regarding WEG's position that additional facilities will be required in the future, facility applications before the Commission are considered on their own merits, in the context of reasonable forecast of supply and demand and other information known at the time. The Commission considers it irrelevant for the current Application that additional facilities may be required in future years to justify additional capital expenditure at that time.

Based on the record, the Commission considers that NGTL sufficiently examined reasonable alternatives to the NCC route.

The Commission notes that all other parties in the proceeding either supported or did not oppose the choice of alternatives and outcome generated in the analysis.

On balance, the Commission does not find the arguments and evidence on this point submitted by parties opposed to the Application to be persuasive. The Commission considers that the route chosen for the Applied-for Facilities represents the best alternative to meet NGTL's aggregate system delivery requirements.

⁵⁰ Alliance Argument, page 25

⁵¹ Cross-examination by Syncrude, Transcript Volume 6, page 1259

⁵² Alliance Reply Argument, page 20

⁵³ WEG Argument, page 5

4.2 Pipe Size Alternatives of the Applied-for Facilities

Position of NGTL

NGTL indicated that its determination of the optimal pipe size involved a number of factors, including forecast flow volumes, hydraulic modeling, compression fuel, maintenance and the costs associated with these factors. NGTL applied for a pipe size of 1067 mm (NPS 42) as the optimal size. The two size alternatives for the NPS 42 pipeline were:

- 1219 mm (NPS 48) pipeline; and
- 914 mm (NPS 36) pipeline.

The comparison of the two size alternatives to the Applied-for Facilities indicated that total system fuel consumption for the NPS 48 alternative was less than for the NPS 42 option but the difference was insufficient to offset the incremental capital cost of the NPS 48 alternative compared to the Applied-for Facilities. The CPVCOS of the NPS 48 alternative was approximately \$62 million higher than the CPVCOS of the Applied-for Facilities.

For the NPS 36 alternative, compression fuel requirements and operating and maintenance costs would be higher than for the NPS 42 option chosen. With the NPS 36 option, two additional 28 MW compressor stations along the NCC route and 26 MW of incremental compression at the Meikle River Compressor Station would be required to deliver the demand volumes. As a result, the CPVCOS of the NPS 36 alternative was approximately \$134 million higher than the CPVCOS of the Applied-for Facilities.⁵⁴

NGTL described its process for selecting the optimal pipe size as follows:⁵⁵

Detailed hydraulic and economic analysis was completed for the 3 pipe sizes on the North Central Corridor route. As discussed in the Forecast Period Basis selection, NGTL had concluded that the maximum capacity requirement on a system basis occurred in the 2015/2016 Gas Year. Hydraulic models were evaluated for the Alberta System based on the 2015/2016 forecast average summer intra-Alberta and export border demand conditions across a range of flows on the Applied-for Facilities rout for each of the NPS 36, NPS 42 and NPS 48 alternatives. The estimated capital requirements for each pipe size at the various flow conditions were compiled along with estimated system compressor fuel and operating and maintenance costs.

NGTL used its financial services lifecycle cost model to calculate the 25 year cumulative present value cost of service (“CPVCOS”) for each pipe size at each flow condition. A CPVCOS versus flow curve was produced for each pipe size illustrating that the NPS 42 has the lowest CPVCOS over the broadest range of flows when compared to the NPS 36 and NPS 48 alternatives.

NGTL further explained in the hearing⁵⁶ that NGTL considered both the short and long-term requirements when sizing the facilities. Facilities are not built in advance of an identified requirement, but the required facilities may be sized to accommodate appropriate longer term considerations. Through this approach, NGTL selects the optimal facilities to ensure it does not

⁵⁴ NGTL North Central Corridor Application

⁵⁵ Reference AUC-NGTL 5

⁵⁶ Transcript Volume 3, page 745, lines 4-16

have to loop the facilities in the near term because they were undersized and did not adequately anticipate the future aggregate needs for the system.

NGTL indicated that the selection of NPS 42 as the optimal size for the pipe will optimize the long term owning and operating costs as well as the capacity requirements.⁵⁷

NGTL indicated that it also engaged in extensive discussions with its stakeholders and with its Customer Advisory Council prior to selecting the pipe size for the Applied-for Facilities. At one point in the discussions, NGTL proposed an NPS 48 option as it was only marginally more expensive than the NPS 42 option and would provide the benefit of added capacity for potential future but yet unforeseen requirements. Based on feedback from stakeholders, NGTL determined that the NPS 42 option was the appropriate option based on the information available at the time the sizing decision had to be made.⁵⁸

In response to WEG's position that there should be contracts in place in order to justify the facilities, NGTL pointed out that since the Applied-for Facilities were not related to any new station-specific receipt or delivery requirement or facilities, NGTL would not be executing specific new contracts for receipt or delivery services.⁵⁹ NGTL also indicated that it based its peak day intra-Alberta delivery forecasts on firm delivery requirements rather than interruptible volumes.⁶⁰

During the hearing, a question arose of whether the pipe size would have been reduced to NPS 36 if Mackenzie Gas, B.C. shale gas or Alaska gas was not expected to arrive during the 10 year planning horizon. In response, NGTL explained that building the NPS 42 option would result in greater fuel savings than the NPS 36 option when moving the same volume of gas. NGTL indicated that the advantage of the NPS 42 option became even more pronounced if the volumes moving across the Applied-for Facilities increase, because in order to move the additional volumes through an NPS 36 pipe, it would be necessary to install compression at the Otter River and Goodfish compressor stations. Similarly, the benefits of the NPS 42 option would be greater if gas prices increase because of fuel savings realized over the NPS 36 option. With the NPS 42 option, the Otter River and Goodfish compressor stations would not be necessary, but were identified as contingency sites for potential future compression in the event that significant volumes over and above those forecast had to be transported on the Applied-for Facilities.⁶¹

In response to UCA's suggestion that NGTL shareholders be placed at risk for the incremental sizing from NPS 36 to NPS 42, NGTL indicated that even if the Commission should find there is a need for facilities but NGTL has not justified the selected pipe size, it would be inappropriate and unfair to place NGTL at risk for any cost differences between the proposed NPS 42 and any smaller size if customers and other stakeholders were, nonetheless, to reap the benefits of the reduced fuel requirements resulting from the larger pipe.

⁵⁷ Transcript Volume 5, page 1070, line 24 to Transcript Volume 5, page 1071, line 1

⁵⁸ Transcript Volume 5, page 1070, line 24 to page 1071, line 3; Exhibit 002-12, response to BP-NGTL 3(h); Exhibit 002-15, response to NOVA Chemicals-NGTL 25(c)

⁵⁹ NGTL Reply, page 9

⁶⁰ Transcript Volume 5, page 951, lines 5-7

⁶¹ Transcript Volume 5, page 1095, line 15 to Transcript Volume 5, page 1096, line 5

Positions of the Parties

IGCAA supported the NGTL utilization and sizing approach and considered that the near-term prospect of significant volumes of gas from B.C. shale gas production as identified by NGTL in its opening statement will only serve to further support the utilization of the Applied-for Facilities. DET agreed that including provision for shale gas that might be in the order of 2 Bcf/day by 2012 was appropriate.⁶²

IGCAA disagreed with WEG and suggested that the concerns related to a lack of contractual underpinning of the facilities was a “red-herring” and that the aggregate of system design flows supported the need for these mainline facilities.⁶³ IGCAA and NGTL considered that the WEG perspectives were not relevant to this proceeding and were more reflective of rate design.

Petro-Canada supported the NGTL approach and highlighted that Alliance had not completed any hydraulic modeling to support its position. Petro-Canada also suggested that installation of the Applied-for Facilities would add much needed security of supply to the market area.

Syncrude also supported the sizing and considered that the facility would be fully utilized.

ATCO Pipelines noted that it receives a significant volume of its winter peak supply from NGTL and noted its understanding from NGTL that the Applied-for Facilities would enhance NGTL’s ability to meet delivery and pressure requirements at interconnects between NGTL and the ATCO Pipelines system. On this basis, as well as the understanding that tolling issues would be resolved in another forum, ATCO Pipelines indicated that it did not oppose the Application.

WEG expressed concern that the NGTL sizing design criteria to calculate peak flows included some provision and reliance upon Interruptible Transmission (IT) service. WEG considered that this may place a risk to FT-R and FT-D shippers rather than prospective FT-A/FCS and FT-P customers who ought to be executing new service contracts to underpin the facilities.

The UCA provided comments with respect to the sizing choice, wherein the UCA suggested that since the decision to go to an NPS 42 pipe was contingent upon at least one incremental supply source onto NGTL materializing (Mackenzie Gas or one of the shale gas developments in northeast B.C.), some form of risk/reward arrangement for NGTL might be appropriate. In this regard, the UCA noted that NGTL incurred risk in that the Alliance open-season for deliveries of 700 MMcf/day from northeast B.C. to Fort Saskatchewan could displace supplies that might otherwise be available for the NGTL NCC pipeline.⁶⁴ The UCA suggested that it may be appropriate to place the risk associated with the incremental sizing from NPS 36 to NPS 42 upon the NGTL shareholders instead of the NGTL customers.

