National Energy Board | Office national de l'énergie

National Energy Board Report

NOVA Gas Transmission Ltd.

GH-003-2015

October 2016

Facilities, Tolling Methodology

Canada

National Energy Board

National Energy Board Report

In the Matter of

NOVA Gas Transmission Ltd.

Application dated 2 September 2015 for the Towerbirch Expansion Project

GH-003-2015

October 2016

National Energy Board Report – NGTL Towerbirch Expansion Project

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Glossary of Terms and Abbreviations

Applicant, NGTL or the Company	NOVA Gas Transmission Ltd.
Application	NGTL application for the Towerbirch Expansion Project dated 2 September 2015, pursuant to sections 52 and 58 of the NEB Act and Part IV of the NEB Act.
ATP	Application to Participate
AWE	Additional Written Evidence
BC OGC	British Columbia Oil and Gas Commission
Board or NEB	National Energy Board
CEAA 2012	*Canadian Environmental Assessment Act, 2012*
CEARIS	Canadian Environmental Assessment Registry Internet Site
Certificate	The Certificate of Public Convenience and Necessity (Certificate) applied for by NGTL under Section 52 of Part III of the *National Energy Board Act* (NEB Act), authorizing the construction and operation of the Section 52 Facilities.
commencing construction	The start of construction activities for the Project, including the clearing of vegetation, ground-breaking and other forms of right-of-way (RoW) preparation that may have an impact on the environment (activities associated with normal surveying do not constitute commencing construction).
Commenter	A person who is directly affected and/or has relevant information or expertise regarding the Project and who has been approved by the Board to provide a letter of comment
COS	Cost of Service
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CP	Cathodic Protection
CPVCOS	Cumulative Present Value Cost of Service
CSA Z245.1	Canadian Standards Association Z245.1, Steel pipe
CSA Z662-15	Canadian Standards Association Z662-15, Oil and Gas Pipeline Systems

designated project	A defined term in subsection 2(1) of CEAA 2012; this Project is a designated project pursuant to CEAA 2012 and its Regulations, and is therefore subject to a federal environmental assessment under CEAA 2012.
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
EAE	Enhanced Aboriginal Engagement
ECCC	Environment and Climate Change Canada
EPP	Environmental Protection Plan
ERP	Emergency Response Plan
ESA	Environmental and Socio-Economic Assessment
for approval	When a condition requires a filing with the Board "for approval", NGTL must not commence the indicated action or activity until the Board issues its written approval of the filing.
FT-D	Firm Transportation – Delivery
FT-R	Firm Transportation – Receipt
GBML Loop	Groundbirch Mainline Loop
Governor in Council	The Governor General acting on the advice of the Federal Cabinet
HDD	Horizontal Directional Drill
ILI	In-line Inspection
including	Use of this term, or any variant of it, is not intended to limit the elements to just those listed. Rather, it implies minimum requirements with the potential for augmentation, as appropriate.
Intervenor	A person, company or group who applied to participate in the hearing and was granted standing by the Board to participate as an Intervenor; has rights and obligations in the proceeding as set out in the Hearing Order.
IR or Information Request	A written question to the Applicant or an Intervenor in relation to its evidence filed by the Board, an Intervenor or the Applicant during the written portion of the hearing pursuant to the deadlines set out by the Board, to which a response must be subsequently filed.
LSA	Local Study Area

MOP	Maximum Operating Pressure
NEB Act	*National Energy Board Act*
NGTL System	NGTL's natural gas pipeline system comprised of approximately 25,000 km of pipeline, associated compression, and other facilities located in Alberta and British Columbia; subject to federal jurisdiction and regulation by the Board.
NIT	NOVA Integration Transfer; a natural gas trading hub
NPS	Nominal Pipe Size
O.D.	Outside Diameter
OPR	*National Energy Board Onshore Pipeline Regulations*
Part IV Order	The Toll Order applied for by NGTL under Part IV of the NEB Act, authorizing the tolling methodology for the Project.
Participant	A person, company or group who has applied to participate in the hearing and who was granted standing to participate by the Board. The term participant includes the Applicant, Intervenors and Commenters in the hearing.
Parties	Includes the Applicant and Intervenors; does not include Commenters
PAA	Project Authorization Account
PEA	Project Expenditure Authorization
PFP	Participant Funding Program
post-construction	Activities to take place once construction is complete, following final clean-up through to the completion of reclamation activities; including monitoring to evaluate the success of reclamation activities, compliance with commitments and the stability of the disturbed lands.
Process Advisor	Board staff assigned to provide assistance to the public, landowners, Aboriginal groups, and Participants to help them understand the process, the different roles of the hearing participants, and how to participate in the hearing.
Project	The proposed Towerbirch Expansion Project as described in NGTL's 2 September 2015 Application, consisting of the Section 52 Facilities, the Section 58 Activities, and the request pursuant to Part IV of the NEB Act.

Report or National Energy Board Report	Report submitted by the Board to the Minister (as defined in section 2 of the NEB Act) that sets out the Board's recommendation as to whether a Certificate should be issued for all or any portion of the pipeline, the reasons for the recommendation, and all the terms and conditions the Board considers necessary or desirable in the public interest to which any Certificate would be subject, pursuant to section 52 of the NEB Act. This Report also contains the Board's decisions in respect of NGTL's applications under section 58 of Part III of the NEB Act and under Part IV of the NEB Act.
RoW	Right-of-Way
RSA	Regional Study Area
SARA	*Species at Risk Act*
SCADA	Supervisory Control and Data Acquisition
Section 52 Facilities	The proposed construction and operation of approximately 87 kilometers of new gas pipeline and associated facilities in northwest Alberta and northeast British Columbia.
Section 58 Activities	The proposed right-of-way preparation activities in certain specified locations, the temporary infrastructure required for pipeline construction, including stockpile sites, contractor yards, access roads and borrow pits/dugouts and all activities related to the construction of the proposed meter stations.
Section 58 Order	The Exemption Order applied for by NGTL under Section 58 of Part III of the NEB Act, authorizing the construction and use of the Section 58 Activities.
TEK	Traditional Ecological Knowledge
TLRU	Traditional Land and Resource Use
TLS	Tower Lake Section
TLU	Traditional Land Use
TTFP	Tolls, Tariff, Facilities and Procedures committee
TWS	Temporary Workspace
WCSB	Western Canadian Sedimentary Basin

List of Units

Bbl/d	Barrels per day
ft	feet
km	Kilometre
Kb/d	Thousands barrels per day
kPa	Kilopascal (one thousand pascals)
L	Litre
m	Metre
m^3/d	Cubic metres per day
mg/L	Milligrams per litre
mm	Millimetre
Mcf	Thousand cubic feet
MMcf/d	Million cubic feet per day
MPa	Megapascal (one million pascals)
¢/Mcf	Cents per thousand cubic feet
%	Per cent
10^3m^3	Thousand cubic meters
$10^3m^3/d$	Thousand cubic meters per day

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act*, R.S.C. 1985, C.N-7 as amended and the Regulations made thereunder; and the *Canadian Environmental Assessment Act, 2012*;

IN THE MATTER OF an application dated 2 September 2015 by NOVA Gas Transmission Ltd. (NGTL) for a Certificate of Public Convenience and Necessity pursuant to section 52 of the *National Energy Board Act* to construct and operate the Towerbirch Expansion Project (Project) and other approvals pursuant to section 58 and Part IV of the *National Energy Board Act*, filed with the National Energy Board under File No. OF-Fac-GAS-N081-2015-16 02; and

IN THE MATTER OF National Energy Board Hearing Order GH-003-2015 dated 22 December 2015;

HEARD in Dawson Creek, British Columbia on 31 May 2016; and in Calgary, Alberta on 6 to 9 June 2016;

BEFORE:

J. Ballem	Presiding Member
S. Parrish	Member
M. Lytle	Member

Appearances	**Participants**	**Witnesses**
S. Denstedt, Q.C. M. Ducharme S. Duncanson J. Johnson	NOVA Gas Transmission Ltd.	S. Cairns S. Clark M. Hansen P. Keys K. Nelson H. Plana J.J. Reed A. Rigney M. Ritsch D. Rouillard B. Starlight S. Vo
M. Nefstead	West Moberly First Nations	S. Gutsell E. Plate
F. Weisberg	Export Users Group	L. Dahlberg W. Donahue
J.H. Smellie	FortisBC Energy Inc.	S. Hill J. Markholm D. Swanson

D. Davies R. Kolber	Westcoast Energy Inc., carrying on business as Spectra Energy Transmission	M. Burnyeat C. Cicchetti G. Johnson
N. Schultz	Canadian Association of Petroleum Producers	
K. Slipp	Cutbank Ridge Partnership	
L. Bell S. MacMillan	National Energy Board	

Oral Traditional Evidence

	West Moberly First Nations	G. Desjarlais E. Brown M. Campbell C. Dokkie

Written Final Argument

NOVA Gas Transmission Ltd.
Blueberry River First Nations
Canadian Association of Petroleum Producers
Cutbank Ridge Partnership
Export Users Group
FortisBC Energy Inc.
Progress Energy Canada Ltd.
Saulteau First Nations
Shell Canada Energy
West Moberly First Nations
Westcoast Energy Inc.
Western Export Users Group

Chapter 1

Recommendation and Decisions

This National Energy Board Report (Report) constitutes the National Energy Board's (NEB or Board) recommendation, decisions and reasons in respect of NOVA Gas Transmission Ltd.'s (NGTL) application to construct and operate (Application) the Towerbirch Expansion Project, comprised of the Groundbirch Mainline Loop (55 km of NPS 36 pipe, GBML Loop) and the Tower Lake Section (32 km of NPS 30 pipe, TLS), in northwestern Alberta and northeastern British Columbia (Project), considered by the Board in the GH-003-2015 proceeding.

