450 – 1st Street SW
Calgary, Alberta, Canada
T2P 5H1

Tel: 403.920.6826
Fax: 403. 920.2357

December 14, 2017

All Customers
Other Interested Parties

Re. 2017 Annual Plan

Nova Gas Transmission Ltd ("NGTL") has posted its 2017 Annual Plan on TransCanada PipeLine Limited's website at:

http://www.tccustomerexpress.com/5771.html

Customers and other interested parties are encouraged to communicate their suggestions and comments regarding the development of the NGTL System to me at 403.920.6826.

Yours truly,
Nova Gas Transmission Ltd.
A wholly owned subsidiary of TransCanada PipeLine Limited

Mike Ritsch
Director, System Design
Canadian Natural Gas Pipelines

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EXECUTIVE SUMMARY

The 2017 Annual Plan provides NOVA Gas Transmission Ltd.'s (NGTL's) customers and other interested parties an overview of potential NGTL System facilities that are expected to be applied for in the 2017/18 Gas Year. The 2017 Annual Plan describes NGTL's long-term outlook for receipts, deliveries, peak expected flows, proposed facilities, and design flow requirements supporting these proposed facilities. This 2017 Annual Plan is based on NGTL's June 2017 Design Forecast of receipts and deliveries, and reflects a facility plan that covers additional expressed interest of incremental demand.

Since the release of the 2016 Annual Plan, TransCanada Pipelines Limited (TransCanada) has identified a number of NGTL System facility projects. NGTL's Tolls, Tariff, Facility and Procedures (TTFP) Committee has been notified of these facilities, and they are summarized in *Appendix 2: Facility Status Update*.

NGTL provides commercial services under the NGTL Tariff using the combined assets of the NGTL System and the ATCO Pipelines (AP) System. NGTL follows facility planning processes to identify facilities required for the combined assets in the NGTL and AP footprints. For an overview of these processes, see the *Facilities Design Methodology* document. NGTL files facility applications with the National Energy Board (NEB) for facility additions on the NGTL System within the NGTL footprint. AP files facility applications with the Alberta Utilities Commission (AUC) for facility additions on the AP System within the AP footprint.

The facilities identified in this Annual Plan were presented to the TTFP Committee in two parts; a portion on July 21, 2017 and the remainder on December 4, 2017. New facilities proposed after issuance of this Annual Plan will be shown in the *2018 Facility Status Update (NGTL 2018 Update)*, which can be accessed at http://www.tccustomerexpress.com/871.html.

For the 35 facilities projects identified in the 2017 Annual Plan, see Table E-1.

Table E-1: Proposed Facilities Additions

Project Area	Proposed Facilities	Annual Plan Reference	Description	Target In-Service Date	Regulator	Capital Cost ($ Millions)
Mainline	AP Stoney Transit/North Gate Connection Piping	Chapter 3	4.3 km NPS 8	Q1 2019	AUC	7.98
Aggregate System Facilities						
Mainline	Edson Control Valve	Chapter 2	Control Valve	Apr-19	NEB	5
Peace River	January Creek Control Valve	Chapter 2	Control Valve	Apr-19	NEB	5
Peace River	GPML Loop No.2 (McLeod River North)	Chapter 2	33 km NPS 48	Nov-19	NEB	155
Peace River	Clearwater C/S Unit Addition	Chapter 2	30 MW	Apr-20	NEB	117
Peace River	GPML Loop No.2 (Huallen)	Chapter 2	12 km NPS 48	Apr-20	NEB	59
Peace River	GPML Loop No.3 (Elmworth Section 1)	Chapter 2	23 km NPS 48	Apr-20	NEB	150
Peace River	Wolf Lake C/S Unit Addition	Chapter 2	30 MW	Apr-20	NEB	111
Peace River	Groundbirch Mainline Loop (Sunrise)	Chapter 2	33 km NPS 42	Nov-20	NEB	155
Peace River	Berland CS Unit Addition & Coolers	Chapter 2	30 MW	Apr-21	NEB	145
Peace River	Clearwater CS Unit Addition & Coolers	Chapter 2	30 MW	Apr-21	NEB	145
Mainline	Didsbury CS & Coolers	Chapter 2	30 MW	Apr-21	NEB	166
Peace River	Edson Mainline Loop No.4 (Brewster)	Chapter 2	30 km NPS 48	Apr-21	NEB	147
Peace River	Edson Mainline Loop No.4 (Dismal Creek)	Chapter 2	32 km NPS 48	Apr-21	NEB	156
Peace River	Edson Mainline Loop No.2 (Robb)	Chapter 2	31 km NPS 42	Apr-21	NEB	136
Peace River	GPML Loop No.2 (Deep Valley)	Chapter 2	68 km NPS 48	Apr-21	NEB	332
Peace River	GPML Loop No.2 (Karr)	Chapter 2	31 km NPS 48	Apr-21	NEB	152
Peace River	GPML Loop No.2 (McLeod North)	Chapter 2	15 km NPS 48	Apr-21	NEB	73
Peace River	GPML Loop No.2 (Wembley)	Chapter 2	31 km NPS 48	Apr-21	NEB	152
Peace River	GPML Loop No.3 (Elmworth Section 2)	Chapter 2	18 km NPS 48	Apr-21	NEB	107
Peace River	GPML Loop No.3 (Elmworth Section 3)	Chapter 2	26 km NPS 48	Apr-21	NEB	176
Peace River	Nordegg CS Unit Addition & Coolers	Chapter 2	30 MW	Apr-21	NEB	145
Peace River	Pipestone CS Unit Addition & Coolers	Chapter 2	30 MW	Apr-21	NEB	145
Peace River	Vetchland CS Unit Addition & Coolers	Chapter 2	30 MW	Apr-21	NEB	145
Northeast Delivery Facilities						
Peace River	NWML Loop (Boundary Lake North Section)	Chapter 2	25 km NPS 36	Apr-19	NEB	115
North and East	Amber Valley C/S Unit Addition	Chapter 2	15 MW	Nov-19	NEB	89
Peace River	Meikle River C/S Series Modifications	Chapter 2	Series Mods	Nov-19	NEB	17
Peace River	NWML Loop No.2 (Bear Canyon North)	Chapter 2	28 km NPS 36	Nov-19	NEB	109
Peace River	North Central Corridor Loop (North Star Section 1)	Chapter 2	32 km NPS 48	Apr-20	NEB	193
North and East	Buffalo Creek C/S Unit Addition	Chapter 2	30 MW	Nov-20	NEB	139
Mainline Delivery Facilities						
Mainline	Turner Valley C/S Coolers	Chapter 2	Coolers	Nov-19	NEB	16
Mainline	Winchell Lake C/S Unit Addition	Chapter 2	30 MW	Nov-19	NEB	116
Mainline	Burton Creek C/S Unit Addition	Chapter 2	30 MW	Jun-20	NEB	116

Mainline	Turner Valley C/S Unit Addition	Chapter 2	30 MW	Jun-20	NEB	116
Mainline	WASML Loop (Rocky View Section)	Chapter 2	22 km NPS 42	Jun-20	NEB	176
					Total	**4,289**

The ATCO Pipelines Stoney Transit/North Gate Connection Piping is required to meet the delivery requirements in the Calgary area.

The Aggregate System Facilities are required to transport growing aggregate system supply in the Peace River Project Area to satisfy growing aggregate system demands. These facilities provide capability measurably higher than the current forecast requirements for the 2020/21 Gas Year to address the considerable shipper interest in increasing system flows higher than currently forecasted. Planning activities are currently proceeding with all the proposed 2020/21 Gas Year facilities to preserve the in-service date while system requirements are further clarified through commercial activities. The results of these commercial activities will inform the facility requirements.

The Northeast Delivery Facilities are required to meet the aggregate delivery requirements in northeast Alberta including oilsands deliveries.

The Mainline Delivery Facilities are required to meet the aggregate delivery requirements in southwest Alberta including Alberta-British Columbia exports.

This 2017 Annual Plan includes the following sections:

- Executive Summary
- Chapter 1: Design Forecast
- Chapter 2: Design Flow and Mainline Facilities
- Chapter 3: Extensions, Lateral Loops and Meter Stations
- Appendix 1: Glossary of Terms
- Appendix 2: Facility Status Update
- Appendix 3: System Map (expected in March 2018)

Electronic versions of the Annual Plan and the *Facilities Design Methodology* document can be accessed at http://www.tccustomerexpress.com/871.html.

Customers and other interested parties are encouraged to communicate their suggestions, comments and questions to NGTL regarding the 2017 Annual Plan to:

- Darryn Rouillard, Manager, Mainline Planning West (403) 920-6341
- Murray Ferraton, Manager, Customer Solutions (403) 920-5323
- Karen Hill, Manager, Receipt and Delivery Forecasting (403) 920-5622
- Mike Ritsch, Director, System Design (403) 920-6826

1.0 DESIGN FORECAST

1.1 INTRODUCTION

This Annual Plan is based on the June 2017 Design Forecast of receipts and deliveries for the NGTL System. An overview of the June 2017 Design Forecast was presented at the November 14, 2017 TTFP meeting.

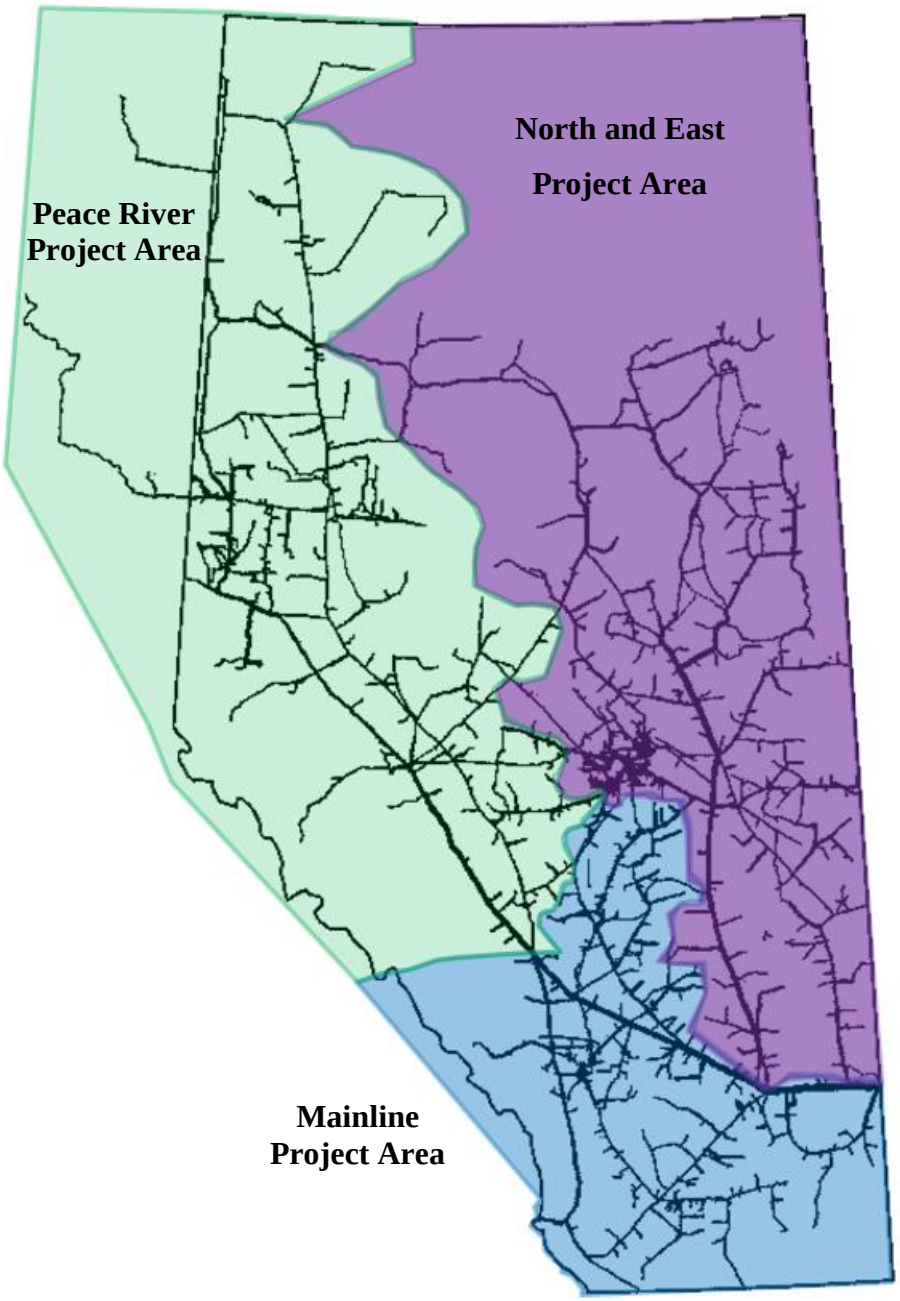
This section describes:

- economic assumptions used in developing the 2017 Design Forecast
- receipt and delivery forecasts for the NGTL System
- supply contribution, including winter withdrawal from storage facilities, used in the design process

For further information on forecasting methodology, see *Facilities Design Methodology*, Section 4.4: Design Forecast Methodology, which can be accessed at http://www.tccustomerexpress.com/871.html

In order to highlight the regional forecast differences on the NGTL System, this section references the three Project Areas as per the NGTL tariff. Figure 1-1 depicts the three Project Areas.