Findings of the Commission

The Commission finds that NGTL has demonstrated that the NPS42 option is the most suitable for the NCC Applied-for Facilities. It has the lowest CPVCOS of the options considered, would result in lower fuel requirements and emissions than the NPS 36 option (as described in further detail in Section 6.2.1.), has been proposed by NGTL after consultation with customers. In

⁶² DET Argument, August 22, 2008, page 3

⁶³ IGCAA Reply, page 4

⁶⁴ Transcript Volume 6, page 1329, lines 6-7; Ibid, page 1264

addition, although not determinative at this time, the NPS 42 option would make possible a lower cost option for carrying new volumes of gas from the MacKenzie Gas, B.C. shale gas and Alaska gas, should those volumes materialize in the future as anticipated by a number of parties.

The Commission considers that the arguments raised by WEG have little relevance to the need for the facilities or the choice of the size of the facilities. They are concerns related primarily to rate design and can be fully addressed in the rate design process.

Regarding UCA's suggestion that a risk/reward arrangement be introduced for the Applied-for Facilities with NGTL shareholders bearing the risk of the NPS 42 pipe size decision,⁶⁵ the Commission considers that because the Applied-for Facilities have been justified on the basis of need to supply customer demand and represent the optimal size having regard to the combination of capital costs and fuel savings, it is not appropriate to allocate shareholder risk or introduce a risk/reward arrangement in the manner advocated by the UCA.

4.3 Timing of Applied-for Facilities

Position of NGTL

NGTL indicated that in order to avoid the forecast shortfall in the NOBLDA in 2009, NGTL had to procure the required materials in sufficient time to be able to commence construction of the pipeline. NGTL ordered the pipe in July 2007, which was effectively the latest it considered it could wait if it expected to take delivery of the pipe in time to begin construction in the fall of 2008. NGTL indicated that the timeline was tight and construction must begin in 2008 to avoid projected shortfalls in 2009. If NGTL were to have waited longer than it did to procure the pipe, or were to have waited for the Commission's adjudication of the Application before beginning the procurement process, NGTL stated it would not have been in a position to have the Applied-for Facilities in service before 2012/2013, which would have resulted in significant shortfalls in the NOBLDA in the interim.

NGTL indicated it was not able to construct both the North Star and Red Earth sections of the facilities in one construction season. The North Star Section was proposed to be constructed during the 2008/2009 winter construction season. The Red Earth Section would then follow during the 2009/2010 winter construction season.

NGTL indicated that the location of the Applied-for Facilities was within a winter construction zone which places timing constraints on the construction activities. NGTL indicated that it required approval from the Commission by October 15, 2008 to commence construction in the required timeframe.

Positions of the Parties

Alliance considered that the timing of the NCC facilities was premature and without urgency, particularly with respect to the demand forecasts in the NOBLDA which Alliance considered to be overstated by NGTL.

DET supported NGTL's perspective with regard to the timing of the installation and noted that more weight should be placed upon the viewpoints of the shippers who will pay for the facilities than on the viewpoints of Alliance, which is a competitor of NGTL.

⁶⁵ UCA Argument, page 4

Syncrude concurred with NGTL's proposed timing and emphasized that the timing of the installation was of critical importance to Syncrude. Syncrude recommended approval of the project by October 15, 2008 in order that NGTL might proceed with the staged installation process so that a lack of capacity does not jeopardize Syncrude's oilsands operations.

Findings of the Commission

The Commission accepts the position of NGTL, supported by its shippers, that construction of the Applied-for Facilities should begin in the 2008/2009 construction season in order to improve reliability of the gas delivery system in the NOBLDA during peak demand periods.

5 COSTS

5.1 Capital and Operating Costs

Position of NGTL

The initial capital cost estimate for the Applied-for Facilities was \$982.9 million.⁶⁶ Subsequent to filing the Application, NGTL awarded several contracts and as a consequence, revised its cost estimate to reflect the costs of those items in the contracts. The resulting revised estimated cost was \$922.7 million and was considered accurate to within the range of -10 percent to +15 percent.⁶⁷ In addition, the estimate continues to include a contingency amount for factors that are largely beyond NGTL's control, such as weather and change orders for unforeseen circumstances.⁶⁸

Based on the capital cost estimate provided in the Application, NGTL conducted a CPVCOS analysis for the Applied-for Facilities consistent with the analysis described and used in the Annual Plan process.⁶⁹

NGTL stated that the forecast capital cost of the Applied-for Facilities was approximately \$923 million.⁷⁰ NGTL also stated that a one year delay would translate into approximately \$44 million incremental capital costs to the project. However, this would not account for consequential impacts to customers' delivery requirements from shortfalls in delivery capacity.⁷¹ On the other hand, if the Application is denied, cancellation costs of approximately \$345 million of costs would be incurred.⁷²

The incremental revenue requirement impact of the Applied-for Facilities was forecast at approximately \$64.5 million in 2009 and \$135.4 million in 2010 based upon April 1 in-service dates for each year.

⁶⁶ Exhibit 002-01, Application, page 12

⁶⁷ Exhibit 002-30, revised response to AUC-NGTL 7

⁶⁸ Transcript Volume 5, page 941, lines 8-15

⁶⁹ Exhibit 002-08, response to Alliance-NGTL 19(g), Annual Plans, section 2.9.5.4; also see Exhibit 002-12, response to BP-NGTL 18(a) in which NGTL provided the parameters used in the CPVOS analysis.

⁷⁰ Transcript Volume 3, page 556. See also Exhibit 002-29, NGTL Revised Cost Estimate.

⁷¹ NC-NGTL 15 (c). Also see BP-NGTL 1(f).

⁷² NC-NGTL 15 (d). Also see Transcript Volume 3 at pages 677-678.

NGTL considered that one of the key cost considerations to optimize the long term owning and operating costs was the expected reduction in system-wide fuel requirements that would result when the Applied-for Facilities were placed in service. NGTL indicated that the Applied-for Facilities were expected to cut the fuel consumption of the Alberta System in half, a reduction of approximately 56 MMcf/day. To be conservative, NGTL reduced that amount by 25 percent to arrive at an expected reduction of 42 MMcf/day of fuel for the purposes of its analysis. Based on a gas price of \$5.78/Mcf, the reduced fuel consumption would be equivalent to a reduction of transportation costs of 2.1 cents/Mcf.⁷³ NGTL considered that this reduction would partially offset the expected rate impact of 4.3 cents/Mcf associated with the addition of the Applied-for Facilities. However, if the price of gas exceeded \$5.78/Mcf, NGTL indicated that the savings would be even greater and could potentially completely offset the rate impacts of the Applied-for Facilities.⁷⁴

NGTL expected that Alberta System shippers would benefit from the fuel savings. Although fuel is provided in kind by receipt shippers, NGTL suggested that FT-R customers may convey the savings through the price of gas at NIT.⁷⁵

NGTL responded to the UCA submission indicating that an examination of fuel reduction benefits is fundamentally a matter of cost responsibility and rate design and was not a matter to be determined or addressed in this proceeding, even through directions for further actions. NGTL suggested that the UCA could and properly should pursue this issue as part of the established collaborative process to review the Alberta System rate design.

NGTL advised that as the price of fuel gas increases, the magnitude of the offset also increases. NGTL submitted that it specifically used a fuel price forecast through 2030 to estimate the savings.⁷⁶ NGTL responded to Alliance's suggestion that the fuel savings would disappear when new supplies arrived. The reduction would be independent of whether additional supplies are received on the Alberta System or not. If new supply arrives, then overall system fuel requirements may increase, but the increase is additive to the reduced level achieved with the Applied-for Facilities, rather than additive to the higher fuel requirements without the Applied-for Facilities. The fuel savings do not simply disappear if new supply is added to the system.

In response to Alliance's argument about fuel gas forecasts being based on average system flows rather than peak flows, NGTL stated that Alliance's statements illustrate its misunderstanding of both NGTL's approach to determining impacts on fuel requirements and the conservative nature of it, as well as NGTL's facilities design criteria. NGTL did not abandon the use of peak day flow for purposes of fuel calculations, as Alliance alleged. NGTL never used that approach in the first place, nor would it have been reasonable to do so. If NGTL calculated fuel savings based on maximum day flows, it would have forecast significantly higher fuel savings, further increasing the benefits attributable to the Applied-for Facilities. NGTL doubted that was the result Alliance sought to reach. Instead, NGTL used forecast average day flows to determine expected reductions in fuel requirements with the Applied-for Facilities in operation. To be more

⁷³ Exhibit 002-15, response to NOVA Chemicals-NGTL 2(a)

⁷⁴ Exhibit 002-12, response to BP- NGTL 19(b); In this response, NGTL compared fuel savings of the Applied-for Facilities to the Southern Corridor Route and also presented the increased fuel savings that would result from higher gas prices.

⁷⁵ Transcript Volume 5, page 1023, lines 23 to page 1024, line 16

⁷⁶ Exhibit 002-12; response to BP-NGTL II 3

conservative in its estimates and ensure it did not overstate the potential benefits, NGTL then further reduced the expected fuel savings by another 25 percent.