This summary is provided for convenience only; the Board's detailed consideration of the issues is contained in the following chapters. If there is a discrepancy between the summary and the body of the Report, the wording and determinations set out in the following chapters take precedence.

1.1 Public Convenience and Necessity

In its consideration of any application under Part III of the *National Energy Board Act* (NEB Act), the Board must consider whether the applied-for facilities are in the overall Canadian public interest. In doing so, the Board must exercise its discretion in balancing the interests of a diverse public. The Board has described the public interest in the following terms:

> The public interest is inclusive of all Canadians and refers to a balance of economic, environmental, and social interests that changes as society's values and preferences evolve over time.

In order to issue a recommendation or decision, the Board is required to consider and weigh all relevant evidence on the record. This requires that the Board balance the benefits and the burdens of a project, based upon analysis of the relevant evidence properly before the Board.

1.2 Recommendation

1.2.1 Section 52 Facilities

The Board recommends that a Certificate of Public Convenience and Necessity (Certificate) be issued under section 52 of the NEB Act, for the construction and operation of the Project, including approximately 87 km of new gas pipelines and associated facilities (Section 52 Facilities). The Board's conclusions on individual matters which fall within the ambit of the Certificate are contained in the following chapters.

The Board has set out conditions, contained in Appendix II of this Report, to which the Certificate will be subject if the Section 52 Facilities are approved by the Governor in Council (GiC). This Report sets out the reasons for this recommendation and the terms and conditions to which the Certificate would be subject.

1.3 Decisions

1.3.1 Section 58 Activities

The Board has decided that the proposed right-of-way preparation activities in certain specified locations, the temporary infrastructure required for the construction of the pipeline, including stockpile sites, contractor yards, access roads and borrow pits/dugouts and all activities related to the construction of the proposed meter stations (Section 58 Activities) are in the public interest, should GiC direct the Board to issue a Certificate in respect of the Section 52 Facilities.

The Board has decided to grant Order XG-N081-025-2016 pursuant to section 58 of the NEB Act (Section 58 Order) exempting NGTL from paragraphs 31(c) and 31(d), and section 33 of the NEB Act, subject to the conditions contained in the Section 58 Order and set out in Appendix III of this Report. As a result, NGTL will be exempted from the requirement to file a plan, profile and book of reference for the Section 58 Activities. Should GiC direct the Board to issue a Certificate in respect of the Section 52 Facilities, the Board will issue Order XG-N081-025-2016 concurrently.

This Report sets out the reasons for the Board's decision.

1.3.2 Part IV Tolling Methodology

The Majority of the Board agrees to allow the use of NGTL's current tolling methodology for the Project as applied for. However, the Majority finds that the tolling methodology is only appropriate in the current circumstances. Therefore, as conditioned in TG-008-2016 (Part IV Order), the Board directs NGTL to re-apply to the Board for approval of a tolling methodology on the TLS if the TLS is no longer integrated with the NGTL System. Should GiC direct the Board to issue a Certificate in respect of the Section 52 Facilities, the Board will issue Order TG-008-2016 concurrently.

Further information is contained in Chapter 5.

1.4 Conclusion

The Board considered and weighed all of the evidence before it in making its recommendation and decision on this Project. When considering the balance between the benefits (e.g. additional Canadian gas supply to meet market demand and offset production declines in the WCSB) and the burdens (e.g. the extent of development in the region) associated with the Project, the Board is of the view that the Project is in the public interest and is consistent with the requirements of the NEB Act. In assessing NGTL's Application, the Board has recommended and included conditions in addition to the pipeline integrity, safety and environmental protection legislation and standards to which the Project is already subject.

The Board takes the commitments made by applicants seriously and throughout its deliberations the Board carefully considered all commitments made by NGTL in this proceeding. For these reasons, the Board has recommended **Certificate Condition 6** (Appendix II) and included **Section 58 Order Condition 7** (Appendix III), which collectively require NGTL to track and fulfil the commitments it made during the proceeding.

Should the Certificate be issued, NGTL is required to fulfill its commitments and satisfy the Board's requirements. The Board will monitor NGTL's compliance with the Board's requirements throughout the lifecycle of the Project.

J. Ballem
Presiding Member

S. Parrish
Member

M. Lytle
Member

Chapter 2

Summary

2.1 What did NGTL apply for?

On 2 September 2015, NGTL filed the Application with the Board for the Project. The Project would be located in northwest Alberta and northeast British Columbia, and consist of the Section 52 Facilities and Section 58 Activities described below.

NGTL proposed to treat the costs of the Project on a rolled-in basis and to determine the tolls for services in accordance with the NGTL toll design methodology in effect.

NGTL indicated that, subject to the required regulatory approvals, pre-construction work is scheduled to begin in late Q1 2017 and pipeline construction is scheduled to begin in Q2 2017. The anticipated in-service date for the pipeline components of the Project is 1 November 2017. The in-service date for the Dawson Creek East Receipt Meter Station is 1 July 2017. The Groundbirch East Receipt Expansion and the Tower Lake Receipt Meter Station have an anticipated in-service date of 1 November. The Dawson Creek North No. 2 Receipt Meter Station and the Dawson Creek North Receipt Meter Station are expected to be in-service 1 April 2018 and 1 September 2018 respectively.

The total estimated capital cost of the Project is $439 million (2017$ CAD).

2.1.1 Section 52 Facilities

NGTL applied for a Certificate to construct and operate approximately 87 km of new gas pipeline and associated facilities in northwest Alberta and northeast British Columbia, consisting of the Tower Lake Section (32 km of NPS 30 pipe (TLS)) and the Groundbirch Mainline Loop (55 km of NPS 36 pipe (GBML Loop)).

Eighty nine per cent of the Project will be located on private land and approximately 82 per cent will parallel existing right-of-way (RoW) or existing disturbances. Figure 2-1 presents a map of the facilities, created by the Board based on NGTL's Application for the Project, and is for illustrative purposes only.

Table 2-1: A Summary of the Project by the Numbers

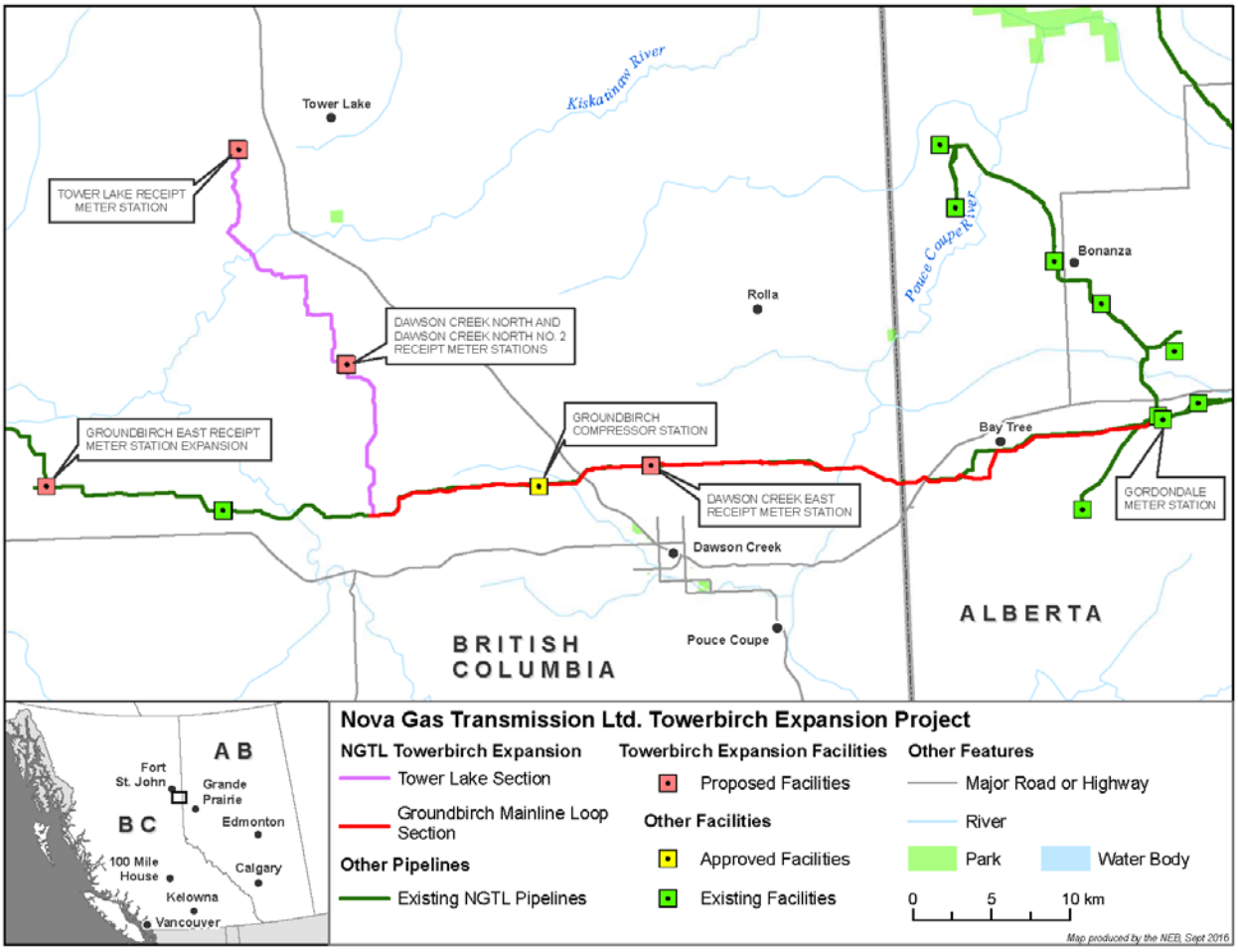
	Tower Lake Section	Groundbirch Mainline Loop Section
Approximate Length	32 km	55 km
Project length on Crown Land	2 km	7 km
Project length on Freehold Land	30 km	49 km
Outside Diameter	762 mm (NPS 30)	914 mm (NPS 36)
Wall Thickness	16.4 mm	19.7 mm
Pipe Material	Grade 483	Grade 483
MOP	9,930 kPa	9,930 kPa
Product	Non-Sour Natural Gas	Non-Sour Natural Gas

2.1.2 Section 58 Activities

NGTL applied under section 58 of the NEB Act for exemptions from certain requirements of sections 31 and 33 of the NEB Act in order to conduct RoW preparation activities in specified locations and to construct temporary infrastructure required for pipeline construction, including stockpile sites, contractor yards, access roads and borrow pits/dugouts and all activities related to the construction of the proposed meter stations.