Figure 1-1: NGTL Project Areas



1.2 ECONOMIC ASSUMPTIONS

1.2.1 General Assumptions

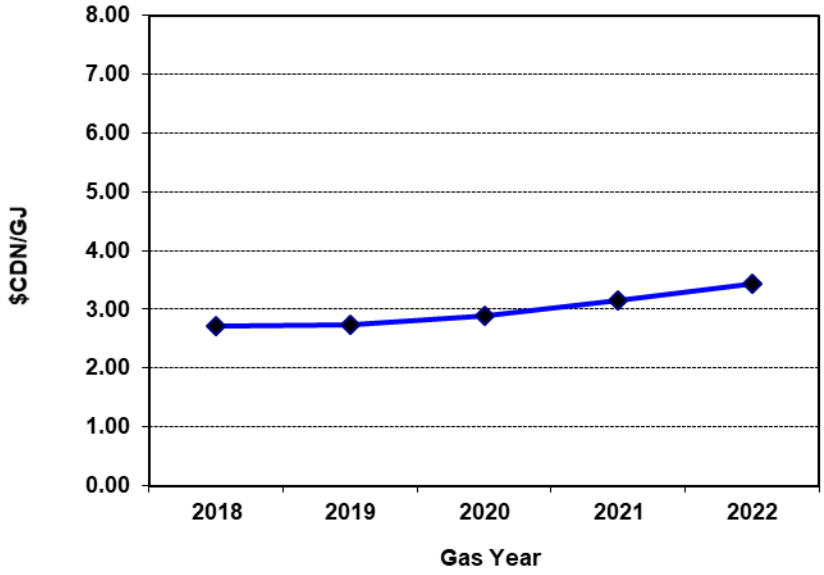
The following assumptions, developed in early 2017, reflect broader trends in the North American economy and energy markets, and underlie the forecast of receipts and deliveries:

- Over the next several years, North American natural gas demand will increase, led by the electrical generation and industrial sectors as well as U.S. LNG exports.
- In the US, industrial growth is broadly based, while the oil sands lead the sector's growth in Western Canada.
- Legislated coal conversions and carbon taxes are heavily influencing gas-fired electric generation and some timing of coal conversions have been accelerated from previous forecasts.
- LNG export projects are being developed in both the U.S. and Canada. Those in the US started exporting in 2016 and will continue to grow. Canada LNG exports are delayed past 2022.
- Low cost Appalachian supplies are exerting more influence on North American prices, and NIT continues to price below Henry Hub as traditional markets for Western Canadian supplies are challenged by competing basins.
- New supply must continually be developed to maintain and/or grow the supply in the basin due to the natural declines of existing supply. In 2016, existing gas supply in the basin declined 2-3 Bcf/d. NGTL receives a majority share of production the basin.
- NIT/AECO prices are expected to grow to $3.43 $Cdn/GJ by 2022.

1.2.2 Average Natural Gas Price Forecast

TransCanada considers commodity pricing to determine the economic viability of future production. The 2017 natural gas price forecast developed by TransCanada is shown in Figure 1-2.

Figure 1-2: Average Nominal NIT Price



1.3 GAS DELIVERY FORECAST

Several sources of information were considered in developing the gas delivery forecast. First, operators of downstream facilities such as connecting pipelines, local distribution companies (LDCs), and industrial plants were requested to provide a forecast of their maximum, average, and minimum requirements for deliveries from the NGTL System over the next 10 years. The forecasts were analyzed and compared with historical flow patterns at NGTL Delivery Points. In cases where NGTL's analysis differed substantially from the operator's forecast, NGTL contacted the operator and either the operator's forecast was revised or NGTL adjusted its analysis. In cases where the operator did not provide a forecast, NGTL based its forecast on historical flows and growth rates for specific demand sectors.

Deliveries to intra markets on the NGTL System are forecasted to rise, primarily due to industrial demand in the oil sands sector and gas-fired electrical generation. At major Export Points, throughput increases compared to recent years.

1.3.1 Average Annual Delivery Forecast

Forecast deliveries are expressed as an average daily flow. The Average Annual Delivery Forecast is the aggregate forecast deliveries for the NGTL System. The Average Annual Delivery Forecast, for Gas Years 2018 through 2022 are listed by Delivery Type in Table 1-1 and further detailed by Project Area in Table 1-2.

Table 1-1: System Average Annual Delivery Forecast by Delivery Type

Delivery Type	June 2017 Design Forecast ($10^6m^3/d$)				
	2017/18	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Export	183.2	185.4	189.0	197.1	200.2
Intra System	150.9	155.0	158.1	162.6	164.5
Total System	**334.1**	**340.4**	**347.1**	**359.7**	**364.7**
Delivery Type	**June 2017 Design Forecast (Bcf/d)**				
	2017/18	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Export	6.5	6.5	6.7	7.0	7.1
Intra System	5.3	5.5	5.6	5.7	5.8
Total System	**11.8**	**12.0**	**12.3**	**12.7**	**12.9**

Note**:** Totals have been rounded.
Volumes expressed as an average daily flow for each gas year, at 101.325 kPa and 15°C.

Table 1-2: Intra System Deliveries – Average Annual Delivery Forecast by Project Area

Project Area	June 2017 Design Forecast ($10^6m^3/d$)				
	2017/18	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Peace River	4.0	4.1	4.1	4.2	4.3
North and East	105.8	109.6	112.6	114.7	116.2
Mainline	41.1	41.3	41.3	43.7	44.0
Total	**150.9**	**155.0**	**158.1**	**162.6**	**164.5**
Project Area	**June 2017 Design Forecast (Bcf/d)**				
	2017/18	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Peace River	0.1	0.1	0.1	0.1	0.2
North and East	3.7	3.9	4.0	4.1	4.1
Mainline	1.5	1.5	1.5	1.5	1.6
Total	**5.3**	**5.5**	**5.6**	**5.7**	**5.8**

Note**:**
Totals have been rounded.
Volumes expressed as an average daily flow for each Gas Year.

1.3.2 Maximum Day Delivery Forecast

Peak deliveries (Maximum Day Delivery) are also forecast for the NGTL Delivery Points and are based on customer input, market conditions, firm transportation contracts, and historical flows.

A summary of the June 2017 Design Forecast winter and summer Maximum Day Delivery by Project Area for Intra System Deliveries is provided in Table 1-3 for winter and Table 1-4 for summer.

Table 1-3: Winter Maximum Day Intra System Delivery Forecast

	June 2017 Design Forecast ($10^6 m^3/d$)				
Project Area	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Peace River	13.6	13.6	13.7	16.6	19.8
North and East	164.6	167.5	172.4	175.1	178.6
Mainline	76.3	76.9	78.1	79.9	80.5
Total	**254.5**	**257.5**	**264.2**	**271.6**	**278.9**
	June 2017 Design Forecast (Bcf/d)				
Project Area	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Peace River	0.5	0.5	0.5	0.6	0.7
North and East	5.8	5.9	6.1	6.2	6.3
Mainline	2.7	2.7	2.8	2.8	2.8
Total	**9.0**	**9.1**	**9.4**	**9.6**	**9.8**

Note:
Totals have been rounded

Table 1-4: Summer Maximum Day Intra System Delivery Forecast

	June 2017 Design Forecast ($10^6 m^3/d$)				
Project Area	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Peace River	11.3	11.4	11.5	14.4	17.6
North and East	146.5	149.3	153.7	156.3	159.3
Mainline	57.7	57.9	58.7	60.2	60.7
Total	**215.5**	**218.6**	**223.9**	**230.9**	**237.6**

Project Area	June 2017 Design Forecast (Bcf/d)				
	2017/18	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Peace River	0.4	0.4	0.4	0.5	0.6
North and East	5.2	5.3	5.4	5.5	5.6
Mainline	2.0	2.1	2.1	2.1	2.1
Total	**7.6**	**7.8**	**7.9**	**8.1**	**8.3**

Note:
Totals have been rounded.

1.4 RECEIPT FORECAST

NGTL develops a Receipt Forecast on an average annual basis using information collected from several sources, including upstream information from customers, industry publications and government agencies.

- For unconventional resources such as shale and tight gas, NGTL uses well based forecasting methods and models to generate forecasts of future production. Factors such as total number of drilling locations available, well production profiles, pace of development, material and equipment availability, potential capital requirements, and access constraints when developing a forecast of supply are considered.
- For conventional production, there has been little to no activity in the last few years. NGTL anticipates that conventional supply will continue to decline.

Exploration activity focused on unconventional gas has resulted in increasing Montney and Deep Basin gas volumes entering the NGTL System primarily through the Peace River Project Area. The incremental shale and tight gas supply is expected to offset declines in existing production, and will gradually increase system supply to nearly 13 Bcf/d in 2021/22.

Gas supplied from storage facilities was not included in the data presented in this section. For information pertaining to gas supply from Commercial Storage Facilities, see Section 1.6.

1.4.1 Average Receipt Forecast

The Average Receipt Forecast is the forecast aggregate receipts for the NGTL System for the 2017 through 2021 Gas Years. A summary of System Average Receipts by Gas Year and Project Area is expressed as an average daily flow and shown in Table 1-5.

Table 1-5: System Average Receipts

Project Area	June 2017 Design Forecast (106m3/d)				
	2017/18	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Peace River	270.2	282.1	291.6	306.6	313.0
North and East	13.7	12.7	12.3	11.9	11.6
Mainline	50.8	46.3	44.1	42.6	41.0
Total	**334.8**	**341.1**	**348.0**	**361.1**	**365.6**
Project Area	**June 2017 Design Forecast (Bcf/d)**				
	2017/18	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Peace River	9.5	10.0	10.3	10.8	11.0
North and East	0.5	0.4	0.4	0.4	0.4
Mainline	1.8	1.6	1.6	1.5	1.4
Total	**11.8**	**12.0**	**12.3**	**12.7**	**12.9**

Note**:**
Totals have been rounded.

1.5 SUPPLY DEMAND BALANCE

Supply received on to the NGTL System is balanced with System deliveries (net of gas in storage). System deliveries by destination are shown in Figure 1-3, while System receipts by Project Area are shown in Figure 1-4.

Figure 1-3: System Deliveries by Destination

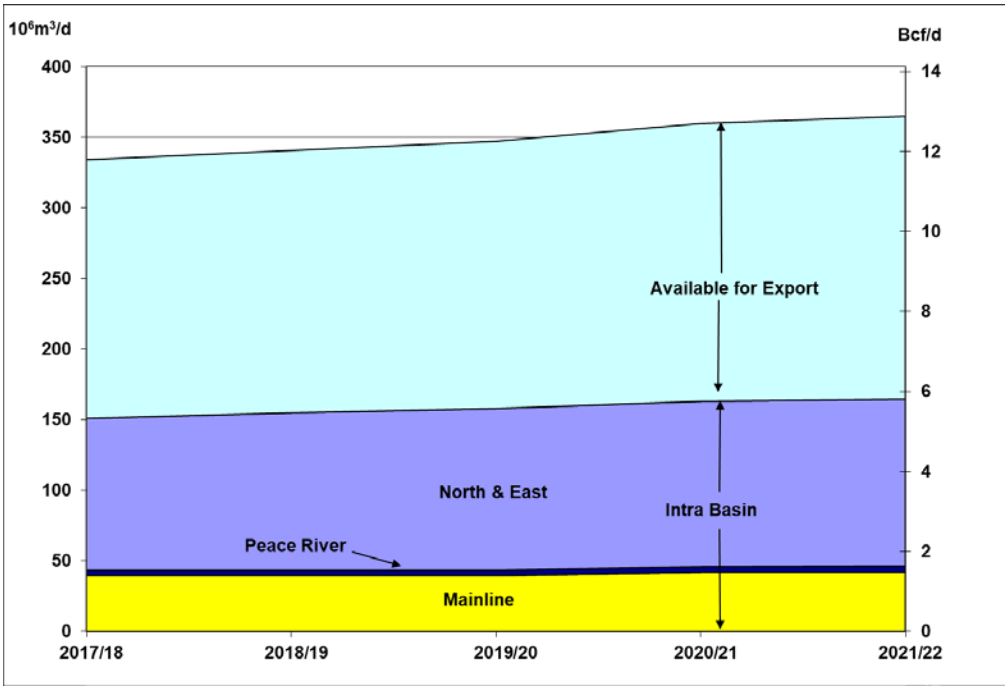
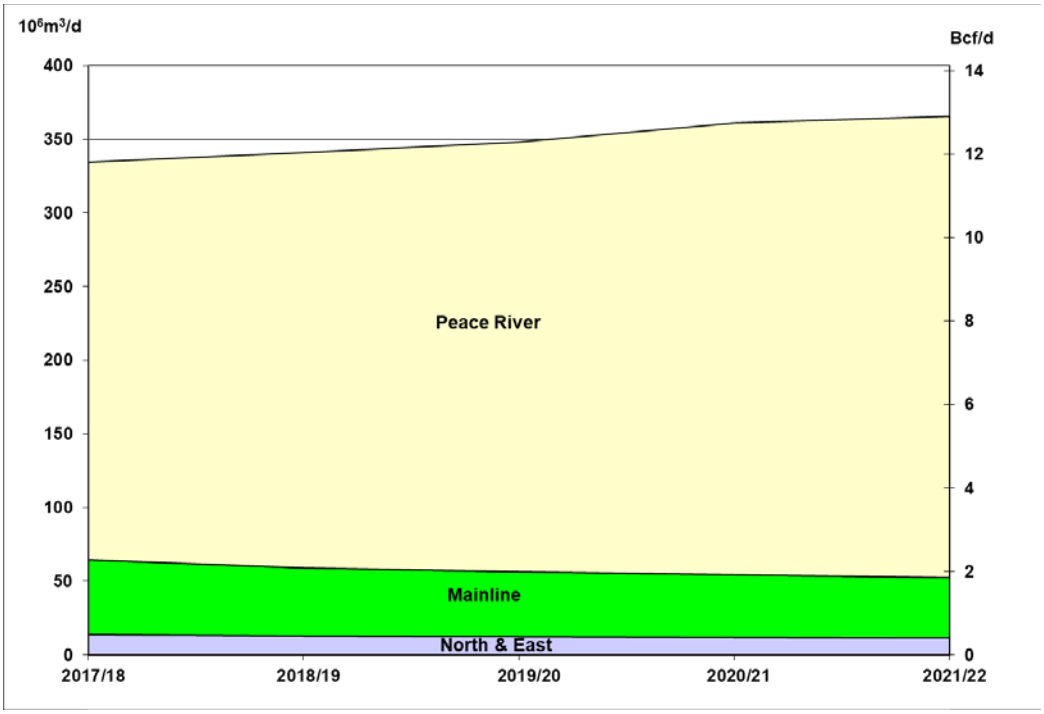


Figure 1-4: System Receipts by Project Area



1.6 STORAGE FACILITIES

1.6.1 Commercial Storage

There are eight commercial storage facilities connected to the NGTL System (AECO 'C', Big Eddy, Carbon, Chancellor, Crossfield East #2, January Creek, Severn Creek and Warwick Southeast Meter Stations). The total deliverability from Storage Facilities is significant, but actual maximum day receipts from storage are dependent on a number of factors, including market conditions, level of working gas in each storage facility, compression power at each storage facility, and NGTL System operations.