With respect to the potential erosion of savings due to gas price volatility, NGTL responded that the rate savings would fluctuate depending on gas prices and indicated that NGTL specifically used a fuel price forecast through 2030 to estimate the savings. NGTL also provided the impact on these calculated savings of changes in the unit price of gas. For each dollar change in the price of gas, the equivalent change in full path rates would be approximately 0.5 cents/Mcf.⁷⁷

With regard to the Paul Lake and Woodenhouse compressor stations, NGTL disagreed that the savings were largely achieved through idling these two compressor stations. NGTL stated that these two compressor stations will not be idled following construction of the Applied-for Facilities. NGTL pointed out that Alliance made this assertion in an information request to NGTL and that NGTL had responded that these compressor stations will be required in future years to meet maximum day requirements as illustrated in schematics provided in evidence.⁷⁸

NGTL indicated that WEG, like Alliance, made erroneous statements in argument about fuel requirements. Specifically, WEG contended⁷⁹ that fuel savings are likely to be significantly less than what NGTL claimed because NGTL used the year of the highest fuel savings - 2014 - and applied that amount in every year. NGTL clarified that it did not select the year of the highest fuel savings and apply it across all years. NGTL specifically forecast fuel requirements on an annual basis. NGTL presented equivalent rate impacts of fuel savings based on the specific savings forecast for a particular year.⁸⁰

Positions of the Parties

Syncrude supported the application and relied upon NGTL's and IGCAA's evidence regarding capital and operating costs of the Applied-for Facilities.

IGCAA supported NGTL's evidence regarding capital and operating costs of the Applied-for Facilities. IGCAA provided evidence that the forecast capital expenditures associated with the Applied-for Facilities were not at all unusual or unique when compared to mainline expansions over the past two decades.⁸¹ What was unique was that these facilities carry with them significant fuel gas savings which offset the forecast rate impact of the capital additions.

WEG did not agree with the costs of the Applied-for Facilities as presented in the application. WEG argued that a meaningful comparison of the capital costs of alternative sets of facilities must look at the full costs of a complete operationally related undertaking, in this case the NCC. WEG argued that it was disingenuous for NGTL to suggest that only costs of the Applied-for Facilities represent the full cost of that alternative, when other essential parts of the NCC remain to be constructed or applied for, such as the Chinchaga Loop. WEG argued that the Application did not provide enough detail to enable a determination of the total facility solution to meet demand directly attributable to the oil sands markets. Viewed as a whole, the capital costs of the

⁷⁷ Exhibit 002-12; response to BP-NGTL II 3; Exhibit 002-15, NOVA Chemicals-NGTL 2(a)

⁷⁸ Exhibit 002-05, response to Alliance-NGTL 9(c); and Exhibit 002-05, response to Alliance-NGTL 10(e)

⁷⁹ WEG Argument, page 12

⁸⁰ Exhibit 002-12, response to BP-NGTL 3(i); Exhibit 002-15, response to NOVA Chemicals-NGTL 2(a) and (b); and Exhibit 002-12, response to BP-NGTL 19(b)

⁸¹ Exhibit 016-04, IGCAA Evidence at pages 5-6

total facility solution would be far greater than suggested in the Application. WEG explained that Exhibit 50-7 did not include approximately \$53 million capital cost of the NCC Peerless Lake sections⁸² which almost completely offsets the approximately \$60 million reduction in the current cost estimate for the Applied-for Facilities. The total estimated capital costs directly attributable to serving forecast oil sands demand are at least \$2.5 billion as calculated in Exhibit 50-7 and perhaps up to \$375 million higher if the +15 percent potential cost overrun was added to each of the component projects.

The UCA expressed a concern that because receipt shippers provide fuel in kind to NGTL, the fuel savings do not impact NGTL's revenue requirement and transportation rates. Therefore, the fuel savings are not distributed evenly according to usage to all shippers on NGTL. The UCA referenced that IGCAA acknowledged that not all customers would benefit from the offsetting fuel savings.⁸³

The UCA further referenced that NGTL also acknowledged there is some potential for an indirect offset through the NIT price because of the fuel savings.⁸⁴ Therefore, the UCA submitted that the benefits from the Applied-for Facilities would not be distributed fairly amongst all shippers including interconnected gas transmission pipelines (e.g., ATCO Pipelines) which provide gas supply to core customers. If the Commission approved these facilities, the UCA requested that the Commission include a provision in its decision that would direct NGTL to explore and identify ways in its rate design initiatives that would achieve a fair distribution of the benefits arising from the fuel reduction.

Petro-Canada took no position on the costs of the Applied-for Facilities presented in the Application but submitted that the fuel costs would significantly or entirely offset the annual incremental costs of the Applied-for Facilities and were in support of the Application. Petro-Canada observed, however, that NGTL's hydraulic simulation of the Alberta System, including the Applied-for Facilities, resulted in fuel savings that significantly offset the increase in rates due to the capital cost of the facilities.

IGCAA indicated that the benefits of the fuel cost savings would flow directly to the receipt shippers and some savings may be recovered subsequently through the NIT market.

Alliance argued that fuel savings were based on average flow conditions⁸⁵ yet NGTL was dismissive of examining average flow requirements when discussing its facilities design criteria. Alliance observed that NGTL utilized aggregate maximum peak day design flows for facility design purposes; however it did not use this criterion when forecasting the fuel savings that may result from the installation of the Applied-for Facilities. Instead, NGTL used forecast average day flows to determine expected reductions in fuel requirements with the Applied-for Facilities in operation.

Alliance argued that fuel savings are dependent on the assumed conditions, including natural gas price, remaining at or above levels in NGTL's calculations for the next 20 years, and that given the volatility in natural gas prices, the assumed savings could be easily diminished. Alliance contended that no sensitivities were presented in this regard. Alliance also contended that it was

⁸² Transcript Volume 4, page 902, lines 13-24

⁸³ Transcript Volume 5, page 1157, lines 2-6

⁸⁴ Ibid, page 1024, lines 4-16; Ibid, page 1045, lines 12-16

⁸⁵ Transcript Volume 5, pages 1020-1021

critical to understand that, if new supplies actually do arrive, the purported fuel savings disappear. Alliance then suggested that NGTL's position was internally inconsistent, as these very same new supplies are being relied upon to backstop the need for the very facilities that will allegedly bring about these savings. Alliance also argued that the fuel savings would be achieved largely by idling recently installed compressor facilities at the Paul Lake Compressor and Woodenhouse Compressor Stations.

Alliance also argued that the fuel gas savings were dependent on natural gas volumes actually being diverted off the existing system and on to the NCC. Alliance further argued that to the extent that volumes continue to flow on existing facilities (including to the export market) the operational advantages of the Applied-for Facilities to NGTL's overall system disappear and, therefore, the risk of NGTL's assumptions being wrong falls to customers, not to NGTL itself.

Findings of the Commission

The Commission notes that no parties objected to or proposed an alternate estimate for the Applied-for Facilities. The Commission considered WEG's argument that the costs of the Applied-for Facilities do not represent the full cost of the NCC alternative and that the total estimated capital costs directly attributable to serving forecast oil sands demand (listed in Exhibit 50-7) are at least \$2.5 billion.⁸⁶ The Commission does not accept that this argument should be considered in this application because some of these other facilities were approved to address a specific need (not necessarily forecast oil sands demand exclusively) at the time each application was made. Therefore, the Commission considers that NGTL's revised estimate of capital expenditures in the amount of \$922.7 million to be reasonable.

The Commission does not accept WEG's contention that NGTL used the year of the highest fuel savings, 2014, and applied that amount in every year. The record clearly indicates that this is not the case.⁸⁷

The Commission has considered Alliance's argument that fuel gas savings are dependent on natural gas volumes actually being diverted off of the existing system and onto the NCC.

The Commission finds that NGTL correctly used forecast average flows to determine fuel savings because fuel costs are incurred on the basis of total volumes transmitted rather than volumes at peak periods. For that reason, using maximum peak day design flows would have inflated the projected fuel savings well beyond what could reasonably have been expected. The Commission agrees with NGTL that maximum peak day design flows must be used for design purposes in order to prevent costly outages when natural gas is needed most.

The Commission has reviewed the NGTL analysis of its pipeline system and future demand in the NOBLDA as determined through communications with customers, many of the largest of which intervened in support of the Application. Based on its review of the evidence, the Commission considers that sufficient gas volumes that would otherwise be transmitted through the existing system will be transmitted through the NCC to realize the projected fuel gas savings.

⁸⁶ Exhibit 002-20, NGTL Response to WEG-NGTL, 1 May 28, 2008

⁸⁷ Exhibit 002-12, response to BP-NGTL 3(i), and Exhibit 002-15, response to NOVA Chemicals-NGTL 2(a) and (b); and Exhibit 002-12, response to BP-NGTL 19(b)

The Commission finds NGTL’s explanations of the expected fuel savings to be reasonable. The Commission also notes that the reductions to forecast natural gas fuel consumption would make incremental supply available for consumption as well as providing benefits to environmental concerns by reducing CO₂ emissions.

The Commission considers that the UCA should pursue the issue of fuel reduction benefits as part of the established collaborative process to review the Alberta System rate design.

5.2 Least Cost Alternative

Position of NGTL

NGTL assessed the merits of the different alternatives based initially on a comparison of capital costs and the CPVCOS of each alternative.⁸⁸ NGTL determined that the Applied-for Facilities had the lowest capital cost and CPVCOS of the three routing alternatives by a significant margin. Specifically, the CPVCOS of the Applied-for Facilities was \$1.873 million less than the Existing Corridors Route and \$1.604 million less than the South Corridor Route. On this basis, NGTL eliminated the other routing alternatives.