The five proposed meter stations are Dawson Creek East Receipt Meter Station, Groundbirch East Receipt Meter Station Expansion, Tower Lake Receipt Meter Station, Dawson Creek North Receipt Meter Station and Dawson Creek North No. 2 Receipt Meter Station.

Figure 2-1: Project Location Map



2.1.3 CEAA 2012 and Environmental Assessment

NGTL's proposed Project exceeds 40 km in length and is therefore considered a designated project under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) and requires a CEAA 2012 environmental assessment (EA) for which the Board is the responsible authority. The Board also considers environmental protection as part of its broader mandate under the NEB Act.

The Board's complete EA for the Project is provided in Chapter 9.

2.1.4 Part IV of the NEB Act

The Project was triggered by existing and incremental firm service contracts for the receipt of sweet natural gas on the NGTL System. The facilities are sized to meet design flows, which include existing and incremental firm service contract flows, and forecast supply for the Tower Lake Area. NGTL stated that the Project is supported by NGTL's forecasts of gas supply and demand for the NGTL System. NGTL also stated that the forecasted supply and demand growth, combined with aggregate contractual underpinnings, demonstrate that the applied-for facilities will be used and useful over their economic life.

NGTL proposed to provide receipt services to the incremental shippers in the Tower Lake Area under the terms and conditions established in the Tariff, as amended from time to time. These services will utilize the Project facilities and the existing NGTL System. NGTL proposed to treat the costs for the Project on a rolled-in basis, and to determine the tolls for services in accordance with the NGTL toll design methodology in effect, and as approved, at any given time.

2.1.5 Relief Requested by NGTL

NGTL requested the following relief from the Board:

- a recommendation to issue a Certificate under section 52 of the NEB Act (Certificate), authorizing the proposed construction and operation of the Project;
- an order, pursuant to section 58 of the NEB Act (Section 58 Order), exempting NGTL from the requirements of paragraphs 31(c), 31(d) and section 33 of the NEB Act, in relation to the Section 58 Activities;
- an order pursuant to Part IV of the NEB Act (Part IV Order) affirming that:
    - prudently incurred costs required to provide service on the applied-for facilities will be included in the determination of the NGTL System revenue requirement;
    - the tolls for services on the applied-for facilities will be calculated using the same methodology used to calculate tolls for services on all other facilities on the NGTL System, as determined through Board order from time to time; and
- any such further and other relief as NGTL may request or the Board may deem appropriate.

2.2 What did the Board decide?

This Report contains both the Board's recommendation to GiC and its decisions regarding the Section 58 Activities and NGTL's proposed tolling methodology. As explained in Chapter 1 of this Report, the Board considered and weighed all of the evidence before making its recommendation and decisions on this Project. The Board notes the importance of the whole Report and cautions readers against reading individual chapters in isolation.

2.2.1 What did the Board consider?

Under subsection 52(2) the NEB Act, the Board is required to consider all matters that appear to be directly related to the project and to be relevant. For this Application, the Board considered the following issues (as set out in the List of Issues in Appendix I):

1. The need for the Project.
2. The economic feasibility of the Project.
3. The potential commercial impacts of the Project.
4. The method of toll and tariff regulation.
5. The potential environmental and socio-economic effects of the Project, including those to be considered under the *Canadian Environmental Assessment Act, 2012*.
6. The appropriateness of the general route and land requirements for the Project.

7. Potential impacts of the project on Aboriginal interests.
8. Potential impacts of the project on landowners and land use.
9. The suitability of the design of the Project.
10. Contingency planning for spills, accidents or malfunctions, during construction and operation of the project.
11. Safety and security during construction of the Project and operation of the project, including emergency response planning and third-party damage prevention.
12. The terms and conditions to be included in any recommendation or approval the Board may issue.

2.2.2 Recommendations to Governor in Council

As explained in Chapter 3, the Board finds the assumptions of NGTL's supply and demand outlooks reasonable and adequate to support the Project. The Board is of the view that the number and characteristics of contracts NGTL has in place are sufficient to support the need for the Project. The Board also finds that through its parent company, TransCanada PipeLines Limited, NGTL is sufficiently able to finance the Project. Discussion and conclusions regarding tolling methodology are provided in Chapter 5 and are summarized below (Section 2.2.3).

Further, the Board is satisfied that the general design of the Section 52 Facilities is appropriate for their intended use. The Board is also satisfied that these would be constructed and operated in accordance with all applicable legislation and standards. Discussion relating to engineering design, operation and emergency response is provided in Chapter 4.

The Board is of the view that, with the implementation of NGTL's environmental protection procedures and mitigation and the Board's recommended and imposed conditions, the Project is not likely to cause significant adverse environmental effects. Additionally, this Report includes the Board's recommended follow-up program to be implemented in respect of the Project. The Board's EA is provided in Chapter 9; discussion of other potential socio-economic impacts is provided in Chapters 6 and 10.

The Board is of the view that NGTL's design and implementation of Project-specific public and Aboriginal engagement activities are appropriate for the scope and scale of the Project, and that all Aboriginal groups potentially affected by the Project were provided with sufficient information and opportunities to make their views about the Project known to NGTL and to the Board. Public consultation is further discussed in Chapter 7 and consultation with Aboriginal groups is discussed in Chapter 8.

Overall, through its reasoning explained in this Report, the Board recommends that a Certificate be issued for the construction and operation of the Section 52 Facilities. The Board has set out the terms and conditions that it considers necessary or desirable in the public interest in Appendix II of the Report.

2.2.3 Decisions made by the Board

In addition to the recommendations provided to GiC related to the Section 52 Facilities, the Board has made decisions with respect to the Section 58 Activities and NGTL's proposed tolling methodology for the Project. As explained in Chapter 1, the Board has decided that the Section 58 Activities are in the public interest and will issued Order XG-N081-025-2016, should GiC direct the Board to issue a Certificate in respect to the Section 52 Facilities.

The Board also approves NGTL's request, with respect to the GBML Loop, that the tolls for services on the applied-for facilities will be calculated using the same methodology used to calculate tolls for services on the NGTL System, as determined through Board order from time to time. The Board approves NGTL's request that prudently incurred costs required to provide service on the GBML Loop will be included in the determination of the NGTL System revenue requirement.

With respect to the TLS, the members of the Board are not in full agreement. The majority of the Board (Majority) approves the requests by NGTL that the tolls for services on the applied-for facilities will be calculated using the same methodology used to calculate tolls for services on the NGTL System, as determined through Board order from time to time. However, this approval is subject to the conditions in the Part IV Order (TG-008-2016). The Majority also approve the request by NGTL that prudently incurred costs required to provide service on the applied-for facilities will be included in the determination of the NGTL System revenue requirement. However, Member Parrish dissents on the decision regarding the TLS as he would deny NGTL's requests.

It should be noted that the Section 58 Order and the Part IV Order only take effect upon the issuance of a Certificate in respect of the Project.

2.3 How did the Board process the Application?

2.3.1 NEB Hearing Order and Hearing Process

On 20 October 2015, the Board issued a Notice of Hearing and Application to Participate (Notice) convening a public hearing to assess NGTL's proposed Project.

The Board issued Hearing Order GH-003-2015 (Hearing Order) on 22 December 2015 establishing the process for the Board's consideration of the Application, including filing deadlines for evidence, information requests and information responses. Both the Notice and Hearing Order included the List of Issues that the Board would consider during its assessment of NGTL's Application.

Through Procedural Updates issued on 17 February 2016 and 18 April 2016, the Board notified NGTL and Intervenors (Parties) that the oral portion of the hearing would occur the week of 30 May 2016 at the Stonebridge Hotel in Dawson Creek, British Columbia to hear oral traditional evidence and cross-examination on matters related to Part III of the NEB Act. The Procedural Updates also notified Parties that it would hear cross-examination on matters related to Part IV of the NEB Act, in Calgary, Alberta, during the week of 6 June 2016.

2.3.2 Participation

To be eligible to participate in a hearing for a Certificate, interested persons or groups must request participation and demonstrate in their Application to Participate (ATP) that they are directly affected by the proposed project or they have relevant information or expertise.