For design purposes, a supply contribution from Storage Facilities is used to meet peak day winter delivery requirements and provide for a better correlation between forecast design flow requirements and historical actual flows for the winter period. Historical withdrawals during recent winter periods for each Storage Facility were used to determine a reasonable expected rate of withdrawal for future winter seasons.

For the receipt meter capacity for each of the connected commercial storage facilities, see Table 1-6.

Table 1-6: Receipt Meter Capacity from Commercial Storage Facilities

Storage Facility	Receipt Meter Capacity from Commercial Storage Facilities – 2016/17	
	$10^6 m^3/d$	Bcf/d
AECO C	45.2	1.6
Big Eddy	41.0	1.4
Carbon	12.2	0.4
Chancellor	35.8	1.3
Crossfield East 2	16.4	0.6
January Creek	19.3	0.7
Severn Creek	11.6	0.4
Warwick Southeast	9.6	0.3

Total	**191.1**	**6.7**
Note**:** Storage is considered an interruptible supply source. Totals have been rounded.		

1.6.2 Peak Shaving Storage

The Fort Saskatchewan Salt Caverns are a peak shaving storage facility in the greater Edmonton area within the ATCO Pipeline footprint, in North of Bens Lake Design Area of the NGTL System. Similar to Commercial Storage Facilities, the total deliverability from the peak shaving Storage Facility is significant, but the actual maximum day receipt from storage depends on a number of factors, including market conditions, level of working gas, compression power at the storage facility and NGTL System operations.

For design purposes, a supply contribution from the peak shaving Storage Facility is used to meet peak day winter delivery requirements and provide for a better correlation between forecast design flow requirements and historical actual flows for the winter period. The maximum withdrawal rate and the maximum working inventory of the Storage Facility are used as the upper limits for the supply contribution provided.

2.0 DESIGN FLOWS AND MAINLINE FACILITIES

2.1 INTRODUCTION

This section contains the proposed natural gas transportation mainline facilities that may be applied for on the NGTL System in the 2017/18 Gas Year to meet the design flow requirements. Included is information regarding size, routes, locations and cost estimates.

The design flows are presented for design areas where new mainline facilities are required. Design flows are based on the June 2017 design forecast presented in Section 1, and were determined using the methodology described in *Facilities Design Methodology*, Section 3.5: Mainline Facilities Flow Determination. This document can be accessed at http://www.tccustomerexpress.com/871.html.

This section includes a comparison of historical flows to the design flows. Additionally, the expected design capability is shown for the Gas Year when facilities are required in each applicable design area. Where there is a shortfall between design flow and the design capability, a facility solution has been proposed. A facility application to the regulator for construction and operation is triggered by Firm Transportation (FT) contracts in excess of design capability and submitted to ensure the facility is in place in time to meet the FT requirements. Aggregated FT contract levels are also presented to indicate commercial underpinning of the proposed facilities.

This section of the Annual Plan presents facilities grouped by common purpose. Facilities that serve aggregate system requirements are first presented, followed by facilities that serve the requirements of specific areas. Presentation of the proposed facilities in this manner is intended to improve the clarity of their requirement and commercial underpinning.

Noticeable in this Annual Plan is the presentation of aggregate system facilities in Section 2.2 that measurably exceed current forecast requirements in order to address the considerable shipper interest to do so. To preserve the ability to provide a higher

potential level of transportation service by the 2020/21 Gas year, all the proposed facilities are being planned for while system requirements are further clarified. Additional details are provided in Section 2.2 and its subsections.

An overview of the design flows and proposed facilities resulting from the June 2017 design forecast were presented at two TTFP meetings; a portion at the July 21, 2017 meeting and the remainder at the December 4, 2017 meeting.

For a summary of the status of mainline facilities that have been proposed, applied for, under construction or placed in-service since the December 2016 Annual Plan, see *Appendix 2: Facility Status Update*.

2.2 FACILITIES FOR AGGREGATE SYSTEM REQUIREMENTS

As described in Section 1, aggregate system supply continues grow and shift towards the Peace River Project Area. Increasing supply in the Peace River Area will serve to offset supply declines in other areas of the System and increase the total system supply. Supply in the Peace River Area was 74% of the total system supply in 2015/16 and it is the only region in the System where supply is growing. From the figures provided in Table 1-5, supply in the Peace River Area grows from 81% of the total system supply to 85% of the total system supply from 2017/18 to 2021/22, commensurate with a 9% increase in total system supply over the same period.

Since it represents such a large portion of total system supply, the design condition for the Peace River Area is very interdependent with total system conditions. The prevailing design condition for the Peace River Area is therefore best represented by a Total System Flow-Within condition: When total system deliveries are at their maximum and total system receipts, a vast majority of which are from the Peace River Area, are at their peak as well. System facilities must be capable of transporting enough gas out of the Peace River Project Area to meet expected peak system deliveries.

Since the issuance of the 2016 Annual Plan, key commercial activities have been completed which have significant impacts to the Total System Flow-Within condition.

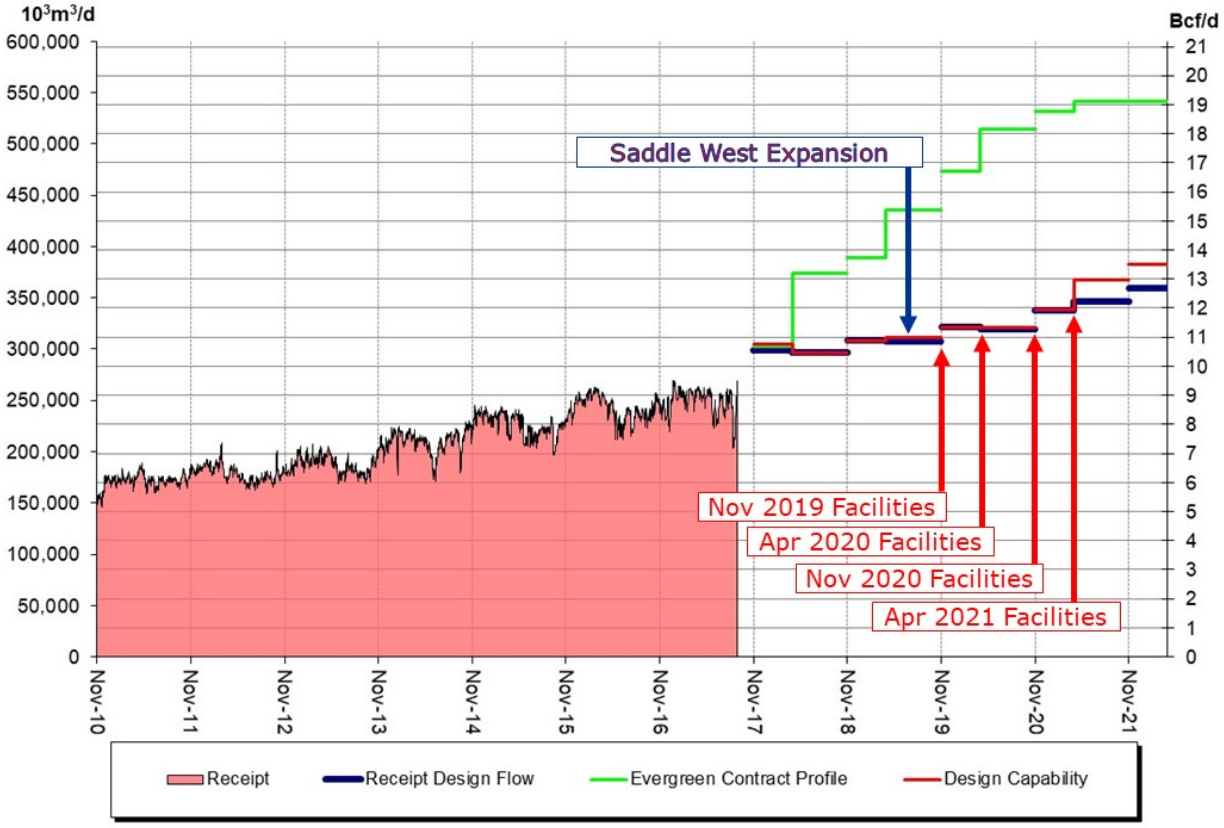
Delivery capability at the Eastern Gate export point (EGAT) has been completely sold out while incremental contracting at the Alberta-British Columbia Export point (ABC) has underpinned expansions. As can be seen in Table 1-1, the forecasted export for 2020/21 is 7.0 Bcf/d compared to a previous forecast of 4.9 Bcf/d (Table 1-1 of 2016 Annual Plan). Incremental supply contracting in the Peace River Project Area has also occurred, further supporting a forecast for greater system throughput. As can be seen in Table 1-5, the forecasted total supply for 2020/21 is 12.7 Bcf/d compared to a previous forecast of 10.7 Bcf/d (Table 1-5 of 2016 Annual Plan). The design flows for the Total System Flow-Within condition reflect these major forecast increases.

2.2.1 Design Flows - Peace River Project Area

The design flows for the Total System Flow-Within design condition in the Peace River Project Area are the maximum expected local receipts in the area. The continued receipt growth in the area will be accommodated by twenty-three proposed facilities. These facilities will increase the capability for Peace River Project Area supply to satisfy expected peak system deliveries. The last fifteen of these facilities, all proposed to be in-service April 2021, will satisfy and measurably exceed the current forecast for expected peak system deliveries. They are being planned to accommodate the additional expressed interest for incremental demand.

Figure 2-1 shows historical receipts, receipt design flow, contract levels and design capability for the Peace River Project Area. Receipt design flow rises throughout this forecast period, attributable to increasing supply in the Peace River Project Area. To provide a correlation to the increasing design capability, in Figure 2-1 the applied-for Saddle West Expansion is highlighted blue while the proposed facilities are highlighted red and consolidated under their in-service dates. Further details on the proposed facilities are provided in Section 2.2.3.

Figure 2-1: Peace River Project Area Design Chart



As shown in Figure 2-1, the proposed aggregate system facilities in April 2021 produce a design capability that is greater than receipt design flow. This is because the receipt design flow represents what the Peace River Project Area receipts would be if the system demand were based solely on the June 2017 design forecast. There is currently considerable shipper interest in increasing the system demand beyond this forecasted level, particularly at EGAT but also at numerous intra-system delivery locations. The proposed aggregate system facilities in April 2021 provide a measure of additional design capability to account for this potential higher level of total system demand.

Planning activities are proceeding for all the proposed aggregate system facilities in April 2021 concurrent with commercial activities that will further clarify their requirement. Incremental delivery and supply contracting, combined with contract non-renewals, will

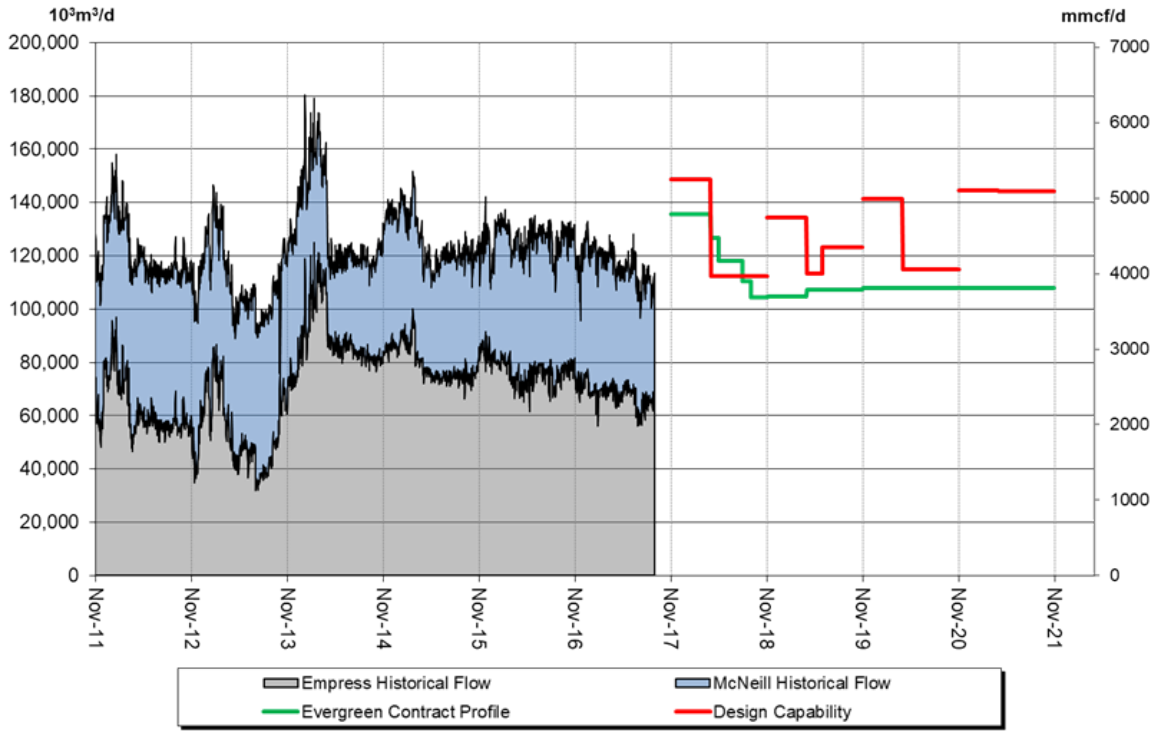
help clarify the two key uncertainties regarding system requirements: The total system demand requirement and the distribution of the supply which will satisfy those demands. The results of these commercial activities will inform the facility requirements.