NGTL filed Table 3⁸⁹ showing the relative differences in annual CPVCOS between the Applied-for Facilities and the alternatives for the period between 2010 and 2020. The annual CPVCOS is lower in the initial years for the NPS 36 pipe size alternative. As described in the Application in Table 3.6 and the revised Table 3.6,⁹⁰ the long-term CPVCOS of the NPS 36 alternative exceeded that of the Applied-for Facilities by \$134 million.

Table 3. Annual CPVCOS Difference Relative to the Applied-For Facilities (\$M)

Annual CPVCOS Difference Relative to the Applied-for Facilities (\$M)

	North Central Corridor (NPS 42)	North Central Corridor (NPS 48)	North Central Corridor (NPS 36)	Existing Corridors Route	South Corridor Route
2010	-	11.8	-10.6	-16.3	17.6
2011	-	18.7	-16.9	52.4	103.5
2012	-	24.9	-22.6	142.1	209.5
2013	-	30.4	-27.5	232.7	313.8
2014	-	35.1	-11.5	417.1	452.1
2015	-	39.6	4.0	591.9	579.2
2016	-	43.3	18.9	759.2	698.9
2017	-	46.6	32.5	907.1	807.6
2018	-	49.4	45.1	1039.8	905.8
2019	-	51.8	56.6	1159.9	994.7
2020	-	53.9	67.2	1267.7	1074.9

Positions of the Parties

In Petro-Canada’s view, NGTL appeared to have undertaken a comprehensive cost analysis of the various alternatives, including a sensitivity analysis on the South Corridor Route which

⁸⁸ Exhibit 002-01, Application, page 21; see also Transcript Volume 4, page 826; Transcript Volume 5, page 1058

⁸⁹ BP-NGTL 3 (item j, page 6)

⁹⁰ AUC-NGTL 5

encompassed a TBO arrangement with Alliance. Petro-Canada submitted that, based on the evidence adduced in these proceedings, the Applied-for Facilities represented the least cost alternative. Petro-Canada argued that it was important to recognize that the difference between the CPVCOS of the Applied-for Facilities and the next best routing alternative was approximately \$1.6 million. Petro-Canada submitted that the CPVCOS mechanism was a tested and reliable methodology for determining the least cost alternative.

Suncor argued that the location and magnitude of the aggregate supply and demand have led to a requirement for the Facilities in the 2009/2010 Gas Year. The Applied-for Facilities represented the least-cost and optimal facilities to meet system-wide receipt and delivery requirements.

Syncrude agreed with NGTL that the Applied-for Facilities were the least cost and optimal facility solution to address growing supply and receipts in northwest Alberta, declining supply in northeast Alberta, and growing demand located in northeast Alberta.

Imperial/EMC stated that the timely completion of the NCC was required to meet the rapidly growing demand for natural gas in northeast Alberta and that the NCC was the least cost alternative to meet such demand.

DET stated that the Applied-for Facilities represented the least cost alternative.

CAPP stated that the Applied-for Facilities were the lowest cost alternative to meeting the aggregate needs of NGTL customers.

Alliance was of the view that NGTL had not demonstrated that the NCC Project represented the least cost alternative to meet any true demonstrated need for facilities. Alliance argued that when NGTL examined its own TBO criteria as part of evaluating the options available to it, NGTL did not do any rigorous assessment of a TBO option that would involve use of the Alliance pipeline.⁹¹ Alliance submitted that NGTL dismissed the option of working with a competitor, as it might diminish the need for this proposed \$1 billion (or greater) addition to its rate base. Therefore Alliance concluded that NGTL failed to demonstrate that the NCC option was the least cost alternative to satisfy any true need that had been demonstrated.

Findings of the Commission

The Commission has considered Alliance's contention that NGTL did not do any rigorous assessment of a TBO option that would involve use of the Alliance pipeline and dismissed the option of working with a competitor. The Commission is of the view that NGTL did conduct such an assessment and that its assessment of a TBO option in this particular case was adequate. NGTL identified one possible TBO alternative and reviewed a very similar option (the South Corridor Route Alternative). NGTL determined that the CPVCOS using the Alliance system was significantly higher than the CPVCOS of the Applied-for Facilities and therefore determined that the use of the Alliance System was not a viable option.⁹²

The Commission finds NGTL's forecasts of capital and operating costs of the proposed facilities and their alternatives, within the tolerances stated, to be reasonable for the purposes of

⁹¹ Transcript Volume 3, page 671

⁹² Exhibit 002-12, response to BP-NGTL 9 (d); Transcript Volume 3, page 671, line 25 to page 672, line 12

comparing alternatives. Upon review of the Application, the evidence and the arguments, the Commission concludes that the Applied-for Facilities represent the least cost alternative.

6 PUBLIC INTEREST ANALYSIS

Section 17 of the AUC Act requires the Commission to consider whether the construction or operation of the Applied-for Facilities is in the public interest, having regard to the social and economic effects of the proposed pipeline and other facilities and their effect on the environment. The public interest is not defined in the Act and historically the Commission's predecessors have been given broad discretion to decide what is in the public interest in any particular case. In this case the powers and duties of the Commission cited in section 4 of the *Pipeline Act* provide some guidance on the question of the public interest in relation to gas utility pipelines. Subsection 4(a) of the *Pipeline Act* permits the Commission to inquire into, examine and investigate any matter relating to the economic, orderly and efficient development in the public interest of pipeline facilities in Alberta. The Commission stated in Decision 2008-035 that it was not required by its enabling legislation to pursue these objectives but that it may consider them as part of its public interest analysis in this proceeding. In addition, subsection 4(d) of the *Pipeline Act* permits the Commission to inquire into, examine and investigate any matter relating to the control of pollution and conservation of the environment in the development and operation of pipelines facilities. While the Commission has considered these objectives in its assessment of the public interest, it has not limited its analysis of the public interest to those factors.

6.1 Social and Economic Impacts

6.1.1 Impact of Potential Redistribution of Gas Demand and Supply

Most parties at the hearing agreed that gas demand and supply in Alberta is going through a process of redistribution. Some disagreement existed as to the cause of that redistribution (i.e. changing market demand versus the approval and building of the Applied-for Facilities). WEG stressed that the demand side will dominate but did not provide a panel to give other participants the opportunity to test its evidence.⁹³ Nevertheless, WEG suggested the redistribution was facilities-driven.⁹⁴

The Commission observes that supply and demand in the gas markets in Alberta continue to evolve. NGTL's Alberta System deliveries, particularly in the NOBLDA and specifically to fill oil sands project demands in the Fort McMurray, Cold Lake/Kirby and Edmonton/Heartland areas, have grown significantly in recent years.⁹⁵ This increased demand is one of the main reasons for NGTL submitting its Application to the AUC to build the NCC Facilities.⁹⁶

In addition, the Commission observes that over the last several years export gas volumes have been declining as a result of a combination of increasing intra-Alberta demand and decreasing supply of gas. The record of this proceeding suggests that this trend will likely continue in the short-term until new BC and/or Northern gas supply is available.

⁹³ WEG Argument, pages 13-14

⁹⁴ WEG Argument, page 13

⁹⁵ NGTL Argument, pages 27-28

⁹⁶ NGTL Argument, page 27

The Commission considers that the Applied-for Facilities are needed to most efficiently supply the increasing demand in the NOBLDA. The geographic redistribution of demand and supply in Alberta is market driven. Despite suggestions to the contrary, it is not the approval of this Application that will cause a redistribution of supply and demand. That is already occurring in the market.

6.1.2 Impact on NIT Market

The potential impact of the Applied-for Facilities on NIT was included by the Commission in the issues list for this proceeding. In Decision 2008-035, the Commission stated:

The operation of NIT has evolved in the marketplace and is not regulated by the Commission. The Commission is not able to determine at this time whether impacts on NIT are relevant considerations for the Application. The Commission considers that the onus will be on participants addressing this issue to demonstrate the extent and materiality of the impacts of the proposed gas utility pipeline on NIT.

NGTL described the relationship between the physical flow of gas on the pipeline system and the commercial arrangements for trading gas at NIT as follows:⁹⁷

Q. Could they just not get that gas from NIT?

...

A. MR. CLARK: The oil sands? No, there's no physical way of actually delivering the gas. The NIT market is a commercial environment where people buy the commodity. They get that commodity from this -- and NIT isn't a physical place. It's a commercial hub, if you will. It's no physical location. To get the gas to the physical delivery point, we absolutely need these facilities, and to bring gas on to the system as supply grows, we will absolutely need to have these facilities.

NGTL provided further clarification as follows:⁹⁸

...So, a Mackenzie shipper may well bring their gas in at the Alberta border receipt point in the northwest corner of the province. Once that gas physically enters the system, that shipper now has a volume of energy that is credited to what we call their NIT account. That shipper can sell those GJs to an export market, an intra-Alberta market, maybe just to a marketer at NIT. It doesn't prescribe where the physical flow of gas will go. It describes where the commercial buy-sell occurs. So, it's quite possible that a Mackenzie gas shipper would sell their gas into a California market, but physically the volumes may flow to Fort Mac. They're two completely separate processes and it's important to separate those because what Mr. Schultz and his team does is he designs the actual physical flow rather than the commercial flow.