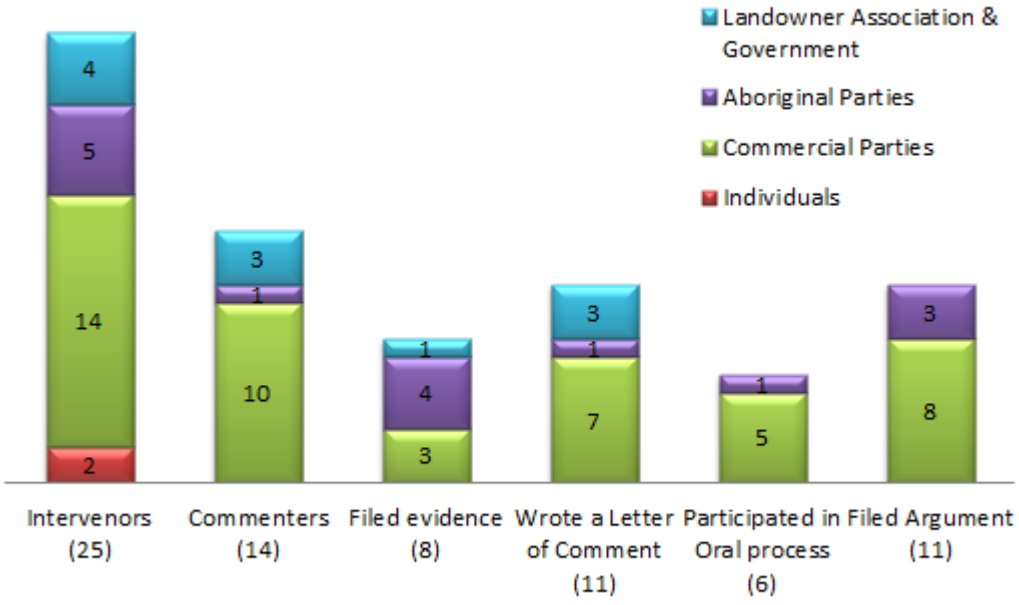
The Board applies a non-statutory standing test for Part IV matters. To be eligible to participate in the Part IV portion of the hearing, interested persons or groups must demonstrate in their ATP that they are sufficiently impacted by the Board's decision or their participation will assist the Board in making its decision.

Those who wished to participate in the hearing process for the Project were required to submit ATPs to the Board by 27 November 2015.

The Board received 36 ATPs for the Project (24 requests for Intervenor status and 14 requests to submit a Letter of Comment). In its Ruling No. 1, dated 22 December 2015, the Board issued its decision on participation, indicating that all applicants were granted standing to participate in the hearing as requested. The Board subsequently received notice that three applicants withdrew their participation from the hearing.

The Board also received three requests to consider late ATPs. Upon consideration, the Board granted Blueberry River First Nations (Blueberry), Northwest Pipeline LLC and Northern Health Authority (Northern Health) standing to participate in the hearing as requested; the two former requested Intervenor status and the latter requested to submit a Letter of Comment. A summary of participation is provided in Figure 2-1.

Figure 2-2 Summary of Participation in GH-003-2015



2.3.3 Filings and Information Requests

The Board heard evidence from Participants about the benefits associated with the Project and received submissions in support of the Project from Participants. The Board also heard evidence that raised concerns and objections to the Project. A distribution of the total filings on the record and the number of questions asked in writing by the Participants is provided in Figure 2-3. Figures 2-2 and 2-3 illustrate the level and nature of Participant involvement in the Board's hearing process (for example, those in the category of Landowner Association and Government posed the majority of written questions (26%), filed the least pages on the record (8%) and did not participate in the oral portion of the process).

Figure 2-3 – Distribution of filings
(e.g. Information Requests, Letters of Comment, Evidence, etc.)

2.3.4 Oral Traditional Evidence

The Board understands that Aboriginal peoples have an oral tradition for sharing lessons and knowledge from generation to generation. Since this information cannot always be shared adequately or appropriately in writing, and the Board believes it would be valuable for its consideration of the Project, the Board extended an invitation to all Aboriginal Intervenors in the proceeding to provide oral traditional evidence.

On 23 February 2016, the Board received an invitation from West Moberly First Nations (West Moberly) to hear oral traditional evidence at Kiskatinaw Provincial Park during the week of 30 May 2016. On 15 March 2016, West Moberly, Blueberry and Saulteau First Nations (Saulteau) stated their preference to present oral traditional evidence at the Kiskatinaw Provincial Park rather than in Dawson Creek, British Columbia.

On 11 April 2016, the Board found that it could not meet its obligations to provide a safe and accessible hearing for Board staff and the public at the Kiskatinaw Provincial Park.[1] While in this instance it was not possible to hear oral traditional evidence in an alternate setting, the Board welcomes opportunities to continually improve its processes, and remains open to future discussions with Aboriginal groups on the delivery of oral traditional evidence. Of the three Aboriginal Intervenors, one group made presentations in Dawson Creek, British Columbia on 31 May 2016. Chapter 8 provides information about Aboriginal Matters, including more information about oral traditional evidence.

2.3.5 Participant Funding

The Board administers a Participant Funding Program (PFP), which provides financial assistance to support participation of individuals, Aboriginal groups, landowners, incorporated non-industry not-for-profit organizations, or other interested groups who seek to participate in the Board's oral hearing process for facilities applications. The applications for PFP are reviewed by the Funding Review Committee, which operates independently from the Project regulatory review process.

On 20 July 2015, the Board made available $150,000 through the PFP to facilitate participation in the regulatory process for the facilities portion of the Project (i.e., Part III of the NEB Act). The Board received four eligible applications from three Aboriginal groups and a landowner group, with a total funding request for $591,920.

After reviewing the applications, the Board allocated funding awards totaling $200,000. More information on the program and the funding awards to all eligible applicants can be found on the Board's web-site at http://www.neb-one.gc.ca/pfp.

2.4 What does the Board do now?

The Board's role does not end once a hearing process is complete; the Board takes a lifecycle approach to regulation, holding its regulated companies accountable so that Canadians and the environment are protected. The Board is present for all stages of a pipeline's lifecycle – from before a company applies for a project, to the assessment of that project, to the construction and operation of a project, and finally to when a project is abandoned.

Should the Project be approved and a Certificate issued, and should NGTL decide to proceed with the Project, the Board will use ongoing oversight to regulate the Project facilities. Throughout the lifecycle process, the Board works with federal government departments including Fisheries and Oceans Canada, Environment and Climate Change Canada, Transport Canada and other federal, territorial or provincial authorities.

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[1] A76309-1 – Letter to all parties on holding Oral Traditional Evidence at Kiskatinaw Provincial Park

2.4.1 Conditions

The NEB Act requires the Board to set out conditions that it considers necessary or desirable in the public interest, should the GiC direct the Board to issue a Certificate. The purpose of conditions is to mitigate potential risks and effects associated with a project so that the project can be designed, constructed, operated and abandoned in a safe manner that protects the public and the environment.

On 17 May 2016, the Board issued Potential Conditions for the Project. The Board considered all comments it received from Parties before finalizing and setting out the terms and conditions it will impose if the Project is approved by the GiC.

The conditions include:

- 24 conditions in the Certificate for the Section 52 Facilities (Certificate Conditions, Appendix II);
- 12 conditions in the Section 58 Order (Order Conditions, Appendix III); and
- 1 condition in the Part IV Order (in Section 5.3 of the Report).

The Board notes that any commitments made by NGTL in its Application or in its related submissions during the proceeding would also become regulatory requirements. If the GiC approves the Project, the Board will issue the Certificate and the Section 58 Order will come into effect. The Certificate and Section 58 Order will be subject to the terms and conditions set out in this Report (Appendices II and III), unless the GiC orders the Board to reconsider its recommendation or any of its Certificate conditions.

The Board will monitor and enforce compliance with these terms and conditions throughout the lifecycle of the Project through audits, inspections, and other compliance and enforcement tools.

Documents filed by NGTL in relation to condition compliance and related Board correspondence will be available to the public on the Board's website at www.neb-one.gc.ca.

Chapter 3

Economic Feasibility

In making a recommendation on an application under section 52 of the NEB Act, the Board makes a determination regarding the economic feasibility of the project. To make this determination, the Board considers the supply of natural gas that would be available to be shipped on the pipeline, any transportation contracts underpinning a pipeline, and the availability of adequate markets to receive natural gas delivered by the pipeline. The Board also considers an applicant's ability to finance the proposed pipeline and the rationale for selecting the applied-for pipeline capacity.

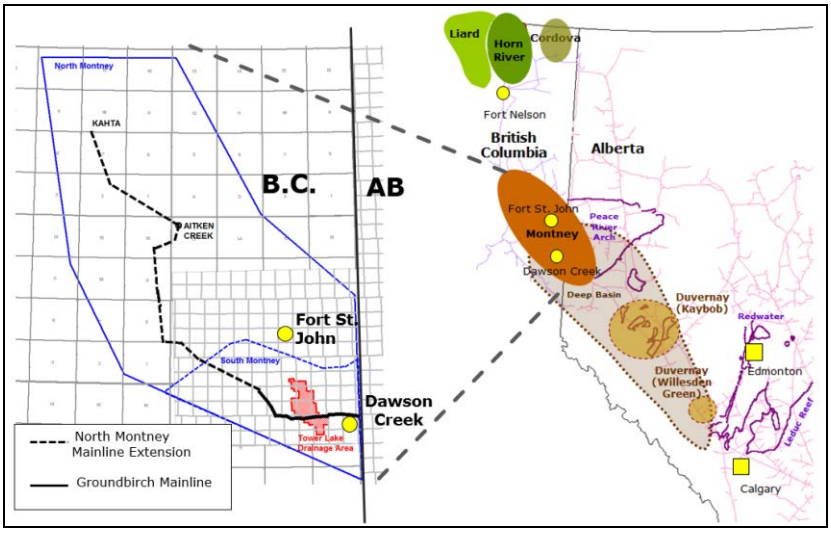
Matters relating to toll principles and methodology are discussed in Chapter 5.