2.2.2 Design Capability – Eastern Gate Export Point

As described in Section 2.2., the prevailing design condition for the Peace River Area is the Total System Flow-Within condition: When total system deliveries are at their maximum. All system deliveries, intra-system and exports alike, constitute total system deliveries. However, EGAT, comprised of the Empress and McNeill Export Points, represents a significant portion of the total system deliveries and is a location where significant interest for additional flow has been expressed. As such, a design chart for EGAT is provided here to highlight its relationship with the proposed aggregate system facilities in April 2021.

Figure 2-2 shows historical exports, contract levels and design capability at EGAT. The design capability for EGAT represents the System's capability to transport system supply to EGAT when all other system deliveries, all intra-system deliveries and ABC export combined, are at their maximum and utilizing major portions of system capability. The proposed April 2021 aggregate system facilities result in a design capability of approximately 5 Bcf/d at EGAT during the 2020/21 gas year, by providing the corresponding amount of capability for Peace River Project Area receipts to be transported to this export point. As can be seen, this exceeds the current contractual requirements for that time. Planning activities are proceeding for all the proposed April 2021 aggregate system facilities to enable concurrent commercial activities at EGAT to be conducted. The resulting EGAT delivery contracts, combined with the resulting contracts for all other system deliveries from all other commercial activities, will be used to inform the facility requirements.

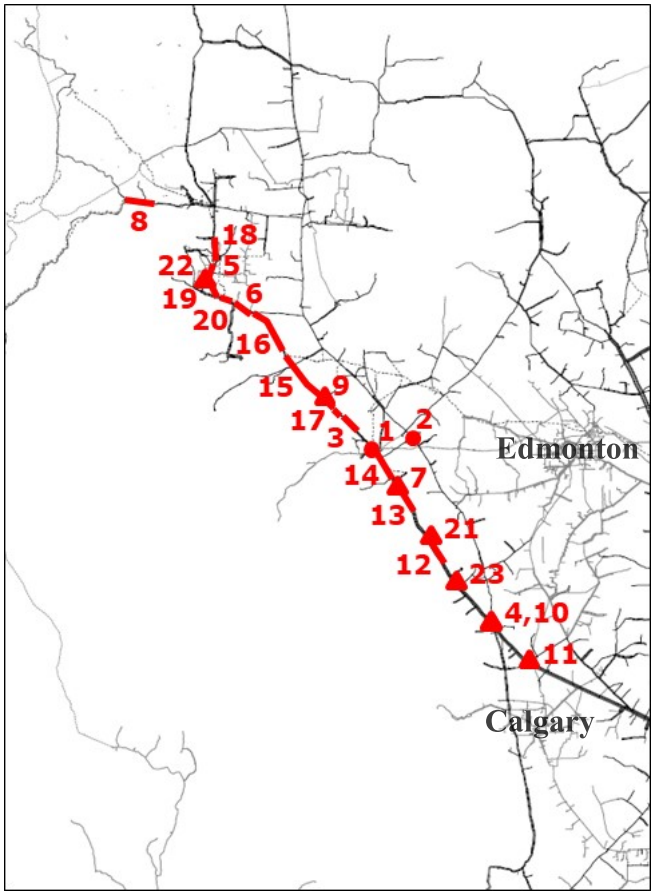
Figure 2-2: Eastern Gate Design Chart



2.2.3 Proposed Facilities for Aggregate System Requirements

Figure 2-3 shows the locations of the proposed facilities required to meet the aggregate system requirements resulting from the Total System Flow-Within design condition.

Figure 2-3: Proposed Facilities for Aggregate System Requirements



Applications for the proposed facilities are expected to be filed with the NEB in gas year 2017/2018 and the facilities are proposed to be in-service from 2019 to 2021. For details on each of the proposed facilities, see Table 2-1.

Table 2-1: Proposed Facilities for Aggregate System Requirements

Map Location	Applied-For Facility	Description	Target In-Service Date	Forecast Cost ($Millions)
1	Edson Control Valve	Control Valve	Apr 2019	5
2	January Creek Control Valve	Control Valve	Apr 2019	5
3	GPML Loop No.2 (McLeod River North)	33 km NPS 48	Nov 2019	155
4	Clearwater C/S Unit Addition (HP)	30 MW	Apr 2020	117
5	GPML Loop No.2 (Huallen)	12 km NPS 48	Apr 2020	59
6	GPML Loop No.3 (Elmworth Section 1)	23 km NPS 48	Apr 2020	150
7	Wolf Lake C/S Unit Addition	30 MW	Apr 2020	111
8	Groundbirch Mainline Loop (Sunrise)	33 km NPS 42	Nov 2020	155

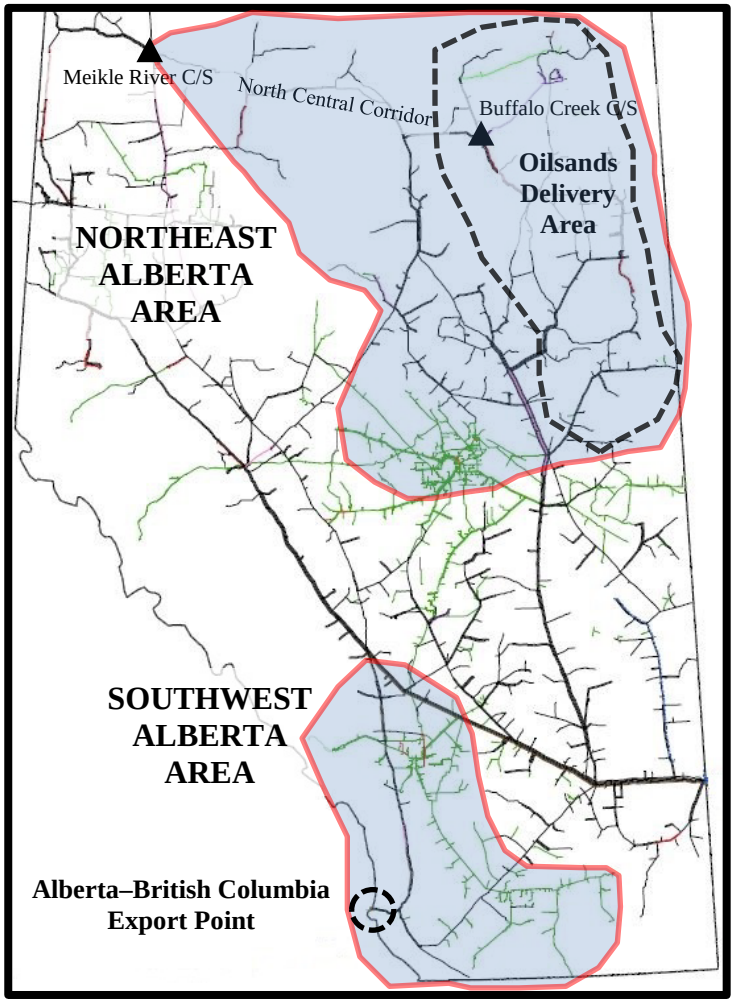
Map Location	Applied-For Facility	Description	Target In-Service Date	Forecast Cost ($Millions)
9	Berland C/S Unit Addition & Coolers	30 MW	Apr 2021	145
10	Clearwater C/S Unit Addition & Coolers (LP)	30 MW	Apr 2021	145
11	Didsbury C/S & Coolers	30 MW	Apr 2021	166
12	Edson Mainline Loop No.4 (Brewster)	30 km NPS 48	Apr 2021	147
13	Edson Mainline Loop No.4 (Dismal Creek)	32 km NPS 48	Apr 2021	156
14	Edson Mainline Loop No.2 (Robb)	31 km NPS 42	Apr 2021	136
15	GPML Loop No.2 (Deep Valley)	68 km NPS 48	Apr 2021	332
16	GPML Loop No.2 (Karr)	31 km NPS 48	Apr 2021	152
17	GPML Loop No.2 (McLeod North)	15 km NPS 48	Apr 2021	73
18	GPML Loop No.2 (Wembley)	31 km NPS 48	Apr 2021	152
19	GPML Loop No.3 (Elmworth Section 2)	18 km NPS 48	Apr 2021	107
20	GPML Loop No.3 (Elmworth Section 3)	26 km NPS 48	Apr 2021	176
21	Nordegg C/S Unit Addition & Coolers	30 MW	Apr 2021	145
22	Pipestone C/S Unit Addition & Coolers	30 MW	Apr 2021	145
23	Vetchland C/S Unit Addition & Coolers	30 MW	Apr 2021	145
			Total	**3,079**

As previously discussed, planning activities are proceeding for all the proposed April 2021 aggregate system facilities concurrent with commercial activities that will further clarify their requirements.

2.3 FACILITIES FOR SPECIFIC AREA DEMANDS

Proposed facilities are required to meet the gas deliveries in two specific areas: northeast Alberta and southwest Alberta as shown in Figure 2-4.

Figure 2-4: Northeast Alberta and Southwest Alberta Areas

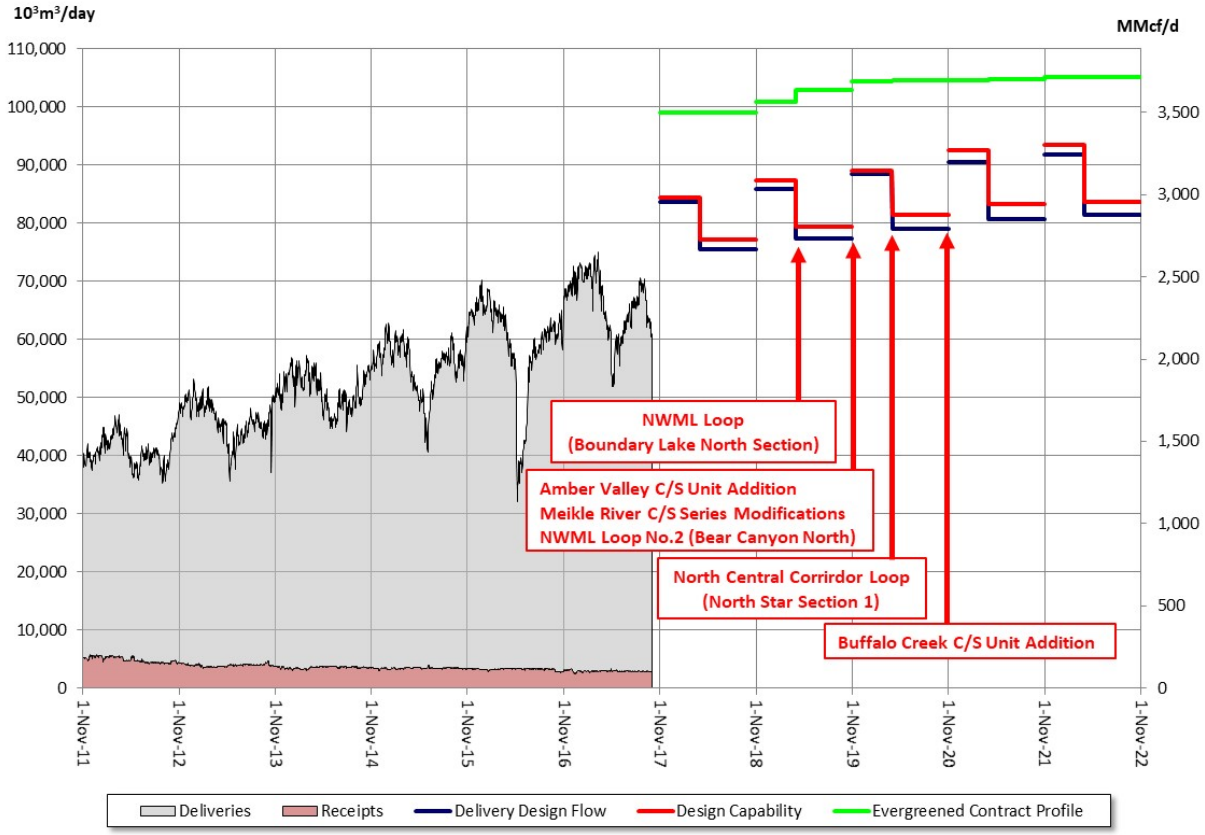


2.3.1 Design Flows – Oilsands Delivery Area

Continued delivery growth in northeast Alberta will be accommodated by six proposed facilities. Although these facilities will meet the delivery requirements of the entire northeast Alberta area, the design flows for the Oilsands Delivery Area (OSDA) are presented in this section. The OSDA is a subarea within northeast Alberta (see Figure 2-4) that contains a large proportion of northeast Alberta's deliveries and best illustrates the area demand requirements. The design flows for the OSDA are the net effect of the maximum deliveries in the area less the minimum local receipts.

Figure 2-5 shows historical flows, design flows, contract levels and design capability for the OSDA. Delivery design flow rises throughout this forecast period, attributable primarily to increasing oilsands deliveries. The proposed facilities are highlighted red in Figure 2-5 to provide a correlation to the increasing design capability and indicate their requirement.