Syncrude considered that the impact on NIT was not relevant to the consideration of this application.⁹⁹

⁹⁷ Transcript Volume 5, page 1068

⁹⁸ Transcript Volume 3, page 638

⁹⁹ Syncrude Argument, August 22, 2008, paragraph 62

DET provided a similar assessment where it indicated:¹⁰⁰

On the Alberta System, the physical flow of gas is different than the commercial flow of gas.²⁶ The NCC facilities will accommodate the physical flow of gas. They will not impact the operation of the commercial market.

Petro-Canada considered that because the issue of NGTL rate design has been removed from the list of issues for this proceeding, the Commission's decision on the remaining issues would not have any effect on the NIT mechanism.

WEG considered that if the Applied-for Facilities were approved, less gas would be available at NIT than would be the case if the facilities were not approved. IGCAA disagreed with WEG and stated that the WEG position was speculative and not supported by any evidence in the proceeding.

The Commission accepts that the NIT mechanism is not expected to be impacted as a result of the operation of the Applied-for Facilities.

6.1.3 Impact on Oil Sands Industry

The NOBLDA includes the Fort McMurray oil sands operations which use large volumes of natural gas in their processes. The Commission notes that these oil sands operations are not the only driver of gas demand but represent the largest component of the increasing gas demand in the NOBLDA. Other gas demand in the NOBLDA includes residential and commercial load (served mostly by ATCO) in Fort McMurray, Edmonton and other municipalities.

Gas supply from the NOBLDA has been on the decline for over a decade. The result is a forecast shortfall in supply to meet the NOBLDA forecast demand. Maximum day shortfalls, in the absence of the Applied-for Facilities, for the Fort McMurray area were projected to be:

Winter 2009/10 - 110 MMcf/day (3.1 106 m³/d)
Summer 2010 - 130 MMcf/day (3.7 106m³/d)
Winter 2010/11 - 460 MMcf/day (12.9 106m³/d)¹⁰¹

The expected Winter 2010/2011 shortfall was subsequently updated to 425 MMcf/day (11.9 106m³/d).¹⁰²

Syncrude was the only oil sands representative that participated directly in the oral hearing. Syncrude's evidence with respect to reliance upon natural gas and its support for the NCC project are discussed in Section 3.1.2 above.

Other oil sands owners participated earlier in the proceeding through written statements of support, but some also through filing direct evidence and argument. These parties include: Suncor, Petro-Canada, Petro-Canada Oil Sands Inc., Nexen Inc., Canadian Natural Resources Limited, DET, ConocoPhillips Canada Limited, Imperial/EMC, Japan Canada Oil Sands

¹⁰⁰ DET Argument, page 7

¹⁰¹ NGTL Application, page 10

¹⁰² NGTL Errata, July 25, 2008

Limited, MEG Energy Corp., Shell, and Synenco Energy Inc. Other parties that also support the need for the facilities for oil sands operations include IGCAA and CAPP.

Concerns about the impact of delivery shortfalls on oil sands operations were raised by NGTL and Syncrude. In particular, Syncrude referred to the delivery shortfall experienced in January of 2008. The Commission accepts NGTL's description of the event that occurred in January 2008 during a particularly cold weather period. NGTL advised that that period was illustrative of both the need to plan for peak requirements and the immediate need for additional infrastructure in the NOBLDA to meet those requirements. NGTL was unable at the time of that shortfall to meet the requirements of delivery customers due to a combination of supply shortfalls exacerbated by cold weather, peak demands, and insufficient pipeline capability. The impact of the January 2008 delivery shortfall on oil sands projects, such as those of Syncrude and Suncor, was significant.¹⁰³

The Commission understands Syncrude's concern that, although there have only been two events (the other in December 1992) where NGTL gas delivery pressure dropped and gas availability affected oil sands operations, Syncrude has observed that gas pressure to the region has been much lower than in prior years, regardless of the weather.¹⁰⁴

Syncrude testified that facilities were needed right now and approval of the Application was in the overall public interest. Without the NCC facilities, new projects that were scheduled to start up soon would further reduce the capability of the NGTL system to deliver gas volumes at the required pressure to the region. Investment in the Syncrude project has exceeded \$17 billion.

Syncrude testified that natural gas was "literally the lifeline"¹⁰⁵ of the Syncrude project, which requires a secure and reliable supply of natural gas. Syncrude produces in excess of 100 million barrels of synthetic crude oil each year. The NGTL system is currently the only system available to Syncrude for a secure and reliable supply of natural gas. That is why Syncrude appeared in support of previous NGTL applications to provide delivery service to the Fort McMurray area, and that is why Syncrude did so in this Application. Syncrude argued that its demand for natural gas was stable, large volume, firm and long term.

The Commission is persuaded by Syncrude that the potential for severe negative impact on oil sands operations is real, and that a reliable and sufficient gas supply is essential to the reliability and safety of the oil sands operations.

Alliance argued that failure to approve the NCC Project would not have any impact on the ability to transport required volumes of gas to the Fort McMurray area for the foreseeable future.¹⁰⁶

The Commission notes that Alliance intended to conduct an open season in late summer 2008 to test the market potential for an Alliance pipeline to be built into the Fort Saskatchewan market area to provide delivery capacity somewhere in the neighborhood of 700 MMcf/day. Alliance argued this proposal would be cost-effective and would reduce a significant amount of the load requirement that NGTL now provides to ATCO.¹⁰⁷

¹⁰³ NGTL Argument, page 47

¹⁰⁴ Syncrude Argument, page 22

¹⁰⁵ Transcript Volume 6, page 1179, line 8

¹⁰⁶ Alliance Argument, page 30

¹⁰⁷ Transcript Volume 6, page 1264

The Commission believes that providing for reliable and sufficient gas supply for oil sands operations and heavy oil industrial projects is in the public interest. The Commission is not convinced that Alliance's plans for an open season to gauge demand for its services is sufficiently advanced to justify a delay in approval of the NGTL Application. Even if the market were ultimately to support an Alliance Fort Saskatchewan pipeline proposal, no evidence was provided to show that such a pipeline would be a lower cost alternative to the Applied-for Facilities.

6.1.4 Impact on Natural Gas Liquids Availability

Position of NGTL

In its Application, NGTL assessed the impact of the Applied-for Facilities on the natural gas liquids (NGL) content at the border straddle plants. NGTL concluded in its analysis that the Applied-for Facilities would not have a significant impact on the NGL content at those existing straddle plants.

NGTL submitted that only a relatively small reduction to NGL's (6,300 barrels per day of ethane and 3,600 barrels per day of propane in 2016) would occur if the Applied-for Facilities were approved and built. NGTL explained that it was willing to consider viable and economic solutions for either commercial third-party recovery of liquids or an NGTL streaming solution. The NGTL solution would stream lean gas flow through the NCC and rich gas through existing mainline facilities to existing straddle plants. NGTL proposed a collaborative process through the TTFP to further evaluate its potential streaming solution.¹⁰⁸

NGTL provided further analysis in response to information request PVE-NGTL 17 (revised). In this analysis, NGTL's assessment of the impact on NGL composition resulting from the Applied-for Facilities reflected relatively minor reductions of ethane and propane contained within the common stream from what was expected to otherwise be available to the existing straddle plants. In this response, NGTL suggested that a proposal to stream rich and lean gas might largely mitigate the impact of changing compositions resulting from the Applied-for Facilities at a cost in the order of \$10 million. The objective of such streaming would be to reduce the amount of natural gas liquids contained within the gas stream that is directed to end use markets.

NGTL's streaming proposal was tabled and discussed in this proceeding and in the EUB Inquiry into NGL Extraction Matters.¹⁰⁹

¹⁰⁸ NOVA Chemicals-NGTL 28(g-j), PVE-NGTL 17, NGTL Opening Statement

¹⁰⁹ EUB Application 1513726 Inquiry into NGL Extraction Matters

NGTL described its streaming proposal as follows:¹¹⁰

... NGTL has determined that there are nine receipt stations located in the area to the west of the Meikle River compressor station that generally produce gas that is richer than the majority of gas received at the receipt stations in the Upper Peace River Design Sub Area. Due to the existence of multiple pipelines within the area, it is possible for NGTL, through some minor facility modifications and additions, to direct the flow from these stations to a single pipeline which can be configured to flow richer gas supplies southwards towards existing straddle plants and away from the Applied-for Facilities.

The streaming proposal was forecast to reduce the ethane composition on the NCC from 3.8 percent to 2.8 percent and to reduce the propane composition from 1.5 percent to 1.0 percent. NGTL forecast that this would increase the amount of NGLs available to existing straddle plants by 5700 barrels per day of ethane and 2800 barrels per day of propane, thereby largely offsetting the impact of the NCC on NGL availability.¹¹¹

NGTL also suggested that the development of Horn River Basin shale gas would provide a new source of supply that was not previously forecast. In this regard, NGTL indicated that the Applied-for Facilities could be utilized to stream the lean Horn River Basin shale gas away from the straddle plants, thereby mitigating the impact on existing straddle plants. DET expressed its support for this potential opportunity.

In response to Alliance, NGTL emphasized that the purpose of the streaming proposal is to direct existing rich gas streams away from the Applied-for Facilities, not to direct lean gas streams to the Applied-for Facilities.