3.1 Supply

Views of NGTL

The supply source for the Project is the Tower Lake area, which is part of the Montney play that extends from Dawson Creek in the south to the Kahta area of British Columbia, northeast of Fort St. John (See Figure 3-1). The Montney play, which was formerly characterized as tight and uneconomic, has been successfully commercialized with the application of horizontal drilling and multi-stage hydraulic fracturing. The Montney Formation holds one of the largest unconventional gas resources in North America and is one of the most economic formations in the Western Canadian Sedimentary Basin (WCSB).

Figure 3-1: Location of the Montney Play in the WCSB



The Tower Lake area encompasses an area of approximately 414 km² (160 mi²) and is currently producing approximately 8.5 10^6 m³/d (300 MMcf/d). Production is expected to increase to 35.0 10^6 m³/d (1,235 MMcf/d) by 2025. The estimated field development in the Tower Lake area before 2025 includes the development of 625 additional wells at a rate of 60 wells per year, for a total of 775 existing and future wells.

NGTL reviewed the economics of developing resources in the Tower Lake area and concluded that the area is one of the lowest cost commercially-viable resource plays in the WCSB. NGTL determined the average supply cost[2] in the Tower Lake area ranged from $1.50 to $3.00/Mcf. Supply costs are expected to decline over time due to ongoing improvement in drilling and completion techniques, as well as due to the transition from the evaluation drilling phase to the exploitation phase.

NGTL estimated the Tower Lake drainage area gas-in-place (GIP) to be approximately 1,071 10^9 m³ (38 Tcf) and the marketable gas resource to be 268 10^9 m³ (9.5 Tcf), which represents 3.5 per cent of the total British Columbia Montney resource estimate (See Table 3-1). NGTL submitted that the recovery factor used for the Tower Lake drainage area is higher than the overall larger Montney area, because the drainage area is located in a geological "sweet spot" that is expected to be drilled at a higher well density than the larger Montney area.

Table 3-1: Estimated Natural Gas Resource Potential

Area	GIP		Recovery Factor	Marketable Gas	
	$10^9 m^3$	**Tcf**	**per cent**	**$10^9 m^3$**	**Tcf**
Montney Area	55,664	1,965	14	7,677	271
Tower Lake Drainage Area	1,071	38	25	268	9.5

NGTL submitted that the Tower Lake area has sufficient economic gas resources to support the Project over the forecast period (gas years 2014/2015 to 2024/2025).

Views of Participants

No participants opposed NGTL's evidence concerning the adequacy of supply to support the Project.

The Canadian Association of Petroleum Producers (CAPP) argued that demand for new pipeline capacity is driven by supply growth as producers develop the huge economically recoverable resource in northeastern British Columbia.

[2] Supply cost is the estimated cost at which a unit of energy can be produced over a project's economic life. It includes capital costs associated with exploration, development and production, as well as operating costs, taxes, royalties and producer rate of return.

The Pacific Northwest Group (PNG) acknowledged the optimistic supply forecasts for northeastern British Columbia, but noted that low commodity prices, discovery of significant new supplies across North America, unsettled concerns regarding the impact of hydraulic fracturing and questions regarding Liquefied Natural Gas (LNG) development create uncertainty regarding the extent and pace of production of new supply in northeastern British Columbia.

FortisBC Energy Inc. (Fortis) stated that British Columbia has major natural gas resources and that for British Columbians to realize the benefits of those resources producers will require access to new and existing markets.

Black Swan Energy Ltd., Painted Pony Petroleum Ltd. and Storm Resources Ltd. filed Letters of Comment. Black Swan Energy Ltd. stated that northeastern British Columbia has a tremendous natural gas resource which is capable of achieving economic returns that rival the best plays in North America. Painted Pony Petroleum Ltd. submitted that the recent success of industry participants in northeastern British Columbia, exploring for and developing the Montney zone, have indicated that the Montney has, and will continue to be, one of the primary growth engines for Canadian natural gas for many years to come. Storm Resources Ltd. stated that the Montney shows tremendous resource potential and has one of the lowest costs of production in North America.

3.2 Markets

View of NGTL

NGTL submitted that the Project will provide supply from the Tower Lake area to markets that are served by the NGTL System. Once gas is received on the NGTL System, it can be physically delivered to either the intra-basin market or transported to export markets on interconnecting pipelines. Markets accessible by interconnecting pipelines are located in other Canadian provinces and in the US, including the Pacific Northwest, California, the US Northeast and the Midwest. NGTL also advised that the NGTL System is expected to serve future LNG markets through proposed pipelines to the Pacific coast.

NGTL argued that producers in the Tower Lake area are seeking access to the NOVA Integration Transfer (NIT) hub, which provides access to most of the major gas markets on the continent and which can only be accessed through the NGTL System. NGTL submitted that the NIT hub offers unique and high-value commercial features and is the result of a commercial and contracting structure that separates receipts and delivery contracts. The NIT market aggregates all natural gas supplies, storage, intra-basin markets and interconnected pipelines to the NGTL System at a single, integrated transaction hub. Gas that is received on the NGTL System is immediately available in the NIT market for holders of delivery service and other market participants. As a result, delivery shippers might commercially source gas through NIT that is physically received from any receipt point on the NGTL System.

In addition, as a result of the commercial separation between receipt and delivery services on the NGTL System, the NIT market facilitates gas trades that might not involve the original receipt shippers or the ultimate delivery shippers. Gas in the commercial marketplace is traded many more times than what physically flows on the NGTL System, exemplifying the separation between physical receipts and physical deliveries. By providing flexibility, reliability and liquidity to the market, NIT is the engine behind one of the largest natural gas trading hubs on the continent.

In 2014, an average of approximately 302 10^6 m³/d (10.7 Bcf/d) of gas was physically received on the NGTL System, although the commercial gas trading activity can exceed 1,500 10^6 m³/d (54 Bcf/d). NGTL stated that NIT provides a significant commercial market for volumes from the Tower Lake area.

NGTL submitted that in 2015, the North American market demand averaged 2,300 $10^6 m^3$/d (82 Bcf/d) and that demand is forecasted to increase to approximately 3,300 $10^6 m^3$/d (116 Bcf/d) by 2025, including projected LNG export demand. NGTL stated its view that the North American market is large and well-developed, and will be capable of absorbing the additional gas volumes associated with the Project. Table 3-2 below provides a breakdown of NGTL's forecast of Canadian and US natural gas demand increase between 2014 and 2025.

Table 3-2: NGTL's Forecast of (Canada/US) Natural Gas Demand[3]

Year[1]	LDC (Residential, Commercial)		Industrial		Electrical Generation		Other[2]		LNG Exports		Total[3]	
	$10^6 m^3$/d	Bcf/d	$10^6 m^3$/d	Bcf/d	$10^6 m^3$/d	Bcf/d	$10^6 m^3$/d	Bcf/d	$10^6 m^3$/d	Bcf/d	$10^6 m^3$/d	Bcf/d
2014	757	27	718	25	657	23	176	6	1	0	2,309	82
2025	743	26	863	30	969	34	330	12	390	14	3,296	116
+/-	-14	-1	146	5	312	11	154	5	389	14	987	34

Notes:

1. Annual average.
2. Other category includes LNG Facility fuel in the years they are assumed to be operational.
3. The numbers in this table may not add due to rounding.

Source: TransCanada

NGTL submitted that deliveries on the NGTL System serve demand in the intra-basin and export markets. NGTL forecast total intra-basin demand to increase from 132.28 10^6 m³/d (4.67 Bcf/d) in 2015 to 196.57 10^6 m³/d (6.94 Bcf/d) in 2025. Growth in the intra-basin demand is primarily associated with increased industrial demand in the oil sands and electric generation sectors. Natural gas demand associated with oil sands production (mineable, in situ and upgrading) is expected to increase by approximately 1.7 Bcf/d between 2015 and 2025.

NGTL advised that the primary export points on the NGTL System, where gas can be transported to downstream North American markets, are: Empress, McNeill, AB/BC border and LNG–BC Pacific Coast at potential future interconnects with proposed pipelines to the Pacific Coast. As outlined in Table 3-3, NGTL provided an export point demand forecast for each export point on the NGTL System.

[3] NGTL Response to NEB Information Request 1.22, Filing A4X6I6, PDF page 54 of 56.

Table 3-3: Export Demand Forecast Served by NGTL [4]

Year [1]	Empress		McNeill		Alberta/BC		Other		LNG	
	$10^6m^3/d$	Bcf/d	$10^6m^3/d$	Bcf/d	$10^6m^3/d$	Bcf/d	$10^6m^3/d$	Bcf/d	$10^6m^3/d$	Bcf/d
2016	52.79	1.86	53.26	1.88	57.37	2.03	5.92	0.21	0.00	0.00
2020	24.76	0.87	47.37	1.67	56.58	2.00	6.50	0.23	55.46	1.96
2025	24.08	0.85	31.48	1.11	39.38	1.39	6.57	0.23	138.82	4.90

Notes:

[1] Annual average

NGTL submitted that LNG exports from Canada's west coast are assumed to begin in the year 2019 and ramp up to 4.9 Bcf/d by the year 2025. The forecast assumed a total of six LNG liquefaction trains. NGTL emphasized that the facilities associated with the Project are not tied to the LNG export market. Rather, the Project is triggered by Firm Transportation – Receipt (FT-R) contracts that will come into service prior to the assumed 2019 LNG start date noted above and the need for the Project will not change if there are no LNG exports from Canada's west coast by 2025. NGTL confirmed that it has 4.09 Bcf/d of executed Firm Transportation – Delivery (FT-D) contracts at NGTL's LNG export points.