Figure 2-5: Oilsands Delivery Area Design Chart

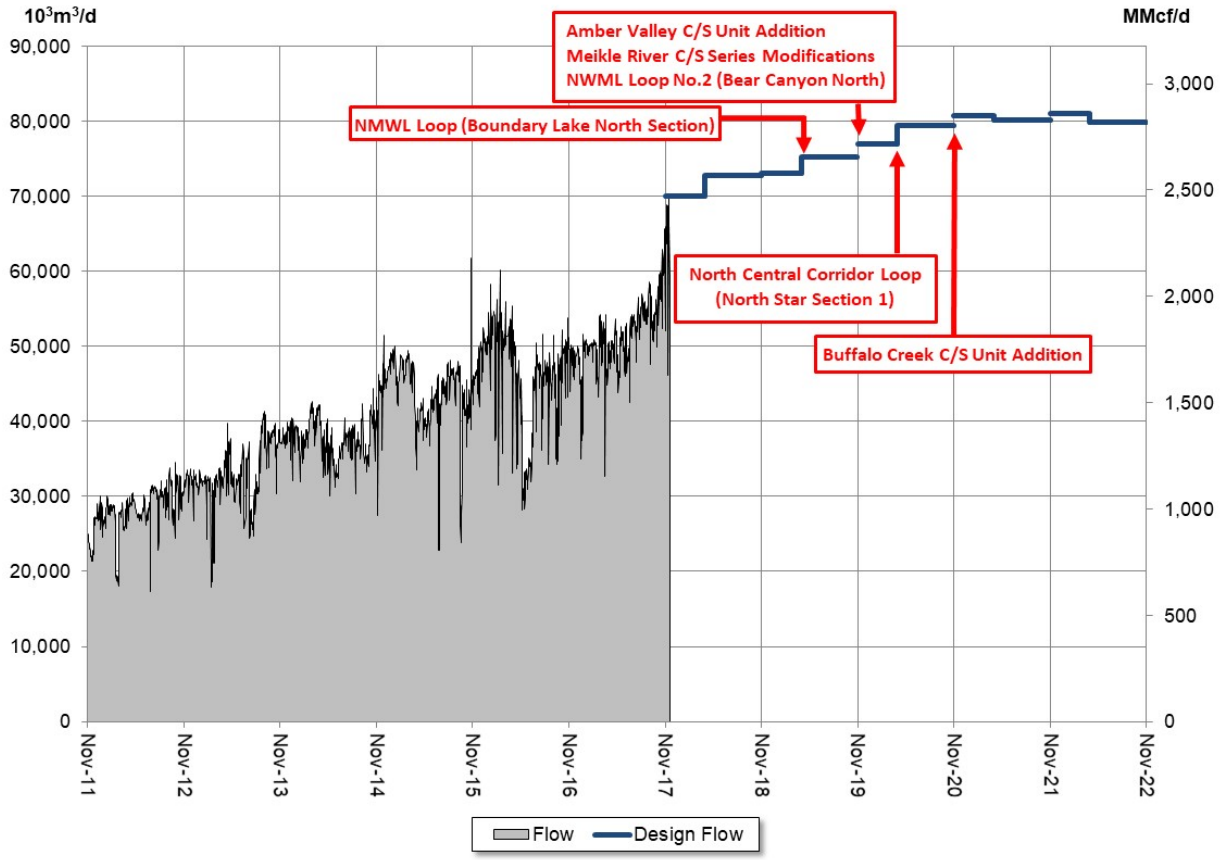


2.3.2 Design Flows – North Central Corridor

Demands in northeast Alberta are primarily met through gas transported through the North Central Corridor (NCC). The NCC is a pipeline corridor that starts at the Meikle River compressor station and ends at the Buffalo Creek compressor station (see Figure 2-4). This section is intended to provide further clarity for the northeast delivery facility requirements by presenting design flows through the NCC.

Figure 2-6 shows historical and design flows through the NCC. Design flow rises throughout this forecast period, attributable to increasing deliveries in northeast Alberta. The proposed facilities are highlighted red in Figure 2-6 to provide a correlation to the increasing design flows. The increasing NCC design flows are enabled by the Northwest Mainline (NWML) Loops upstream of the NCC, which increase the capability for gas to be transported to the start of the NCC as well as Amber Valley compressor downstream of the NCC, which increases the capability for gas to be transported away from the end of the NCC. The Meikle River modifications, NCC Loop, and Buffalo Creek compressor enable increasing NCC design flows by adding to the NCC itself.

Figure 2-6: North Central Corridor Design Chart

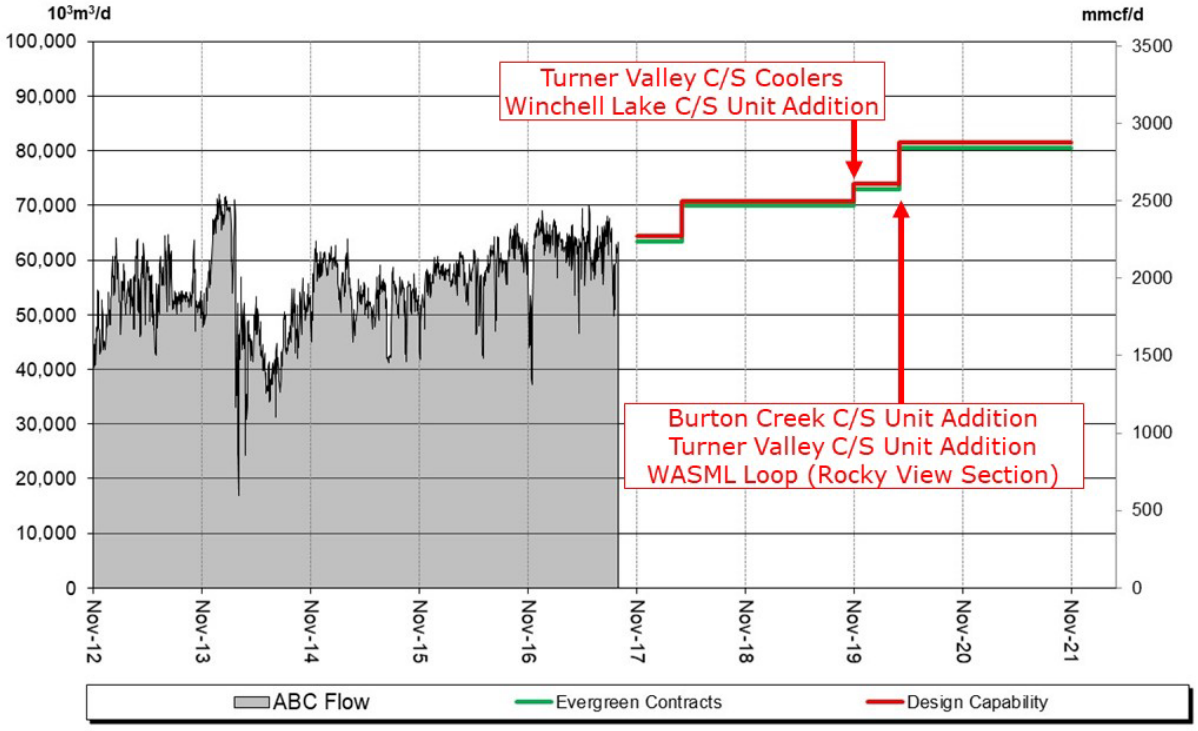


2.3.3 Design Flows – Alberta-British Columbia Export

ABC export represents a large proportion of the deliveries in southwest Alberta and best illustrates the area demand requirements. Continued delivery growth in southwest Alberta will be accommodated by five proposed facilities.

Figure 2-7 shows historical flows, contract levels and design capability at ABC. Contracts rise throughout this forecast period, due to the results of open seasons conducted at ABC. The proposed facilities are highlighted red in Figure 2-7 to provide a correlation to the increasing design capability required to match the contract levels.

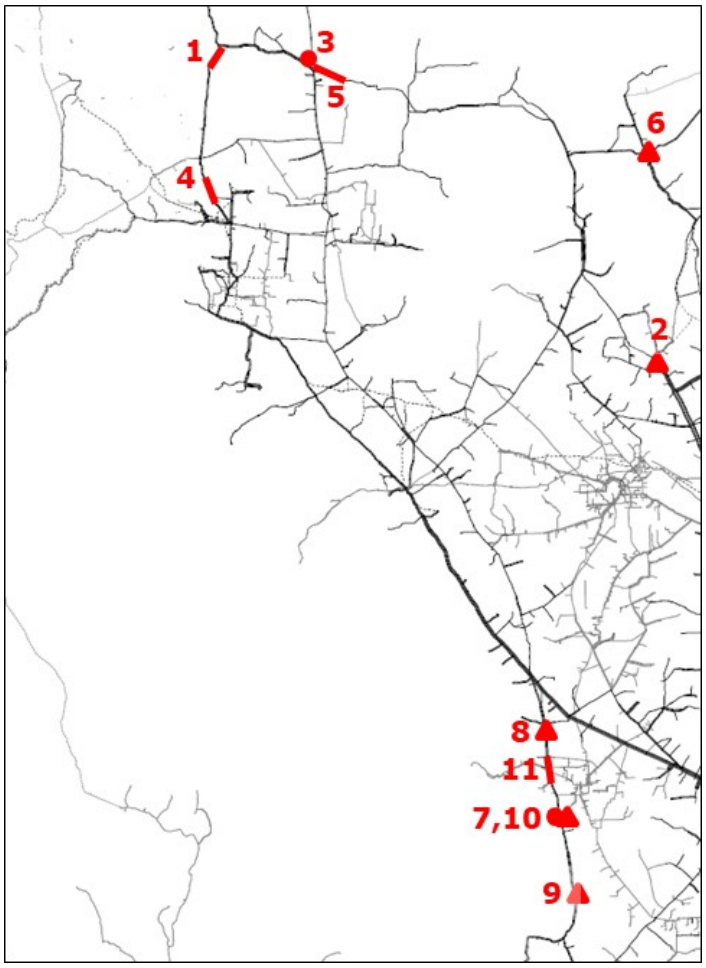
Figure 2-7: Alberta-British Columbia Export Design Chart



2.3.4 Proposed Facilities for Specific Area Demands

Figure 2-8 shows the location of the proposed facility required to meet the design flow requirements for the two specified areas.

Figure 2-8: Proposed Facilities for Specific Area Demands



Applications for the proposed facilities are expected to be filed with the NEB in gas year 2017/2018 and are proposed to be in-service from 2019 through 2020. For details on each of the proposed facilities, see Table 2-2.

Table 2-2: Proposed Facilities for Specific Area Demands

Map Location	Proposed Facility	Description	Target In-Service Date	Forecast Cost ($Millions)

Northeast Delivery Facilities				
1	NWML Loop (Boundary Lake North Section)	25 km NPS 36	Apr 2019	115
2	Amber Valley C/S Unit Addition	15 MW	Nov 2019	89
3	Meikle River C/S Series Modifications	Series Mods	Nov 2019	17
4	NWML Loop No.2 (Bear Canyon North)	28 km NPS 36	Nov 2019	109
5	North Central Corridor Loop (North Star Section 1)	32 km NPS 48	Apr 2020	193
6	Buffalo Creek C/S Unit Addition	30 MW	Nov 2020	139
Mainline Delivery Facilities				
7	Turner Valley C/S Coolers	Coolers	Nov 2019	16
8	Winchell Lake C/S Unit Addition	30 MW	Nov 2019	116
9	Burton Creek C/S Unit Addition	30 MW	Jun 2020	116
10	Turner Valley C/S Unit Addition	30 MW	Jun 2020	116
11	WASML Loop (Rocky View Section)	22 km NPS 42	Jun 2020	176
			Total	**1,202**

3.0 EXTENSION FACILITIES, LATERAL LOOPS AND METER STATIONS

3.1 INTRODUCTION

This section presents an overview of the extension facilities, lateral loops and receipt and delivery meter stations that are required to meet customer requests for firm service.

If mainline facilities are required, transportation service may be provided to customers on an interruptible basis until the required mainline facilities are in service. If a customer's request for service results in the addition of new or modified receipt meter stations, the minimum term and minimum contractual obligation are determined in accordance with the economic criteria described in the *Gas Transportation Tariff of NOVA Gas Transmission Ltd., Appendix E: Criteria for Determining Primary Term.*

For locations of the proposed extension facilities, lateral loops and meter stations, see Figure 3-1 and for facility details, see Table 3-1. These proposed facilities were presented at the TTFP meeting on December 4, 2017.

For a summary of the status of facilities that have been proposed, applied for, under construction or placed in-service since the 2016 Annual Plan, see *Appendix 2: Facility Status Update*.