NGTL did not concur with the steps proposed by NOVA Chemicals and maintained that a TTFP process was appropriate, that the streaming project should not be prematurely included in the NCC facilities, and that the Commission should not make generic recommendations pending the outcome of the EUB NGL Inquiry.

NGTL proposed to take the streaming proposal to the TTFP for further discussion and to determine whether there is a consensus to move the proposal forward. NGTL further committed that even if consensus was not reached, it would seek regulatory approval of the proposal provided it does not have adverse material impacts on the Alberta System or its shippers.

Positions of the Parties

Most parties agreed that gas supply and demand in Alberta is going through a process of redistribution, as discussed above. The redistribution of demand, and of gas flows to meet that demand, and its impact on the recovery of NGLs was discussed in this proceeding.

WEG argued that the NCC facilities would result in rich gas being burned in intra-Alberta markets rather than being available for processing at the straddle plants. WEG also argued that the NGTL streaming proposal was only a vague plan.

¹¹⁰ PVE-NGTL 17 (revised)

¹¹¹ NGTL estimated the impact of the NCC to be a reduction of NGLs to the straddle plants in the order of 6300 barrels/day of ethane and 3600 barrels/day of propane.

IGCAA commented that its member companies that have demand for natural gas in the Fort McMurray region currently receive and strongly prefer dry or lean gas. Syncrude also expressed its preference for dry or lean gas in order to avoid damage to its equipment and ensure the safety of its operations. Syncrude explained that it derives no benefit from burning natural gas with entrained liquids.¹¹² Consequently, there was no desire on the part of IGCAA members in the Fort McMurray region to receive natural gas that has higher levels of entrained liquids.¹¹³ IGCAA was supportive of finding cost-effective commercial solutions to strip liquids en-route to the Fort McMurray region and/or finding cost-effective opportunities for NGL streaming such as those listed in NGTL's information response NOVA Chemicals – NGTL 28 (g-j)). IGCAA supported establishing a TTFP initiative to explore practicable and economic operating and facility solutions for streaming lean and liquid-rich gas.

BP Canada supported the NGTL approach to the streaming proposal.

While NOVA Chemicals expressed support for construction of the NCC facilities, it suggested that unless mitigation measures are taken, the Applied-for Facilities will result in considerable volumes of NGLs being consumed in intra-Alberta markets in the NOBLDA that would otherwise be available for value-added processing. Additionally, NOVA Chemicals highlighted that the industrial markets prefer lean gas for efficiency in their processes.

NOVA Chemicals provided further recommendations with regard to NGTL's streaming proposal. NOVA Chemicals recommended that the Commission provide specific directions and implementation timetables for the streaming proposal. In the event that the proposal was not recommended for implementation by NGTL due to adverse impacts in its system, NOVA Chemicals considered that NGTL should provide complete reasons for those conclusions by a certain date. Additionally, it recommended that the streaming proposal should properly be included in the capital cost of the NCC project itself. NOVA Chemicals also recommended that NGL impact assessments should be required as an integral part of future NGTL facility applications. NOVA Chemicals noted that the issue of who will pay for the Applied-for Facilities was ultimately to be determined in future TTFP discussions and potential regulatory proceedings, and there was no reason to treat the streaming proposal separately.

The UCA did not support NOVA Chemicals' position of including the streaming proposal in NGTL's current rate design and service offerings collaborative process and cautioned against implementing a streaming proposal that would cause excessive increases to NGTL's transmission costs. The UCA advocated that any streaming approval be case-specific and not a generic decision regarding the streaming of lean and rich gas. The UCA recommended that caution be exercised in considering whether the costs of the streaming proposal might cause an excessive increase in NGTL's costs. If the Commission might approve the streaming proposal, the UCA suggested that it be considered as a case-specific circumstance rather than a generic approach. Similarly, while Petro-Canada supported the streaming approach, it recommended caution that this not be precedent setting with regard to more expensive potential projects.

Alliance suggested that NGTL focused on the composition of the gas streams to the straddle plants, but neglected to properly consider the volume impact associated with moving in the order of 1 Bcf/day of gas on the NCC facilities. Alliance considered that this volume would be made

¹¹² Transcript Volume 6, pages 1184-1185

¹¹³ IGCAA Evidence, page 9

unavailable to the straddle plants absent Mackenzie Gas. Alliance suggested that in order to remove the NGLs on the NCC pipeline an NGL extraction facility with a cost in excess of \$500 million would be required.¹¹⁴ Alliance considered that this demonstrated that NGTL has further failed to consider the full costs of its proposed NCC facility.

Alliance argued that the streaming proposal was of little merit, hypothetical and was based upon the arrival of the future, undiscovered, potential unconventional gas volumes from British Columbia. Absent these volumes, there was simply no lean gas to stream to the inlet of the NCC. Likewise, if and when Mackenzie Gas volumes arrived, they would need to be stripped in order to flow lean gas volumes on the NCC. As such, realistically there was no ability to facilitate a streaming proposal until a lean gas stream showed up in the Peace River project area at some uncertain future time. Alliance observed that NGTL provided no explanation of how streaming could work without a lean gas stream to direct to the NCC. Alliance argued that while NGTL would like to defer this matter to another forum, this appeared to be an attempt to side-step the issue and not have it considered by parties or the Commission. Alliance submitted that the TTFP would not be able to resolve this matter unless a new supply source showed up on the system.

Findings of the Commission

The Commission sees merit in NGTL's proposal to discuss streaming alternatives in the NGTL TTFP process. The Commission does not agree with NOVA Chemicals that it should provide specific directions and implementation timetables for the NGTL streaming proposal. Nor does the Commission agree that the streaming proposal should be included in the capital cost of the NCC project. However, given the importance of the NGL industry and the petrochemical industry to Alberta, the Commission sees some merit in considering the impact on NGL availability, and possible mitigations, when reviewing gas pipeline applications. The Commission recognizes that as the gas market evolves, the NGL industry and the petrochemical industry will also evolve and adapt to new circumstances.

6.2 Environmental Impacts

6.2.1 Impacts of Construction and Operation of the Applied-for Facilities

Position of NGTL

The Applied-for Facilities constitute a Class I project under the *Environmental Protection and Enhancement Act* (EPEA), R.S.A. 2000, c. E-12, as amended. Section 2(3)(i)(x) of the *Activities Designation Regulation*, A.R. 276/2003, provides that an EPEA approval is not required to construct and operate a pipeline that is located entirely within the Green Area of the Province.¹¹⁵ The North Star Section is located within both the Green and White Areas of the Province and therefore requires an EPEA approval. Approximately 37 km of the North Star Section is located within the White Area.¹¹⁶ The portion of the route within the White Area generally traverses between the Peace River in LSD 08-17-93-20 W5M and the crossing of the Chinchaga Forestry Road in LSD 13-36-93-24 W5M, approximately 25 km north of Manning.

The remainder of the Applied-for Facilities will be located within the Green Area of the Province and therefore EPEA approval is not required for construction and operation of the remaining

¹¹⁴ NOVA Chemicals-NGTL32(b); Transcript Volume 4, page 857

¹¹⁵ Defined by Alberta Environment as forested lands, are exempt from the requirement to obtain an approval under EPEA.

¹¹⁶ Defined by Alberta Environment as arable lands.

portions of the Applied-for Facilities. However, as that portion of the Applied-for Facilities is still regulated under EPEA as a Class II pipeline.¹¹⁷ NGTL will conserve and reclaim, as well as remediate any contamination on its proposed pipeline, in accordance with the provisions of EPEA. NGTL filed a Conservation and Reclamation Application with Alberta Environment on November 8, 2007, which received approval from Alberta Environment on May 6, 2008.¹¹⁸

AUC Rule 020 and the ERCB Directive 56, which apply to the NCC project, also contain a number of environmental requirements, including construction of pipeline in accordance with AENV's environmental protection guidelines, compliance with the Code of Practice in accordance with the Water Act (in the case of water body crossings) and application to AENV for conservation and reclamation approval for applicable pipelines.

As part of project planning, NGTL had undertaken a number of activities to address environmental considerations related to design, construction and operation of the NCC pipeline facilities. The route selection process used existing linear disturbances to address issues related to increased access and habitat fragmentation in a relatively remote area. Due to the remote location, there was limited biophysical information available to assist with routing and development of environmental protection plans for the project. Consequently, NGTL has undertaken specific environmental studies and will conduct additional studies prior to construction of the project as described in the Application. Any additional information collected will be used to further refine the route if necessary, and to augment the environmental protection plans prepared for the Applied-for Facilities.

In the Application, NGTL described a series of environmental studies that were undertaken, including wildlife surveys, an aquatic assessment, vegetation surveys, and historical resource impact assessments, and has committed to conducting additional studies prior to construction of the project.¹¹⁹ NGTL has also committed to developing two site-specific environmental protection plans to address potential impacts of the project on the environment.¹²⁰

Positions of the Parties

Petro-Canada stated that no evidence was raised to challenge the environmental assessment work undertaken for the Applied-for Facilities. Petro-Canada submitted that ample evidence was provided to establish that the Applied-for Facilities were in the public interest, taking into account social, economic and environmental factors.

Syncrude submitted that the environmental impacts of the Applied-for Facilities were not an issue in this proceeding and observed that NGTL's evidence was not challenged by any of the interveners.