Views of Participants

FortisBC Energy Inc.

FEI questioned NGTL's evidence that sufficient demand exists for the volumes underpinning the Project, given the fact that NGTL's own forecast to 2025 (excluding LNG) shows that demand for natural gas served by the NGTL System will decline by approximately 300 MMcf/d.

Pacific Northwest Group

PNG submitted that NGTL has not provided evidence proving increased market demand elsewhere on the existing NGTL system. In the view of PNG, this indicates that the Project facilities are designed to connect a major new production source to the LNG export market via the proposed pipeline.

PNG noted NGTL's evidence that the only significant growth in contracted delivery volumes from the NGTL System is LNG BC Pacific Coast exports. With virtually no increase in delivery contracts on the NGTL system or at existing export points, PNG argued that the North American gas market has not committed to source any incremental supply from the NGTL System. Moreover, PNG argued that NGTL has not established any reasonable prospect of growth in gas demand off

[4] NGTL Response to NEB Information Request 1.22, Filing A4X6I6, PDF page 55 of 56.

the NGTL System to accommodate the anticipated incremental supply from the Towerbirch Project, absent growth in LNG Pacific Coast exports or Oil Sands deliveries.

Citing NGTL's evidence that it has executed contracts for a 1.7 Bcf/d increase in deliveries to an LNG Pacific Coast LNG project in 2022, PNG noted that this is the same year that NGTL projects reaching its peak design forecast receipt volume on the TLS extension. PNG submitted that a reasonable inference can be drawn from this fact that the two may be related.

Overall, PNG disagreed with NGTL's assertion that the Project facilities are separate and independent of west coast LNG Projects.

PNG conceded that given the scope limitations of the Application, it was not possible to obtain details of physical, operational and commercial integration between the Towerbirch Project facilities and the LNG Canada or other infrastructure chain. However, PNG argued designation of an export delivery point on or in the vicinity of the TLS should trigger a re-examination of the tolling methodology for those facilities.

Canadian Association of Petroleum Producers

CAPP argued that new supply is needed to offset production declines. While NGTL's evidence forecasts flat demand for its system deliveries absent LNG, it also sees the North American market for natural gas growing substantially. CAPP was of the view that the Board should not preclude the potential for a supply push to seek to capture some of that growth and make use of otherwise underutilized downstream pipeline capacity. To the extent that northeast British Columbia natural gas clears the market though price, consumers will derive considerable benefit from this enhanced competition.

Cutbank Ridge Partnership

CRP argued that PNG's speculation as to the future use of the volumes off the TLS should not be given much weight. CRP emphasized that NGTL could not have been more clear that there is no additional infrastructure required for the Project and that there is no planned export point to transport volumes of the TLS to LNG markets on the west coast. Moreover, CRP argued, there is no evidence that any part of the Project is contingent on connection to LNG markets or that any volumes associated with the Project are expected to be bound for LNG markets.

NGTL Reply

NGTL emphasized that the Project is completely separate and independent of any west coast LNG projects and that the North American gas market is capable of absorbing the incremental gas volumes associated with the Project. Given NGTL's 2025 forecast natural gas demand in North America of 116 Bcf/d, the Project represents approximately 0.7 per cent of the 2025 market demand. Moreover, new supply must be added to the NGTL System in order to make up for declining production even absent incremental demand. As existing production attached to NGTL naturally declines, the NGTL System needs to source new supply to fulfill aggregate delivery requirements. On average, production from existing wells in the WCSB is declining by 18 per cent each year, which results in approximately 2 Bcf/d of new supply being required each year to continue to meet the existing demand on the NGTL System. As a result, material new supply must be connected to the System each year.

In response to Information Requests, NGTL submitted that the delay of LNG export projects and oil sands related projects do not impact the need for the Project. If both LNG export facilities and major oil sands projects are canceled or delayed, the need for the Project will remain unchanged as area producers will continue to require access to the markets connected to the NGTL System. NGTL submitted that there are no new delivery points associated with the Project and that the Project is not linked to any particular FT-D contracts. All gas received on the Project will physically flow to existing FT–D Group 1, 2 and 3 locations elsewhere on the NGTL System.

3.3 Transportation Contracts

Views of NGTL

In the September 2015 Application, NGTL submitted that CRP has authorized it to incur costs or expenses related to the design, regulatory approval and construction of the Project under a receipt Product Expenditure Authorization (PEA). CRP is a partnership between Encana Corporation and Cutbank Dawson Gas Resources Ltd. (a wholly owned subsidiary of Mitsubishi Corporation). A PEA is an agreement between NGTL and a customer that prescribes the terms and conditions under which new facilities are constructed on the NGTL System to meet the customer's transportation service request. A PEA remains in effect throughout the project development and construction phases. Once the facilities are completed and put into service, the PEA terminates and transportation service begins under FT–R service contracts. PEA agreements ensure that the risk of a project being cancelled before being placed in service is borne by the customers driving that project, and not by the existing customers on the NGTL System. The PEA authorizes NGTL to incur costs or expenses up to a maximum of $468 million, plus applicable taxes. This amount represents the total cost of the Project, as initially calculated by NGTL. If the PEA is terminated, CRP is obligated to pay all the direct Project-related costs.

NGTL submitted that the Project is underpinned by eight-year contracts with CRP for 16,713 10^3 m^3/d (590 MMcf/d) of FT–R service. CRP executed contracts with NGTL for incremental FT-R at three new meter station locations in the Tower Lake area (Tower Lake, Dawson Creek North and Dawson Creek No. 2 meter stations) and one existing meter station that is connected to the existing Groundbirch Mainline (Tremblay No. 2 meter station).

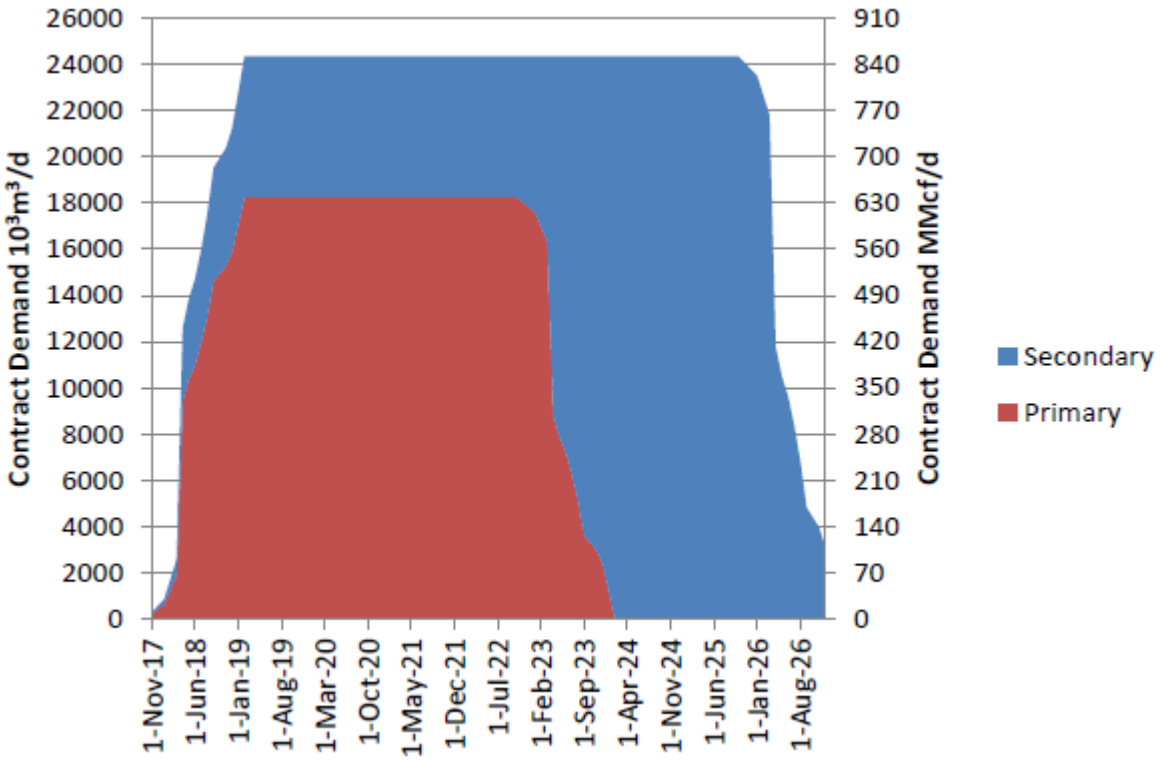
NGTL stated that CRP's contracted volume is divided into two parts. The first part consists of 75 per cent of the total volume, which is contracted for a five-year Primary Term plus a three-year Secondary Term. The remaining 25 per cent of the FT–R contracted volume has an eight-year Secondary Term. Primary and Secondary terms determine the ability for an FT–R contract to be transferred from one receipt point to another in accordance with the NGTL Tariff. Customers may not transfer their contracts from one receipt meter station to another during the Primary Term. During the Secondary Term, contracts may be transferred only to other receipt meter stations with existing uncontracted capacity elsewhere on the NGTL System. More specifically, contracts in secondary term can be transferred to other receipt meter stations within the Peace River Project Area provided there is existing capacity at the station. Transfers to meter stations outside the Peace River Project Area incur the addition of three years to the balance of the customer's secondary term.