Figure 3-1: Proposed Extensions, Lateral Loops and Meter Stations

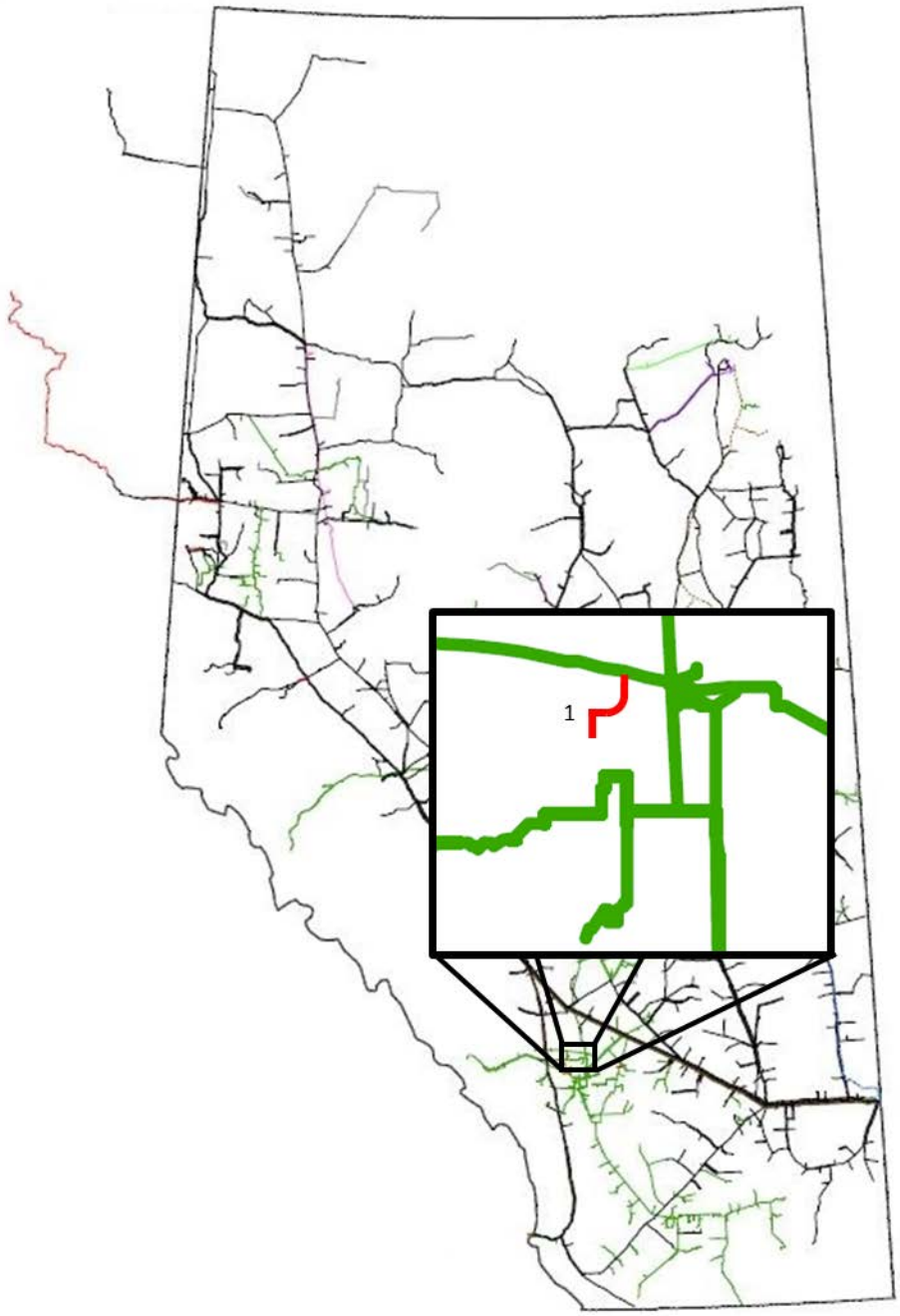


Table 3-1: Proposed Extensions, Lateral Loops and Meter Stations

Map Location	Proposed Facilities	Description	Target In-Service Date	Forecast Cost ($Millions)
1	AP Stoney Transit/North Gate Connection Piping	4.3 km NPS 8	Q1 2019	7.98
			TOTAL	**7.98**

3.2 FACILITY DESCRIPTION

ATCO Pipelines Stoney Transit/North Gate Connection Piping

The 4.3 km segment of NPS 8 is a pipeline connection between the existing ATCO Pipelines NPS 22 East Calgary Lateral and a customer measurement facility. The facility is required to provide natural gas deliveries for the City of Calgary Stoney CNG Bus Storage and Transit Facility and growing residential heating loads.

The target in-service date for the facility is Q1, 2019. The facility application is scheduled to be filed by ATCO with the AUC in Q2 2018.

Planned Meter Stations

Meter station projects are identified and planned to meet customer requests for service on an ongoing basis throughout the year. As new meter station projects are identified the TTFP will be informed and the new meter station projects will be included in the *2018 Facility Status Update (NGTL 2018 Update)*, which can be accessed at http://www.tccustomerexpress.com/871.html

Appendix 1: Glossary of Terms

The following definitions are provided to help the reader understand the Annual Plan. The definitions are not intended to be precise or exhaustive and have been simplified for ease of reference. These definitions should not be relied on to interpret NGTL's Gas Transportation Tariff or any Service Agreement. Capitalized terms not defined here are defined in NGTL's Gas Transportation Tariff.

Allowance for Funds Used During Construction (AFUDC)

The capitalization of financing costs incurred during construction of new facilities before the facilities are included in rate base.

Annual Plan

A document outlining NGTL's planned facility additions and major modifications.

Average Annual Delivery

The average day delivery determined for the period of one Gas Year. All forecast years are assumed to have 365 days.

Average Day Delivery

The average day delivery over a given period, determined by summing the total volumes delivered divided by the number of days in that period. It is determined for either a Delivery Point or an aggregation of Delivery Points.

Average Receipt Forecast

The forecast of average flows expected to be received onto the NGTL System at each receipt point.

Coincidental

Occurring at the same time.

Delivery Meter Station

A facility that measures gas volumes leaving the NGTL System.

Delivery Point

The point where gas might be delivered to customer by company under a Schedule of Service, which shall include but not be limited to Group 1 Delivery Point, Group 2 Delivery Point, Group 3 Delivery Point, Extraction Delivery Point and Storage Delivery Point.

Delivery Design Area

The NGTL System is divided into five delivery design areas used to facilitate delivery service within or between Delivery Design Areas:

- Northwest Alberta and Northeast BC Delivery Area
- Northeast Delivery Area
- Southwest Delivery Area
- Southeast Delivery Area
- Edmonton and Area Delivery Area

Demand Coincidence Factor

A factor applied to adjust the system maximum and minimum day deliveries in a design area to a value more indicative of the expected actual peak day deliveries.

Design Area

The NGTL System is divided into three project areas – Peace River Project Area, North and East Project Area and Mainline Project Area. These project areas are subdivided into design and sub design areas. This subdivision allows the system to be modelled in a way that best reflects the pattern of flows in each area of the system.

Design Capability

The maximum volume of gas that can be transported in a pipeline system considering design assumptions. Usually presented as a percentage of design flow requirements.

Design Flows

Forecast of Peak Expected Flow required to be transported in a pipeline system considering design assumptions.

Design Forecast

Forecast of the most current projection of receipts and deliveries over a five-year design horizon.

Expansion Facilities

Facilities that will expand the existing NGTL System to/from the point of customer connection, including any pipeline loop of the existing system, metering and associated connection piping and system compression.

Extension Facilities

Facilities that connect new or incremental supply or markets to the NGTL System.

Firm Transportation

Service offered to customers to receive gas onto the NGTL System at Receipt Points or deliver gas off the NGTL System at Delivery Points with a high degree of reliability.

Gas Year

A period beginning at 800 hours (08:00) Mountain Standard Time on the first day of November in any year and ending at 800 (08:00) Mountain Standard Time on the first day of November of the next year.

Interruptible Transportation

Service offered to customers to receive gas onto the NGTL System at Receipt Points or deliver gas off the NGTL System at Delivery Points, provided capacity exists in the facilities, that is not required to provide firm transportation.

Lateral

A section of pipe that connects one or more Receipt or Delivery Points to the mainline.

Loop

The paralleling of an existing pipeline by another pipeline.

Mainline

A section of pipe, identified through application of the mainline system design assumptions, necessary to meet the aggregate requirements of all customers.

Maximum Day Delivery

The forecast maximum volume, included in the design, to be delivered to a Delivery Point.

Maximum Operating Pressure

The maximum operating pressure at which a pipeline is operated.

Minimum Day Delivery

The forecast minimum volume, included in the design, to be delivered to a Delivery Point.

NPS

Nominal pipe size, in inches.

Non-coincidental

Non-simultaneous occurrence.

Peak Expected Flow

The peak flow expected to occur at a point or points on the NGTL System. For a design area or subdesign area, this is the coincidental peak of the aggregate flow. For a single receipt point, it is equivalent to field deliverability.

Project Area

For design purposes, the NGTL System is divided into three project areas – Peace River Project Area, North and East Project Area and Mainline Project Area.

Dividing the system this way allows the system to be modelled in a way that best reflects the pattern of flows in each area of the system.

Receipt Meter Station

A facility that measures gas volumes entering the NGTL System.

Receipt Point

The point on the NGTL System at which gas may be received from customer by company under a Schedule of Service.

Storage Facility

Any commercial facility where gas is stored, that is connected to the NGTL System, and that is available to all customers.

Summer Season

The period starting April 1 and ending on October 31 of any calendar year.

System Average Receipts

The forecast of aggregate average receipts at all Receipt Points.

Transportation Design Process

The process that includes qualifying a customer's applications for service, designing additions to the system, sourcing all required facilities and installing facilities to meet firm transportation requests.

Winter Season

The period starting November 1 of any year and ending on March 31 of the following year.

Appendix 2: 2017 Facility Status Update

The Facility Status Update describes the current status of facilities that were applied for, are under construction or have been placed on-stream since the 2016 Annual Plan was issued on December 14, 2016. Periodic updates are being provided based on the level of activity occurring with respect to facilities. Facilities with (AP) after the project name refer to facilities in the ATCO Pipelines footprint.

Table A2-1: Current Status of Facilities

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
2015 Meter Station and Associated Lateral Abandonment	Barich Bigstone East Bigstone East B Clyde North Craigend North Dapp East Devenish South Daysland Hamlin Jones Lake East Killam North Minnow Lake South Sales Niobe Creek Niton North Pleasant West Ribstone Valhalla East Woking Nosehill Creek Lateral	Q4 2017	Approved May 27, 2016	Aug 31, 2015 - Initial TTFP Notification Oct 19, 2015 - NEB Application Filed Link to Application	5.8
2016 Meter Station and Associated Lateral Abandonment	Coleman Enchant Grew Lake Grew Lake East Hotchkiss Hotchkiss East Meanook Rambling Creek East Sharrow South No. 2 Steele Lake	Q3 2017 to Q1 2018	Approved Sep 25, 2017	Nov 1, 2016 - Initial TTFP Notification Dec 13, 2016 - NEB Application Filed Link to Application	6.7

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
2016 Pipeline Decommissioning Program	Crossfield Lat Lp Mitsue Lat Lp Big Bend Lat Ricinus Lat Sedalia North Lat Tangent Lat (Tangent M/S) Atmore Lat (Atmore M/S) Bassano South Lat	Q3 2017 to Q4 2019	Approved Jun 13, 2017	Dec 19, 2016 - Initial TTFP Notification Jan 23, 2017 - NEB Application Filed Link to Application	5.6
2017 Meter Stations and Laterals Abandonment Program	Meter Stations w/Laterals Acadia East Acadia North Acadia Valley Bear Canyon West Big Bend East Blueberry Hill Blue Jay Donatville Hines Creek Hines Creek West Last Lake Lawrence Lake Manir Mills Tangent East Stand-Alone Meters Elinor Lake East Mega River Mega River No. 2 Rod Lake Rod Lake Sales Rossbear Lake Snowfall Creek Squirrel Mountain *Owl Lake South* *Owl Lake South No. 2* *Owl Lake South No. 3* Stand-Alone Laterals Alderson Lateral Kaybob South Lateral McNeill X-Over	Q3 2018 to Q4 2019	Applied for Aug 21, 2017	Jun 29, 2017 - Initial TTFP Notification Aug 21, 2017 - NEB Application Filed Link to Application	16.4

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Aitken Creek Compressor Station [3]	15 MW Bi-directional	TBD	Certificate Approval Jun 10, 2015	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Nov 8, 2013 - NEB Application Filed Link to Application Mar 20, 2017 - NEB Variance Application Link to Application	72 - ROT 98 - Class 4
Albersun Pipeline Asset Purchase	179 km	TBD	*Certificate Recommendation Dec 14, 2017*	May 12, 2015 - Initial TTFP Presentation Apr 27, 2016 - NEB Application Filed Link to Application	28 - Class 5 30 - Class 4
Alces River Compressor Station Unit Addition [4]	15 MW	Nov 2017	In-Service Nov 6, 2017	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Mar 31, 2015 - NEB Application Filed Link to Application March 14, 2017 - TTFP Update	79 - Class 5 85 - Class 4 67 - Class 3
Amber Valley Compressor Station *Unit Addition*	15 MW	Nov 2019	Proposed	March 14, 2017 - TTFP Update Jun 13, 2017 - TTFP Update Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	100 - ROT 89 - ROT
Berland River Compressor Station Unit Addition	*30 MW*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*145 - ROT*

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Bonanza Receipt Meter Station Expansion	2-1284U Ultrasonic Meter	Aug 2018	Applied for Nov 3, 2017	Oct 16, 2017- Initial TTFP Notification Nov 3, 2017 - NEB Application Filed Link to Application	5.5
Boulder Creek South Lateral	4 km NPS 8 17 km NPS 6	Jun 2017	In-Service Jun 9, 2017	Mar 8, 2016 - Initial TTFP Presentation May 16, 2016 - NEB Application Filed Link to Application	37 - Class 5 31 - Class 4
Buffalo Creek Compressor Station Unit Addition	30 MW	*Nov 2020*	*Proposed*	Dec 7, 2015 - Initial TTFP Presentation, 2015 Annual Plan Link to Annual Plan Aug 16, 2016 - TTFP Presentation (Status Update/Deferral) *Dec 4, 2017 - TTFP Presentation (Status Update), 2017 Annual Plan* *Link to Annual Plan*	139 - ROT
Burton Creek Compressor Station Unit Addition	30 MW	Jun 2020	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	116 - ROT
Calgary UPR – West Connector (AP) [5]	19 km NPS 20 1 km NPS 16	Q4 2017	Applied for May 6, 2016	Oct 30, 2014 – Initial TTFP Presentation May 6, 2016 - AUC Application Filed Link to Application	88
Christina Lake North Sales Meter Station Expansion	2-1210U Ultrasonic Meter	Mar 2018	Applied for Aug 18, 2017	Jul 20, 2017 - Initial TTFP Notification Aug 18, 2017 - NEB Application Filed Link to Application	4.4