Findings of the Commission

The Commission notes that the Conservation and Reclamation application for the NCC pipeline has been approved by Alberta Environment. Upon review of the Application, the evidence and the arguments of parties, the Commission concludes that NGTL has adequately addressed the

¹¹⁷ EPEA Class II Pipelines are pipelines that do not require s Conservation and Reclamation approval.

¹¹⁸ Approval No. 243383-00-01

¹¹⁹ Exhibit 002-01, pages 40 to 46

¹²⁰ Exhibit 002-01, page 47

impacts on the environment of the construction and operation of the Applied-for Facilities, and that the requirements of Directive 56 and Alberta Environment have been met.

6.2.2 Impacts on Emissions

Position of NGTL

NGTL stated that the Applied-for Facilities would reduce the overall distance that gas is transported on the Alberta System, which in turn would significantly reduce fuel consumption from current levels. Reduced fuel usage would result in reduced greenhouse gas (GHG) and other emissions, such as nitrogen oxides (NO_x). Commencing in 2010, the reduced GHG emissions would be about 1.1 million tons of CO₂ equivalent, and the associated economic benefit was included in NGTL's CPVCOS.¹²¹ This reduction in emissions would assist NGTL in meeting requirements under GHG legislation recently enacted in Alberta (July 2007) and expected emissions legislation currently being developed at the federal level. NGTL stated that the system would benefit from reduced fuel requirements and the resulting reduction in greenhouse gas emissions.¹²²

NGTL advised that it was important and more cost effective to build the right size pipeline at present for the NCC based on long term forecasts, rather than to focus on near-term needs, which would likely require it to do additional work on the NCC pipeline to construct loops in the future. A focus on near-term needs, in NGTL's view, would preclude realizing the benefits of economies of scale.¹²³

Positions of the Parties

NOVA Chemicals submitted that the Applied-for Facilities would significantly reduce the Alberta System's fuel consumption, and accordingly, GHG emissions, thereby better enabling NGTL to meet current and anticipated provincial/federal legislative requirements.¹²⁴ Such reductions were significant; however NOVA Chemicals submitted that in evaluating the relative GHG emissions of the Applied-for Facilities and alternatives, NGTL did not consider the impacts to its customers of burning NGL-rich gas, as opposed to lean gas, at end-user industrial facilities in the oil sands and heavy oil markets. NOVA Chemicals observed that NGTL's least-cost approach to facility evaluation only considered direct cost impacts, while customer-incurred GHG impacts would be indirect, and would therefore be beyond the scope of NGTL's assessment.¹²⁵

Accordingly, NOVA Chemicals submitted that the public interest analysis of the Applied-for Facilities, and their impact on NGL availability in Alberta, should specifically recognize the environmental benefit that would be available by streaming gas with entrained liquids away from the principal markets to be served by such facilities.

¹²¹ Exhibit 002-15, NOVA Chemicals-NGTL-2

¹²² Exhibit 002-01, Application, page 9, 11, 17-23; Transcript Volume 3, page 555, line 23; Transcript Volume 3, page 556, lines 1-4; Transcript Volume 3, page 670, lines 20-22; Transcript Volume 5, page 1067; Transcript Volume 4, page 886, lines 3-12; Transcript Volume 5, page 1070

¹²³ Transcript Volume 3, page 747, lines 8-20

¹²⁴ Exhibit 002-01, page 9

¹²⁵ Transcript Volume 4, page 886

Findings of the Commission

The Commission recognizes the environmental benefits resulting from reduced fuel consumption associated with the Applied-for Facilities (such as reduced greenhouse gases and Nitrous Oxides emissions). In addition, the Commission agrees that further reductions in gases and Nitrous Oxides emissions could be achieved by streaming gas with entrained liquids towards the straddle plants, and is therefore in support of such streaming from an environmental standpoint.

7 OTHER MATTERS

7.1 Rate Impact

In the Statements of Intent to Participate, parties¹²⁶ stated that rate design and rates would be significant issues bearing on the Decision for the Application. However, in Decision 2008-035,¹²⁷ the Commission determined that the rate design and rates for the NGTL system would be decided in a separate proceeding if the NCC facilities application was approved. The Commission also stated in Decision 2008-035 that it was of the view that who pays for the proposed gas utility pipeline would be a significant issue and that it expected the parties to undertake a collaborative process to deal with rate design and rates. The Commission further stated in Decision 2008-035 that although rates will be determined in a separate proceeding, it was proper for the participants to address the potential impact on rates in relation to the cost of the proposed facilities, their appropriate size and their utilization.

IGCAA provided some historical perspective in its evidence,¹²⁸ indicating that the forecast rate impact from the two years of capital additions arising from the Applied-for Facilities was not atypical, unusual or unique when compared to mainline expansions of the Alberta System over the past two decades.

In argument, WEG made several statements with respect to NGTL rate design and services matters, that:

- NGTL has not answered the critical questions of who pays and how much;¹²⁹
- If the Commission embraces Mr. Versfeld's suggested new paradigm by approving the Applied-for Facilities, WEG submitted that appropriate cost responsibility for intra-Alberta oil sands markets must also be introduced at the same time;¹³⁰
- Under current rate design, the risk of underutilization of the Applied-for Facilities will be borne by FT-R and FT-D shippers, rather than the prospective FT-A/FCS and FT-P shippers who insist the facilities are needed now but have not demonstrated that need by executing new service contracts;¹³¹

¹²⁶ ATCO Pipelines, Shell Energy North America, Export Users Group, Provident, Devon/Encana/Talisman, Tenaska Marketing

¹²⁷ NOVA Gas Transmission Ltd. North Central Corridor North Star and Red Earth Sections Meikle River Compressor Station Application for Permit and Licence for a Pipeline and Associated Pipeline Installations Decision on Prehearing Meeting April 24, 2008

¹²⁸ IGCAA Evidence, pages 5-6

¹²⁹ WEG Argument, page 1

¹³⁰ WEG Argument, page 9

¹³¹ WEG Argument, page 11

- The Commission [should] provide clear guidance to participants in the NGTL TTFP collaborative process that service offerings also need to be reexamined in light of the Applied-for Facilities;¹³² and
- the Commission [should] direct NGTL to file an Application forthwith for an interim Oil Sands FT-A toll, and an interim FT-P toll, each equivalent to the current FT-D toll, to take effect immediately if the Applied-for Facilities are placed in service.¹³³

The UCA argued the following issues relating to rate design and services:

- Because receipt shippers provide fuel in kind to NGTL, the fuel savings do not impact revenue requirement and transportation rates. Further, the fuel savings are not distributed evenly according to usage to all shippers on NGTL,¹³⁴
- the benefits from the Applied-for Facilities will not be distributed fairly amongst all shippers including interconnected gas transmission pipelines (e.g., ATCO Pipelines) which provide gas supply to core customers;¹³⁵ and
- The Commission [should] direct NGTL to explore and identify ways in its rate design initiatives to achieve a fair distribution of the benefits arising from the fuel reduction of the proposed facilities.¹³⁶

DET questioned if customers were willing to pay for the facilities that they need. DET considered that, because intra-Alberta customers are currently not charged anything for the delivery facilities specific to their service (the FT-A charge of 1.3 cents is only for metering), a rate design change was required.¹³⁷

The Commission considers that rate design and services-related issues are out of scope, as directed in Decision 2008-035. The Commission considers that NGTL provided sufficient discussion of rate impacts that would result from the costs of the Applied-for Facilities. The Commission does not believe it is necessary to provide specific directions in this Decision with respect to the rate proceeding relating to the NCC facilities.

7.2 Lubicon Lake First Nation, Duncan's First Nation, Russ Duncan

In Decision 2008-035, the Commission stated that each of Lubicon Lake First Nation and Duncan's First Nation had failed to demonstrate that it had standing in the proceeding.

The Commission determined that Lubicon Lake First Nation had not provided detailed information in support of its assertion of aboriginal rights or to indicate the area within which its members exercised the asserted rights. The Commission also decided that the Lubicon Lake First Nation had not provided any information about the specific aboriginal rights claimed in the vicinity of the proposed gas utility pipeline, where the rights were exercised in relation to the proposed gas utility pipeline, or the manner in which those rights may be directly and adversely affected by the decision of the Commission on the Application.

¹³² WEG Argument, pages 15-16

¹³³ WEG Argument, page 16

¹³⁴ UCA Argument, page 5

¹³⁵ UCA Argument, page 6

¹³⁶ UCA Argument, page 8

¹³⁷ DET Argument, pages 7-8

The Commission further determined that although Duncan's First Nation had treaty rights, it did not show which of those rights its members exercised in the area of the proposed gas utility pipeline or otherwise where its members exercised those rights. The Commission also decided that Duncan's First Nation had not provided sufficient information about potential direct and adverse impacts on its rights to support the Commission finding that it had standing for purposes of the Application.

Both Lubicon Lake First Nation and Duncan's First Nation were given a further opportunity to provide the Commission with additional information on how they may be directly and adversely affected by the Commission's decision on the Application. Duncan's First Nation did not provide a response to the Commission. Lubicon Lake First Nation responded in a letter that reiterated its assertions about unceded aboriginal territory and the Commission's lack of jurisdiction to determine the rights held by the Lubicon Lake First Nation. It did not, however, provide any information about specific aboriginal rights its members exercised in the vicinity of the proposed gas utility pipeline, or otherwise where those rights were exercised, or the manner in which those rights may be directly and adversely affected by the Commission's decision on the Application. As a result, the Commission confirmed in a letter dated May 8, 2008, that Lubicon Lake First Nation and Duncan's First Nation had not demonstrated that they had standing for purposes of the Application.