On 15 January 2016, NGTL filed Additional Written Evidence informing the Board that since the filing of the September 2015 Application, NGTL had executed contracts with five new customers for an additional 7,625.3 10^3 m^3/d (269 MMcf/d) of incremental FT-R Service at receipt locations on the Groundbirch Mainline. Four new customers have executed PEAs and associated agreements for FT-R service and one new customer has executed an FT-R service agreement. NGTL indicated that two new receipt meter stations had been added to the scope of the Project (Dawson Creek East Receipt Meter Station and Groundbirch East Receipt Meter Station Expansion). NGTL submitted that both meter stations are located along the existing Groundbirch Mainline and are required to meet incremental FT-R contracts for the receipt of sweet natural gas on the NGTL system.

NGTL stated that the terms and conditions of the executed PEAs for the new customers are consistent with the other Towerbirch PEAs. Service attributes in the FT-R contracts with CRP as well as the additional five unnamed customers are consistent with the terms of FT-R service described in the NGTL Tariff. The duration and structure of the FT-R agreements with all six customers are also consistent with NGTL System requirements for the Peace River Project area.

NGTL submitted that in total, the Project is underpinned by contracts totaling 24,338.3 10^3 m^3/d (859 MMcf/d) of FT-R service (See Figure 3.2).

Figure 3-2: Contract Structure for the Project[5]



[5] NGTL Towerbirch Expansion Project, Additional Written Evidence, Section 2, Transportation, Figure 2-1: Updated Contract Structure for Towerbirch Expansion, Filing A4X6I4, PDF page 14 of 410.

Views of Participants

FortisBC Energy Inc.

FEI submitted that the contract terms underpinning the Project facilities are inappropriate. Primarily, expected receipts on the TLS do not exceed 590 MMcf/d, which is well below the 850 MMcf/d capability of the pipe. Moreover, shippers using the Project facilities are only obligated to pay for 75 per cent of the contracted volume for a five year term, because they have an immediate option to move 25 per cent of their firm capacity to other receipt points on the NGTL System and have the option to move all of their firm receipt capacity elsewhere after five years.

FEI submitted that the contractual commitments made by shippers to the Project are too weak, because the contract terms shift utilization risk to other shippers on the System. Utilization risk is placed on existing shippers immediately for a material portion of the capacity and for all of it after five years. FEI submitted that longer and stronger contract terms would provide a better test for determining if new facilities are in fact needed for the long-term and help guard against overbuilding facilities.

Pacific Northwest Group

PNG submitted that based on NGTL's own forecast of future activity, the TLS is over-designed to transport higher volumes than contracted. PNG submitted that when facilities are designed to have capacity greater than the contracts for service and when the pipeline is making investments with a 30 to 40 year depreciable life based on the short-term primary (five years) and secondary (three or eight years) terms of the contracts, there is a high risk of underutilization. While these primary and secondary terms may be consistent with the minimum terms required in NGTL's Tariff, this fact does not mean that the Tariff provisions are adequate given the $158 million cost of the TLS extension. PNG argued that this creates significant doubt as to the long-term need for the Project.

In general, PNG submitted that NGTL's evidence is unreliable regarding why the Project facilities are needed, because the CRP, the five anonymous subscribing shippers and CAPP chose to file no evidence. Therefore, in PNG's view, the only evidence of the need for the Towerbirch section – the FT-R contracts – could not be tested in any meaningful way. Moreover, PNG argued that it was impossible to ascertain under what conditions CRP or the anonymous subscribing shippers may shift receipt volumes away from the Project facilities after the primary term and it was impossible to explore whether NIT represented the market of choice for those producers, or whether NIT is simply a market of convenience until a new export delivery point enables access to LNG markets.

Western Export Group

WEG argued that the five-year primary term for contracts underpinning only five per cent of the cost of service for the TLS is insufficient for the large financial commitment and cost burden imposed on other shippers. The short term of TLS FT-R contracts, combined with the new shippers' ability to move receipt points, places a disproportionate cost and utilization risk on existing shippers. WEG argued that NGTL could have asked for a longer-term contract to substantiate that CRP is sufficiently committed to the long term use of the TLS and appropriately bears the risk for the new facilities.

WEG also expressed concern that the Project is not underpinned by any incremental delivery contracts on the NGTL System. WEG submitted that the incremental volumes being transported on the TLS are to satisfy the need of the CRP to transport gas, rather than as a result of any need to meet aggregate demand on the existing NGTL System.

Cutbank Ridge Partnership

CRP emphasized that the Project is underpinned by FT-R contracts with six shippers. CRP agreed with NGTL's evidence that a vast majority of contracts are renewed well beyond the initial term in prolific and constrained supply areas like northeastern British Columbia. And even absent likely renewals, the supply available in the Project area would likely continue to be produced and transported through new FT-R or other contracts.

Reply of NGTL

NGTL submitted that the duration and structure of the FT-R transportation agreements with the five unnamed customers and CRP are the same that apply to FT-R service in other constrained areas on the NGTL System where new facilities are required, that they were not individually-negotiated, and that they are consistent with the provisions of Appendix E of the Tariff.

NGTL argued that the risk that contracts may not be renewed or may be transferred to other receipt locations during the secondary term is not unique to the Project and also applies to FT-R service elsewhere on the NGTL System. Moreover, the Project is being developed to serve a highly prolific and constrained area. In such areas, it has been NGTL's experience that a vast majority of contracts are renewed well beyond the initial term. For example, of the 4.3 Bcf/d of FT-R contracts eligible for renewal in the Peace River area between November 2014 and October 2016, 96 per cent have been renewed. In the unlikely event that firm contracts in the Project area are not renewed past original terms or are transferred to other receipt locations during the secondary term, NGTL expects that the vast supply available in the Project area will continue to be produced and continue to be received either through new FT-R contracts or under other services such as FT-P, STFT or IT-R[6], and will contribute to meeting the aggregate NGTL System requirements.

In response to WEG submissions that NGTL could have asked CRP for long-term contracts on the TLS, NGTL argued that its Tariff sets out the terms and conditions for service across the NGTL system. If WEG has concerns with NGTL's contracting practices or the Tariff itself, these matters should be addressed first through NGTL's TTFP, not in this proceeding. NGTL argued that these matters are beyond the scope of the Project facilities and are not relevant to the Board's adjudication of the Application.

NGTL submitted that in general, there is no regulatory standard or standard contract length for Canadian and North American natural gas pipeline operators in contracting for services that require additional facilities. Rather, pipelines generally seek contract terms that are appropriate and reflective of the specific circumstances in which the entities operate, including commercial, industry, regulatory and other factors.

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[6] Firm Transportation – Point to point (FT-P); Short Term Firm Transportation (STFT); Interruptible Transportation – Receipt (IT-R)

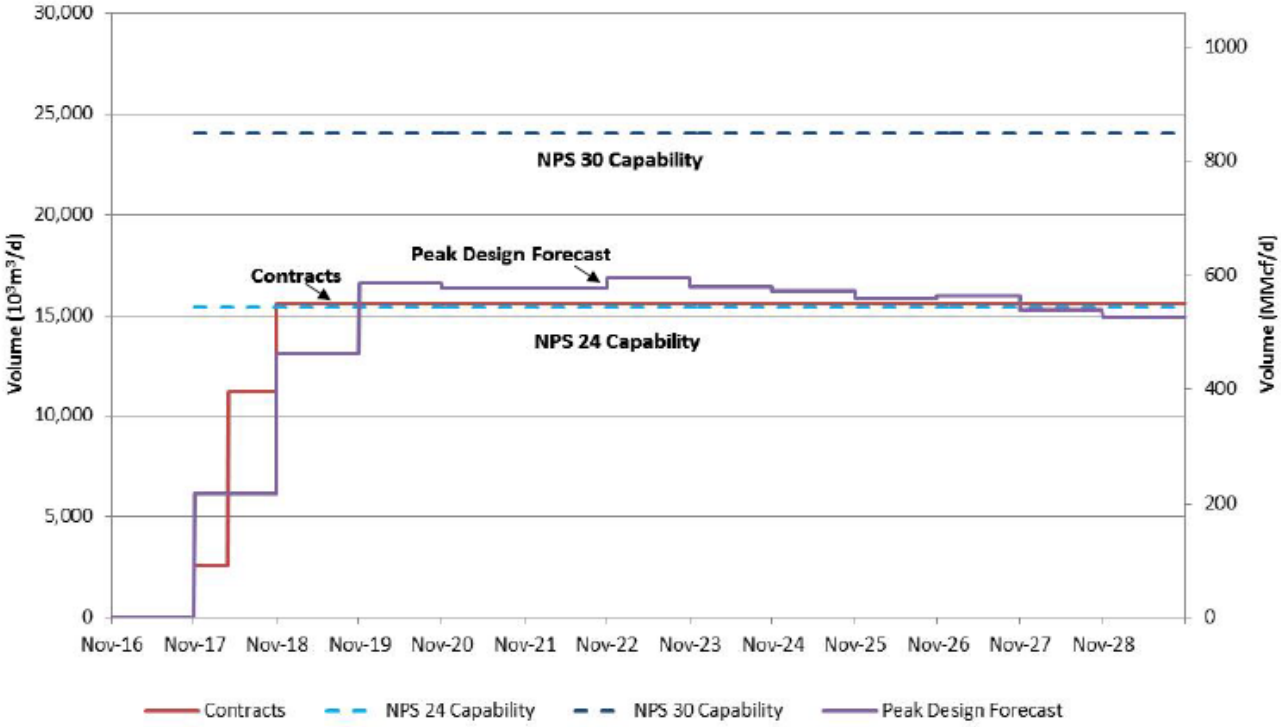
3.4 System Design

NGTL submitted that the two components of the Project were evaluated separately due to separate design requirements. The TLS, as an extension, was evaluated based on the design methodologies for extension facilities. The Groundbirch Mainline Loop (GBML Loop) was evaluated based on the Mainline Design methodologies as it is a mainline expansion to meet aggregate system requirements. Both of these analyses were completed in accordance with NGTL's Facilities Design Methodology Document (FDMD).