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Clarkson Valley Control Valve	Control Valve Installation	Jun 2019	Applied for Oct 2, 2017	Jul 21, 2017 - TTFP Facility Update Oct 2, 2017 - NEB Application Filed Link to Application	4.4 4.5 - Class 4
Clearwater Compressor Station Unit Addition	30 MW	Apr 2020	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	117 - ROT
Clearwater Compressor Station Unit Addition & Coolers	*30 MW*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*145 - ROT*
Cousins West Sales Meter Station	4 LVS	Aug 2017	In-Service Aug 9, 2017	May 11, 2017 - Initial TTFP Notification	1.4
Dawson Creek Receipt Meter Station	2-1610-4U	Q1 2017	In-Service Mar 27, 2017	Dec 23, 2015 - Initial TTFP Notification Apr 27, 2016 - NEB Application Filed Link to Application	5.6
Didsbury Compressor Station & Coolers	*30 MW*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*166 - ROT*
Dismal Creek North Receipt Meter Station	1010-4U	Oct 2018	Proposed	Nov 22, 2017 - NEB Application Filed Link to Application Nov 24, 2017 - Initial TTFP Notification	3.2
Drywood Compressor Station Coolers		Nov 2018	Proposed	Nov 14, 2017 - Initial TTFP Notification	15 - Class 4
EAS Mainline Loop No.4 Crossover	*38 m NPS 30 Valve/Tees*	*Feb 2018*	*Proposed*	*Dec 11, 2017 - Initial TTFP Notification*	*2.3*
Edmonton UPR – NE Connector (AP) [5]	8 km NPS 20	Q4 2018	Proposed	Oct 30, 2014 - Initial TTFP Presentation	34
Edson Control Valve Addition	*Control Valve Installation*	*Apr 2019*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*5 - ROT*

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Edson Mainline Loop No.2 (Robb)	*31 km NPS 42*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*136 - ROT*
Edson Mainline Loop No.4 (Brewster)	*30 km NPS 48*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*147 - ROT*
Edson Mainline Loop No.4 (Dismal Creek)	*32 km NPS 48*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*156 - ROT*
Empress Area Extraction Connections Project	240 m Pipeline plus Valve Assemblies	Q3 2018	Approved Nov 14, 2017	Sep 8, 2017 - Initial TTFP Notification Oct 5, 2017 - NEB Application Filed Link to Application	17 - CIAC
Gold Creek South Receipt Meter Station Expansion	882 Orifice Meter	Apr 2018	Applied for Aug 19, 2017	Jul 26, 2018 - Initial TTFP Notification Aug 19, 2017 - NEB Application Filed Link to Application	3.0
Goodfish Compressor Station	30 MW	Q1-Q3 2017	In-Service Sep 10, 2017	Oct 30, 2014- Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Dec 18, 2014 - NEB Application Filed Link to Application Oct. 12, 2016 – TTFP Presentation (Facility Status Update) *Dec 11, 2017 - Appendix 2 Update (Estimate at Complete)*	135 - ROT 103 - Class 5 *126 - EAC*
Gordondale Lateral Loop No. 3	25 km NPS 36	Jun 2019	Applied for Oct 2, 2017	Dec 5, 2016 - Initial TTFP Notification, 2016 Annual Plan Link to Annual Plan Oct 2, 2017 - NEB Application Filed Link to Application	96 - ROT 98 - Class 4

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Grace Creek North Receipt Meter Station	660-2 Orifice Meter	Feb 2018	Approved Sep 12, 2017	Jun 1, 2017 - Initial TTFP Notification Jul 6, 2017 - NEB Application Filed Link to Application	2.0
Grande Prairie Mainline Loop No.2 (Deep Valley)	*68 km NPS 48*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*332 - ROT*
Grande Prairie Mainline Loop No.2 (Huallen)	*12 km NPS 48*	*Apr 2020*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*59 - ROT*
Grande Prairie Mainline Loop No.2 (Karr)	*31 km NPS 48*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*152 - ROT*
Grande Prairie Mainline Loop No. 2 (McLeod River Section) [4]	36 km NPS 48	Nov 2017	In-Service Sep 11, 2017	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Mar 31, 2015 - NEB Application Filed Link to Application March 14, 2017 - TTFP Update	207 - Class 5 228 - Class 4 247 - Class 3
Grande Prairie Mainline Loop No.2 (McLeod River North Section)	33 km NPS 48	Nov 2019	Proposed	Jul 21, 2017 - TTFP Facility Update November 14, 2017 - TTFP Facility Update	108 - ROT 155 - ROT
Grande Prairie Mainline Loop No.2 (McLeod North)	*15 km NPS 48*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*73 - ROT*
Grande Prairie Mainline Loop No.3 (Elmworth Section 1)	23 km NPS 48	Apr 2020	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	150 - ROT

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Grande Prairie Mainline Loop No.3 (Elmworth Section 2)	18 km NPS 48	Apr 2021	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	107 - ROT
Grande Prairie Mainline Loop No.3 (Elmworth Section 3)	26 km NPS 48	Apr 2021	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	176 - ROT
Grande Prairie Mainline Loop No.3 (Wembley)	*31 km NPS 48*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*152 - ROT*
Grey Owl Creek Receipt Meter Station Expansion	1212-4U Ultrasonic Meter	Oct 2017	In-Service Sep 18, 2017	Jan 31, 2017 - Initial TTFP Notification Mar 10, 2017 - NEB Application Filed Link to Application	3.6
Grey Owl Creek North Receipt Meter Station Expansion	882 Orifice Meter	Apr 2018	Approved Sep 7, 2017	Jun 1, 2017 - Initial TTFP Notification Jun 29, 2017 - NEB Application Filed Link to Application	3.2
Groundbirch Compressor Station [3]	2-15 MW Units Bi-directional	Apr 2019	Certificate Approval Jun 10, 2015	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Nov 8, 2013 - NEB Application Filed Link to Application Mar 20, 2017 - NEB Variance Application Link to Application	103 - ROT 135 - Class 4
Groundbirch Mainline Loop (Sunrise Section)	*33*km NPS *42*	Nov 2020	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	107 – ROT *155 - ROT*

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Hermit Lake No. 2 Sales Meter Station	2-860T Turbine Meter	Dec 2016	In-Service Jan 23, 2017	Aug 24, 2016 - Initial TTFP Notification	1.8
Hidden Lake North C/S Modifications	Yard Piping Modifications and Wheel Change	Apr 2018	Proposed	Aug 25, 2017 - Initial TTFP Notification	5
Hidden Lake North C/S Unit Addition	15 MW	TBD	Deferred	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan	78 - ROT
Hythe Lateral Loop No. 2	14 km NPS 24	Q4 2018	Applied for Nov 1, 2017	Dec 7, 2015 - Initial TTFP Presentation, 2015 Annual Plan Link to Annual Plan Aug 16, 2016 - TTFP Presentation (Status Update/Deferral) Sep 12, 2017 - TTFP Presentation (Scope/Status Update) Nov 1, 2017 - NEB Application Filed Link to Application	41 - Class 5 42 - Class 5 40 - Class 4
Inland Looping (AP)	19 km NPS 20	Feb 2017	In-Service Feb 19, 2017	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Oct 30, 2014 - TTFP Presentation, 2014 Annual Plan Link to Annual Plan Jan 18, 2016 - AUC Application Filed Link to Application	42
Ipiatik Lake Sales Meter Station Modifications	Modifications	Apr 2018	*Approved Nov 24, 2017*	Sep 6, 2017 - Initial TTFP Notification Sep 29, 2017 - NEB Application Filed Link to Application	1.3

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
January Creek Control Valve Addition	*Control Valve Addition*	*Apr 2019*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*5 - ROT*
Kettle River Lateral Loop (Christina River Section) [4]	20 km NPS 24	Apr 2017	In-Service May 13, 2017	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Mar 31, 2015 - NEB Application Filed Link to Application March 14, 2017 - TTFP Update Sep 19, 2017 - Appendix 2 Update Oct 18, 2017 - Appendix 2 Update (Estimate at Complete)	77 - Class 5 76 - Class 4 81 - Class 3 77 - Class 3 75 - EAC
Latornell Compressor Station Unit Addition	30 MW	Jun 2019	Applied for Oct 2, 2017	Dec 5, 2016 - Initial TTFP Notification, 2016 Annual Plan Link to Annual Plan Oct 2, 2017 - NEB Application Filed Link to Application	101 - ROT 118 - Class 4
Liege Lateral Loop No.2 (Pelican Lake Section) [4]	56 km NPS 30	Apr 2017	In-Service May 12, 2017	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Mar 31, 2015 - NEB Application Filed Link to Application March 14, 2017 - TTFP Update Jun 13, 2017 - TTFP Update Sep 19, 2017 - Appendix 2 Update Oct 18, 2017 - Appendix 2 Update (Estimate at Complete)	215 - Class 5 233 - Class 4 248 - Class 3 193 - Class 3 196 - EAC

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Livingstone Creek Receipt Meter Station	2-1064U Ultrasonic Meter	Aug 2015	In-Service Aug 7, 2015	Oct 23, 2014 - Initial TTFP Notification	7.1
Livingstone Creek No. 2 Receipt Meter Station	2-1064U Ultrasonic Meter	Mar 2017	In-Service Mar 3, 2017	Nov 19, 2014 - NEB Application Filed Link to Application	
Lodgepole Compressor Station Unit Addition and Interconnect	5 MW	Nov 2017	Approved May 5, 2016 Interconnect & Compressor Under Construction	Dec 7, 2015 - Initial TTFP Presentation, 2015 Annual Plan Link to Annual Plan Feb 12, 2016 - NEB Application Filed Link to Application	62 - ROT 66 - Class 5
McDermott Extension	8 km NPS 20	Aug 2016	In-Service Oct 29, 2016	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan	44 - Class 4
Calumet River Sales	2-1280U		In-Service Nov 7, 2016		
Calumet River No. 2 Sales Meter Stations	LVS-2	Apr 2017	In-Service May 31, 2017	Dec 10, 2014 - NEB Application Filed Link to Application	
Medicine Hat Compressor Station	3.5 MW	Q2 2017	In-Service May 5, 2017	Sep 15, 2015 - Initial TTFP Presentation Oct 30, 2015 - NEB Application Filed Link to Application Aug 29, 2017 - Appendix 2 Update	61 - Class 5 67 - Class 4 61 - Class 3

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Meikle River Compressor Station Series Modifications	Modifications to Enable Series Operation	Nov 2019	Proposed	Dec 7, 2015 - Initial TTFP Presentation, 2015 Annual Plan Link to Annual Plan Aug 16, 2016 - TTFP Presentation (Status Update/Deferral) March 14, 2017 - TTFP Update Jun 13, 2017 - TTFP Update Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	16 17
Meikle River D Compressor Station	33 MW	Q1-Q3 2017	In-Service Oct 4, 2017	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Dec 18, 2014 - NEB Application Filed Link to Application Oct. 12, 2016 - TTFP Presentation (Facility Status Update)	136 - ROT 114 - Class 5
Minnow Lake West Receipt Meter Station Expansion	2-1064U Ultrasonic Meter	Nov 2018	Approved Nov 6, 2017	Aug 28, 2017- Initial TTFP Notification Sep 14, 2017 - NEB Application Filed Link to Application	4.4
Nordegg Compressor Station Unit Addition	33 MW	Jun 2019	Applied for Oct 2, 2017	Feb 14, 2017 - TTFP Update Jul 21, 2017 - TTFP Facility Update Oct 2, 2017 - NEB Application Filed Link to Application	116 - ROT 112 - ROT 111 - Class 4

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Nordegg Compressor Station Unit Addition & Coolers	*30 MW*	*Apr 2020*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*145 - ROT*
North Central Corridor Loop (North Star Section 1)	32 km NPS 48	April 2020	Proposed	Dec 7, 2015 - Initial TTFP Presentation, 2015 Annual Plan Link to Annual Plan Aug 16, 2016 - TTFP Presentation (Status Update/Deferral) Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	200 - ROT 193 - ROT
North Heart River Receipt Meter Station	442 Orifice Meter	Jul 2018	*Applied for Dec 4, 2017*	Nov 20, 2017 - Initial TTFP Notification *Dec 4, 2017 - NEB Application Filed* *Link to Application*	2.7
North Montney Mainline (Aitken Creek Section) [3]	182 km NPS 42	Apr 2019	Certificate Approval Jun 10, 2015	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Nov 8, 2013 - NEB Application Filed Link to Application Mar 20, 2017 - NEB Variance Application Link to Application	762 - ROT 930 - Class 4
North Montney Mainline (Kahta Section - South)[3]	24 km NPS 42	April 2020		Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Nov 8, 2013 - NEB Application Filed Link to Application Mar 20, 2017 - NEB Variance Application Link to Application	174 - Class 4

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
North Montney Mainline (Kahta Section - North) [3]	95 km NPS 42	TBD	Certificate Approval Jun 10, 2015	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Nov 8, 2013 - NEB Application Filed Link to Application Mar 20, 2017 - NEB Variance Application Link to Application	331 - Class 4
Remaining North Montney Mainline Receipt Meter Stations Included in Certificate [3]			Certificate Approval Jun 10, 2015	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan	66 - Class 5
Kahta Creek Kahta Creek North Buckinghorse River Mason Creek Beatton River Lily Halfway River Aitken Creek West Aitken Creek East	TBD	TBD		Nov 8, 2013 - NEB Application Filed Link to Application	34 - Class 4
Mackie Creek Interconnect	TBD	TBD			8 - Class 4
Receipt Meter Stations Subject to Variance Application					
Blair Creek Gundy Kobes Altares Blair Creek East Aitken Creek Interconnect (bi-directional storage)	2-16104U Ultrasonic 2-1284U Ultrasonic 2-1064U Ultrasonic 2-1064U Ultrasonic 882 Orifice Meter 2-2416U Ultrasonic	Apr 2020 Apr 2019 Apr 2021 Apr 2019 Apr 2020 Apr 2019		Mar 20, 2017 - NEB Variance Application Link to Application	39 - Class 4
New Receipt Meter Stations			Applied for May 18-25, 2017	Apr 27, 2017 - TTFP Notifications May 18-25, 2017 - NEB Applications Filed	28 - ROT
Mackie Creek North Altares South Townsend Townsend No. 2 Gundy West Old Alaska Aitken Creek South Aitken Creek West No. 2	662 Orifice Meter 882 Orifice Meter 882 Orifice Meter 882 Orifice Meter 882 Orifice Meter 882 Orifice Meter 2-1284U Ultrasonic 442 Orifice Meter	Apr 2019 Apr 2019 Apr 2019 Apr 2019 Apr 2019 Apr 2019 Apr 2019 Apr 2020		Link to Application Link to Application Link to Application Link to Application Link to Application Link to Application Link to Application Link to Application	