Prior to the pre-hearing meeting Mr. Russ Duncan made a written submission to the Commission, but he did not attend the pre-hearing meeting. The Commission stated in Decision 2008-035 that its decision on this Application had potential to have an indirect impact on Mr. Duncan in the form of distribution rates that would be recovered through retail service. The Commission stated that traditionally this indirect interest would not have been sufficient to support a finding of standing in a facilities application. Mr. Duncan was given a further opportunity to make written submissions to the Commission before it made a decision on his standing in the proceeding. Mr. Duncan responded in a letter dated May 8, 2008, which included a submission, entitled "Alberta Gas Grid, A Proposal for the Receipt and Delivery of Both Gas and CO₂." The Commission considered all the information provided in relation to Mr. Duncan and determined that the information did not demonstrate that Mr. Duncan may be directly and adversely affected by the proposed gas utility pipeline. This decision was communicated in the Commission's letter dated May 8, 2008, which also stated that the issue raised by Mr. Duncan was outside the scope of this Application.

8 ORDER

The Commission hereby approves the Application as filed with the EUB on November 20, 2007 (subsequently transferred to the AUC on January 2, 2008) and as subsequently revised on February 8, 2008.

In due course, the Commission will issue a permit and licence to construct and operate two pipeline segments (North Star Section and Red Earth Section) and associated compression facilities (Meikle River Compressor Station Units C3 and C4) (the Applied-for Facilities) in respect of the North Central Corridor (NCC) project, and for consequential amendments to licenses numbers 19611 and 14134 (the Application).

Dated in Calgary, Alberta, on October 10, 2008.

ALBERTA UTILITIES COMMISSION

(original signed by)

Willie Grieve
Chair

(original signed by)

Carolyn Dahl Rees
Vice-Chair

(original signed by)

N. Allen Maydonik, Q.C.
Commissioner

APPENDIX 1 – PRE-HEARING PARTICIPANTS

[\(return to text\)](#)

Name of Organization (Abbreviation) Counsel or Representative (APPLICANTS)	Witnesses
NOVA Gas Transmission Ltd. (NGTL) C. Yates	S. Clark
Alliance Pipeline Ltd. (Alliance) L. Keough	
AltaGas L. Desmeules	
ATCO Midstream P. Homik	
AUX Sable L. Keough	
BP Canada Energy Company (BP) D. Brett	
Canadian Association of Petroleum Producers (CAPP) R. Fairbairn	
Devon Canada Corporation, EnCana Corporation and Talisman Energy Inc.(DET) D. Davies	
Industrial Gas Consumers Association of Alberta (IGCAA) G. Sproule	
Lubicon Lake Nation C. Tomlinson D. Gladue	
NOVA Chemicals Corporation (NOVA Chemicals) J. Smellie	
Petro-Canada and Petro-Canada Oil Sands Inc. (Petro-Canada) A. Hayter	
Provident Energy (Provident) C. Sheard	
Syncrude Canada Limited (Syncrude) L. Estep	

Name of Organization (Abbreviation) Counsel or Representative (APPLICANTS)	Witnesses
Shell Canada Energy (Shell) D. Kolenick	
Utilities Consumer Advocate (UCA) J. Bryan	
Western Export Group / Tenaska (WEG) F. Weisberg	

<p>Alberta Utilities Commission</p> <p>Commission Panel W. Grieve, Chair C. Dahl Rees, Vice-Chair A. Maydonik, Commissioner</p> <p>Commission Staff B. McNulty (Commission Counsel) C. Wall (Commission Counsel) V. Slawinski (Commission Counsel) D. Popowich P. Howard B. Yanchula</p>	
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APPENDIX 2 – HEARING PARTICIPANTS

Name of Organization (Abbreviation) Counsel or Representative (APPLICANTS)	Witnesses
NOVA Gas Transmission Ltd. (NGTL) C. Yates	S. Clark D. Schultz G. Toews J. Bridges R. Guebert A. Jamal
Alberta Department of Energy (ADOE) C. Page	
Alliance Pipeline Ltd. (Alliance) L. Keough	M. Thomas J. Goldman A. Butt R. Stadel
ATCO Pipelines N. Gretener	
BP Canada Energy Company (BP) D. Brett	
Canadian Association of Petroleum Producers (CAPP) N. Schultz	
Devon Canada Corporation / EnCana Corporation / Talisman Energy Inc.(DET) D. Davies	
Imperial Oil Limited and ExxonMobil Canada Energy (Imperial/EMC) M. McCachen	
Industrial Gas Consumers Association of Alberta (IGCAA) G. Sproule	G. Sproule
Nexen Inc. S. Young	
NOVA Chemicals Corporation (NOVA Chemicals) J. Smellie	
Petro-Canada and Petro-Canada Oil Sands Inc. (Petro-Canada) R. Kolber	
Provident Energy (Provident) L. Smith B. Mellett	

Name of Organization (Abbreviation) Counsel or Representative (APPLICANTS)	Witnesses
Shell Canada Energy (Shell) C. Wilton D. Kolenick	
Syncrude Canada Limited (Syncrude) / Suncor Energy Marketing Inc. (Suncor) L. Estep	K. Versfeld
Syneco P. Kahler	
Utilities Consumer Advocate (UCA) J. Bryan	
Western Export Group / Tenaska (WEG) F. Weisberg	

<p>Alberta Utilities Commission</p> <p>Commission Panel W. Grieve, Chair C. Dahl Rees, Vice-Chair A. Maydonik, Commissioner</p> <p>Commission Staff G. Perkins (Commission Counsel) B. McNulty (Commission Counsel) C. Wall (Commission Counsel) V. Slawinski (Commission Counsel) D. Popowich P. Howard B. Yanchula B. Shand</p>	
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APPENDIX 3 – GLOSSARY

Abbreviation	Name in Full
Alliance	Alliance Pipeline Ltd.
Annual Plan	NGTL Annual Plan filed under Section D of AEUB IL 90-8 and IL 98-5
Application	On November 20, 2007, NOVA Gas Transmission Ltd. (NGTL) filed an application with the Alberta Energy and Utilities Board (EUB), under Part 4 of the <i>Pipeline Act</i> R.S.A. 2000, c. P-15, as amended, requesting a permit and licence to construct and operate the Applied-for Facilities, and for consequential amendments to licenses numbers 19611 and 14134
Applied-for Facilities	Meikle River Compressor Station Units C3 and C4) (the Applied-for Facilities) in respect of the North Central Corridor (NCC) project, and for consequential amendments to licenses numbers 19611 and 14134
AUC Act	<i>Alberta Utilities Commission Act</i>
AUC or Commission	Alberta Utilities Commission
Bcf/day	Billion cubic feet per day
BP	BP Canada Energy Company
CAPP	Canadian Association of Petroleum Producers
CPVCOS	Cumulative Present Value Cost of Service
DCF	Demand Coincidence Factor
DET	Devon / EnCana / Talisman
EPEA	<i>Environmental Protection and Enhancement Act</i> , R.S.A. 2000, c. E-12, as amended
ERCB	Energy Resources Conservation Board
EUB	Alberta Energy and Utilities Board
Existing Corridors Route	A facility expansion that followed existing major rights-of-way on the Alberta System
FT-A	Firm Transportation – Intra-Alberta Delivery Service
FCS	Facilities Connection Service
FT-D	Firm Transportation – Delivery Service
FT-P	Firm Transportation – Alberta Points-to-Point Service
FT-R	Firm Transportation – Receipt Service
GHG	Greenhouse Gas
IT	Interruptible Transportation
IGCAA	Industrial Gas Consumers Association of Alberta
Imperial/EMC	Imperial Oil Limited and ExxonMobil Canada Energy

Abbreviation	Name in Full
km	kilometres
mm	Millimetres
NCC	North Central Corridor
NEB	National Energy Board
NGTL	NOVA Gas Transmission Ltd.
NIT	NOVA Inventory Transfer
NGL	Natural gas liquids
NOBLDA	North of Bens Lake Design Area
NOVA Chemicals	NOVA Chemicals Corporation
NoX	Nitrogen Oxides
NPS	Nominal Pipe Size
OD	Outside diameter
P&G	Purvin & Gertz
Petro-Canada	Petro-Canada and Petro-Canada Oil Sands Inc.
PRDA	Peace River Design Area
Provident	Provident Energy Limited
SCC	South Central Corridor
Shell	Shell Canada Energy
South Corridor Route	A facility expansion that followed existing major rights-of-way on the Alberta System in the Peace River Project Area and NOBLDA as well as a new pipeline corridor through the center of Alberta
Suncor	Suncor Energy Marketing Inc.
Syncrude	Syncrude Canada Ltd.
TBO	Transportation by Others
TCPL	TransCanada PipeLines Limited
The Service	Delivery of gas to Customer at Customer's Alberta Delivery Points
TTFP	Tolls, Tariff, Facilities and Procedures Committee
UCA	Utilities Consumer Advocate
WEG	Western Export Group / Tenaska