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Northwest Mainline Loop No. 2 (Bear Canyon Section) [4]	27 km NPS 36	Apr 2017	In-Service May 7, 2017	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Mar 31, 2015 - NEB Application Filed Link to Application March 14, 2017 - TTFP Update Jun 13, 2017 - TTFP Update Oct 18, 2017 - Appendix 2 Update (Estimate at Complete)	110 - Class 5 116 - Class 4 111 - Class 3 133 - EAC
Northwest Mainline Loop No. 2 (Bear Canyon North Section)[7]	2*8* km NPS 36	Nov 2019	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	99 – ROT *109 - Class 4*
Northwest Mainline Loop (Boundary Lake Section) [4]	58 km NPS 36 33 km NPS 36	Apr 2017 Apr 2018	In-Service Jun 2, 2017 Approved Oct 31, 2016	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Mar 31, 2015 - NEB Application Filed Link to Application March 14, 2017 - TTFP Update Jun 13, 2017 - TTFP Update	384 - Class 5 442 - Class 4 424 - Class 3
Northwest Mainline Loop (Boundary Lake North Section)	25 km NPS 36	Apr 2019	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	115 - ROT

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Otter Lake Compressor Station Unit Addition [4]	30 MW	Nov 2017	*In-Service Dec 7, 2017*	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Mar 31, 2015 - NEB Application Filed Link to Application March 14, 2017 - TTFP Update	115 - Class 5 113 - Class 4 116 - Class 3
Peace River Mainline Abandonment (Meikle River to Valleyview Section)	266 km NPS 20 2.3 km NPS 4	TBD	Applied for Aug 18, 2016	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Oct 30, 2014 - TTFP Presentation, 2014 Annual Plan Link to Annual Plan Jul 22, 2016 - TTFP Presentation (Filing/Scope Change) Aug 18, 2016 - NEB Application Filed Link to Application	29.7 - Class 4
Peigan Trail Pipeline - UPR (AP) [5]	3 km NPS 16	Dec 2016	In-Service Dec 22, 2016	Jul 10, 2012 - Initial TTFP Presentation Jul 20, 2016 - AUC Application Filed Link to Application	15.0
Pembina Expansion Project (AP) [6]	20.2 km NPS 24	May 2017	Under Construction	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Jan 29, 2016 - AUC Application Filed Link to Application	66
Pipestone Compressor Station Unit Addition & Coolers	*30 MW*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*145 - ROT*

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Princess Compressor Station A and D Decommissioning	Decommissioning of A and D Buildings	Feb 2017	Under Construction Completed Jul 6, 2017	Jan 4, 2017 – Initial TTFP Notification Jan 20, 2017 – NEB Streamlining Order Notification Link to Notification	11.0
Resthaven Receipt Meter Station Expansion	2-1280U Ultrasonic Meter	Apr 2018	Approved Sep 8, 2017	May 11, 2017 - Initial TTFP Notification May 26, 2017 - NEB Application Filed Link to Application	4.3
Rodney Creek Receipt Meter Station	660-2 Orifice Meter	Aug 2018	Applied for - Nov 22, 2017	Nov 6, 2017 - Initial TTFP Notification Nov 22, 2017 - NEB Application Filed Link to Application	2.2
Saddle Hills Compressor Station Unit Addition and Control Valve Modifications	30 MW	Jun 2019	Applied for Oct 2, 2017	Dec 5, 2016 - Initial TTFP Notification, 2016 annual Plan Link to Annual Plan Jun 13, 2017 - TTFP Update Oct 2, 2017 - NEB Application Filed Link to Application	74 - ROT 119 - Class 5 118 - Class 4
Saturn Compressor Station [3]	15 MW Bi-directional	Apr 2020	Certificate Approval Jun 10, 2015	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Nov 8, 2013 - NEB Application Filed Link to Application Mar 20, 2017 - NEB Variance Application Link to Application	70 - ROT 86 - Class 4

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Saturn Compressor Station – Unit 2 [3]	15 MW Bi-directional	TBD	Certificate Approval Jun 10, 2015	Oct 22, 2013 - Initial TTFP Presentation, 2013 Annual Plan Link to Annual Plan Nov 8, 2013 - NEB Application Filed Link to Application Mar 20, 2017 - NEB Variance Application Link to Application	63 - ROT
Saturn No. 2 Receipt Meter Station	2-1060U-4 Ultrasonic Meter	Apr 2018	Applied for Aug 29, 2017	Aug 9, 2017 - Initial TTFP Notification Aug 29, 2017 - NEB Application Filed Link to Application	3.8
Smoky River Lateral Loop	28 km NPS 24	Apr 2019	*Applied for Nov 29, 2017*	Dec 5, 2016 - Initial TTFP Notification, 2016 Annual Plan Link to Annual Plan Sep 12, 2017 - TTFP Presentation (Scope/Status Update) *Nov 29, 2017 - NEB Application Filed* *Link to Application*	54 - Class 5 118 - Class 5 *91 - Class 4*
South Kirby Expansion Project	39 km NPS 24	TBD	Deferred	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Dec 7, 2015 - TTFP Presentation, 2015 Annual Plan Link to Annual Plan Aug 16, 2016 - TTFP Presentation, 2018 Expansion Project Facilities Update	137- Class 5

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Southwest Edmonton Connector – UPR (AP) [5]	21 km NPS 20	Q2 2017	In-Service April 1, 2017	Jul 10, 2012 - Initial TTFP Presentation Jun 2, 2015 - AUC Application Filed Link to Application	93
Stoney Transit/North Gate Connection Piping (AP)	*4.3 km NPS 8*	*Q1 2019*	*Proposed*	*Dec 4, 2017 - Initial TTFP Notification, 2017 Annual Plan* *Link to Annual Plan*	*8*
Strathmore NW Lateral Loop (AP)	7 km NPS 3	Nov 2018	Proposed	Dec 5, 2016 - Initial TTFP Notification, 2016 Annual Plan Link to Annual Plan	4
Sturgeon Refinery Process Delivery and Lateral (AP)	2-AAT 140 Meter 1 km NPS 12	Nov 2016	In-Service Feb 15, 2017	Jun 9, 2016 - AUC Application Filed Link to Application	6.5
Sundre Crossover	20 km NPS 42	Apr 2018	Applied for Mar 24, 2017	Dec 7, 2015 - Initial TTFP Presentation, 2015 Annual Plan Link to Annual Plan May 17, 2016 - TTFP Presentation (Scope Change) Nov 2016 - Appendix 2 Class Estimate Update Mar 24, 2017 - NEB Application Filed Link to Application Jul 21, 2017 - TTFP Facility Update	240 - ROT 137 - Class 5 113 - Class 4 99 - Class 3
Swartz Creek Compressor Station Unit Addition	30 MW	Jun 2019	Applied for Oct 2, 2017	Dec 5, 2016 - Initial TTFP Notification, 2016 Annual Plan Link to Annual Plan Oct 2, 2017 - NEB Application Filed Link to Application	116 - ROT 116 - Class 4
Tony Creek No. 2 Receipt Meter Station	2-1064U Ultrasonic Meter	Oct 2017	In-Service Oct 5, 2017	Mar 3, 2017 - Initial TTFP Notification Mar 17, 2017 - NEB Application Filed Link to Application	3.8

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Towerbirch Expansion			NEB Recommendation Oct 6, 2016 GIC Certificate March 10, 2017	Aug 18, 2015 - Initial TTFP Presentation Sep 2, 2015 - NEB Application Filed Link to Application	470 - Class 5 439 - Class 4
Groundbirch Mainline Loop	55 km NPS 36	Nov 2017	In-Service Oct 30, 2017	Mar 2016 - Appendix 2 Update for Cost to Complete	
Tower Lake Section	32 km NPS 30	Nov 2017	In-Service Oct 1, 2017	Jun 13, 2017 - TTFP Update	383 - Class 3
Tower Lake Receipt Meter Station	2-1284U Ultrasonic Meter	Nov 2017	In-Service Sep 29, 2017		
Dawson Creek North No. 2 Receipt Meter Station	2-1284U Ultrasonic Meter	Apr 2018	In-Service Nov 15, 2017		
Dawson Creek North Receipt Meter Station	2-1284U Ultrasonic Meter	Sep 2018	In-Service Oct 30, 2017		
Dawson Creek East Receipt Meter Station	882 Orifice Meter	Jul 2017	In-Service Jul 20, 2017		
Groundbirch East Receipt Meter Station Expansion	1-2412U Ultrasonic Meter	Nov 2017	In-Service Aug 15, 2017		
Turin East Transmission Loop (AP)	10.5 km NPS 4	2018	Proposed	Aug 16, 2017 - AUC Application filed Link to Application	5.6
Turner Valley Compressor Station Coolers		Nov 2019	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	16
Turner Valley Compressor Station Unit Addition	30 MW	Jun 2020	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	116 - ROT
Valhalla North Receipt Meter Station Expansion	*882*	*Oct 2018*	*Proposed*	*Nov 27, 2017 - Initial TTFP Notification*	*3.1*

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Vetchland Compressor Station Unit Addition & Coolers	*30 MW*	*Apr 2021*	*Proposed*	*Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	*145 - ROT*
Western Alberta System Mainline Loop Rocky View Section	22 km NPS 42	Jun 2020	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	176 - ROT
Wainwright Compressor Station Unit Replacement	0.4 MW	Jul 2017	Under Construction In-Service July 18, 2017	Dec 5, 2016 - Initial TTFP Notification, 2016 Annual Plan Link to Annual Plan Feb. 27, 2017 - TTFP Notification	2.0 - ROT 2.3
Wildrose Receipt Meter Station	2-2012U Ultrasonic Meter	May 2018	*Approved Dec 5, 2017*	Jul 12, 2017 - Initial TTFP Notification Sep 27, 2017 - NEB Application Filed Link to Application	8.3
Winchell Lake Compressor Station Unit Addition	30 MW	Nov 2019	Proposed	Jul 21, 2017 - TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	116 - ROT
Wolf Lake Compressor Station Unit Addition	30 MW	Apr 2020	Proposed	Jul 21, 2017- TTFP Facility Update *Dec 4, 2017 - TTFP Presentation, 2017 Annual Plan* *Link to Annual Plan*	111 - ROT

Applied-for Facilities	Description	Target In-Service Date	Status	References [1]	Forecast Cost [2] ($Millions)
Woodenhouse Compressor Station Unit Addition	30 MW	Nov 2018	Under Construction	Oct 30, 2014 - Initial TTFP Presentation, 2014 Annual Plan Link to Annual Plan Dec 7, 2015 - TTFP Presentation, 2015 Annual Plan Link to Annual Plan Nov 7, 2016 - NEB Application Filed Link to Application Feb 2017- Appendix 2 Class Estimate Update	136 - Class 5 138 - Class 4 130 - Class 4
Worsley McLennan Transmission Loop (AP)	10.7 km NPS 6	2017	Proposed	Aug 2, 2017 - AUC Application Filed Link to Application	7.8

[1] Hyperlinks to AUC filings require an AUC eFiling login which can be obtained by contacting the AUC.

[2] For NGTL projects greater than $25 million, the estimate type for the forecasted costs have been provided. The typical expected accuracy for the various estimate types are shown in the table below. These accuracy ranges are for projects with established technological complexity and can be greater depending on area knowledge, technological complexity, level of expertise, and certainty of facility scope. Forecasted costs reflect the dollar value, economic conditions, and estimation procedures at the time the estimates were completed.

Estimate Type	Expected Accuracy Range
Rule of Thumb (ROT)	(-50% to +100%)
Class 5	(-20% to +30%)
Class 4	(-15% to +20%)
Class 3	(-10 to +10%)

[3] The *North Montney Project* was filed as a Section 52 application on November 8, 2013 comprised of the following facilities: North Montney Mainline (Aitken Creek Section), North Montney Mainline (Kahta Section), Aitken Creek Compressor Station, Saturn Compressor Station, Groundbirch Compressor Station, 14 receipt meter stations, a bi-directional storage meter station (Aitken Creek Interconnect) and a delivery meter station (Mackie Creek Interconnection). The NMML Variance was filed March 20, 2017 to vary

Condition 4 in the Certificate and Order and to extend the Sunset Clause for the NMML. The Variance also includes the details on eight additional meter stations required for the new receipt contracts. North Montney costs are escalated to the year of in-service for each respective facility. The original Kahta Section was 119 km of NPS 42 with a ROT cost estimate of $530Million.

[4] NGTL filed the *2017 NGTL System Expansion Project* Section 52 application on March 31, 2015 comprised of the following facilities: Alces River Compressor Station Unit Addition, Grande Prairie Mainline Loop No. 2 (McLeod River Section), Kettle River Lateral Loop (Christina River Section), Liege Lateral Loop No.2 (Pelican Lake Section), Northwest Mainline Loop (Boundary Lake Section), Northwest Mainline Loop No. 2 (Bear Canyon Section) and Otter Lake Compressor Station Unit Addition.

[5] ATCO Pipelines filed an application with the AUC for the Urban Pipeline Replacement (UPR) project on March 19, 2013. The AUC approved the UPR project in a decision dated January 17, 2014. The proposed segments of the UPR project that have been presented to the TTFP are identified in the table by the inclusion of "UPR" in the facility name.

[6] Pembina Expansion – Phase 1 (AP) and Pembina Expansion – Phase 2 (AP) has been consolidated into the Pembina Expansion Project (AP). This was done to reflect ATCO Pipelines AUC application for these facilities as a single project.

[7] Northwest Mainline Loop No. 2 (Bear Canyon North Section) is the combination of two previously presented facilities; Northwest Mainline Loop No. 2 (Bear Canyon North Section) and the Northwest Mainline Loop (Peace River Crossing Project).

Appendix 3: System Map

The System Map, including the 2017 Annual Plan facilities, is expected to be available in March 2018 and can be accessed at http://www.tccustomerexpress.com/5771.html.