Tower Lake Section

NGTL considered both an NPS 24 and NPS 30 pipe size for the TLS. NGTL stated that the contracted capacity exceeded the design capacity of an NPS 24 pipe. The peak forecast for the TLS increased above the 15,500 $10^3m^3/d$ design capability of an NPS 24 pipe with 16,596 $10^3m^3/d$ in 2019/20, rising to a peak of 16,829 $10^3m^3/d$ in 2022/23 (See Figure 3-3).

Figure 3-3: TLS Design Forecast and Pipe Capabilities[7]



As an alternative to an NPS 30 pipe size, NGTL considered initially building an NPS 24 pipeline and subsequently looping a 12 km section from Dawson Creek North to the Groundbirch Mainline

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[7] See NGTL Towerbirch Expansion Project Application, Section 5, System Design, Figure 5-1: Tower Lake Section Peak Forecast and Pipe Capabilities, Filing A4T0Y1, PDF page 75 of 206. Design flows were generated by adjusting contracts with a balancing factor of 85 per cent. (See NGTL Towerbirch Application, Section 5.3.2, Flow-Through Design, Filing A72401-1, PDF page 77 of 206).

with an NPS 24 pipe when the forecast flows exceed the existing NPS 24 capability in 2019/2020. NGTL submitted that the Cumulative Present Value Cost of Service (CPVCOS) for this alternative would be $134 million, as compared with $117 million to build the NPS 30 pipe size in the first instance. Due to the lower CPVCOS, NGTL determined the NPS 30 pipe size is the appropriate design to meet contracts and forecasted flows for the TLS.

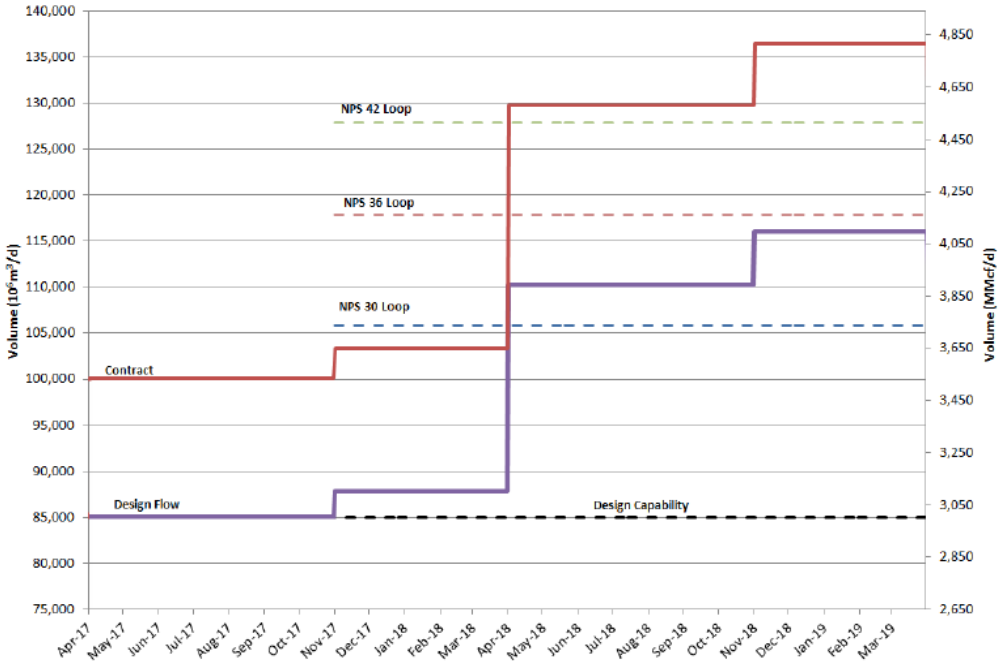
Groundbirch Mainline Loop

NGTL submitted that by November 2017 the design flows west of the Saddle Hills compressor station increase to 87,700 $10^3m^3/d$ (3.1 Bcf/d), exceeding the planned system capability of 85,000 $10^3m^3/d$ (3.0 Bcf/d) by approximately 2,700 $10^3m^3/d$ (100 MMcf/d). NGTL determined through hydraulic analysis of the design flows that the Groundbirch Mainline was unable to transport the required design flow due to pressure losses along its length. In order to overcome pressure losses, a loop of the Groundbirch Mainline was selected to increase the capability.

NGTL stated that an NPS 30 loop alternative would not meet expected design flow requirements. NGTL therefore considered both NPS 36 and NPS 42 pipe size for the GBML Loop. NGTL determined the NPS 36 loop, with the lower CPVCOS, is the appropriate design to meet the design flow requirements. With the addition of the proposed Project facilities, the capability west of the Saddle Hills compressor station increases to 117,800 $10^3m^3/d$ (4.1 Bcf/d), meeting the design flow requirements for November 2017 through to March 2019.

NGTL confirmed that the NPS 36 loop remains appropriate even with the incremental five new contracts as submitted in its Additional Written Evidence (See Figure 3-4).

Figure 3-4: Updated GBML Loop Design Forecast and Alternative Pipe Capabilities[8]



Views of Participants

Westcoast Energy Inc.

Westcoast submitted that the design capacity of the TLS exceeds the capacity that is required to transport the contract volumes. Using the 850 MMcf/d of design capacity of the proposed TLS, there is 670 MMcf/d of uncontracted capacity between the Tower Lake meter station and the Dawson Creek North/Dawson Creek North No. 2 meter stations and 300 MMcf/d of uncontracted capacity between the Dawson Creek North/Dawson Creek North No. 2 meter stations and the Tremblay No. 2 meter station.

Westcoast argued that the NPS 30 pipe is required only because NGTL has chosen to design the TLS to meet the peak receipt supply forecast as opposed to the contracted demand. NGTL could meet a contracted demand of approximately 550 MMcf/d with an NPS 24 pipe, which is $19 million cheaper than the NPS 30 pipeline. Moreover, if the TLS were being sized just for the contracts of 550 MMcf/d, an NPS 24 pipe would align almost perfectly with the contract demand.

Westcoast highlighted that 550 MMcf/d of contract demand on the proposed NPS 30 Tower Lakes Section represented only 65 per cent of total capacity. There would be even more uncontracted capacity on the TLS were Secondary Term contracted service to be transferred by CRP to receipt locations elsewhere on the NGTL System, or were contracts not to be renewed at the expiry of their eight-year terms.

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[8] See NGTL Towerbirch Expansion Project Additional Written Evidence, Section 3, System Design, Figure 3-2: Updated Loop Alternative Capabilities and Design Flows, Filing A4X6I4, PDF page 19 of 410. Design flows were generated by adjusting contracts with a balancing factor of 85 per cent. (See NGTL Towerbirch Application, Section 5.3.2, Flow-Through Design, Filing A72401-1, PDF page 77 of 206).

Westcoast submitted that NGTL's pipe design methodology and contracting practices create a risk of having unused capacity on the TLS in the short and long term, the cost of which would be shifted to existing NGTL shippers as a consequence of NGTL's proposed rolled-in toll treatment. Westcoast argued that the risk and cost of unused capacity should appropriately be borne by NGTL and/or the shipper on the TLS.

Cutbank Ridge Partnership

CRP submitted that the arguments of the opposing interveners that the design capacity of the TLS shifts risk of underutilization to existing shippers are unfounded. The capacity of the TLS reflects NGTL's standard and long-established practice of determining system design based on peak forecasted demand requirements. CRP argued that such a design philosophy has a number of benefits, including the avoidance of unnecessary environmental disturbance and cost when additional production is sought to be brought onto the system. In any event, CRP argued that the cost for the larger diameter NPS 30 pipeline proposed for the TLS is not significantly greater than for a smaller diameter NPS 24 pipeline. There is, therefore, little risk to existing shippers of underutilization of the TLS.

Reply of NGTL

NGTL disagreed with Westcoast's summary of uncontracted capacity on the TLS. NGTL submitted that capacity contracted at Dawson Creek North/Dawson Creek North No. 2 meter stations impacts available upstream capacity. NGTL stated that when considering contract quantities of 370 MMcf/d at Dawson Creek North/Dawson Creek North No. 2 and the 180 MMcf/d of contract quantity at the Tower Lake, this results in available capacity of 300 MMcf/d at the Tower Lake meter station. Any incremental flow beyond the 300 MMcf/d would result in the over pressuring of the Tower Lake meter station.

NGTL emphasized that the design of the TLS is based on NGTL's FDMD and that the NPS 30 pipe size is the appropriate design for the TLS. A continuous NPS 24 pipeline from the Tower Lake meter station to the Groundbirch Mainline would not meet forecasted peak design requirements. If a NPS 24 design was used, then in 2019, two years after construction of the Project, NGTL would require approximately 12 km of NPS 24 loop between the Dawson Creek North/North 2 meter stations and the Groundbirch Mainline to meet design flow requirements. This approach would not be cost effective or desired from an environmental disturbance and stakeholder relations perspective.

NGTL rejected Westcoast's suggestion that NGTL consider constructing a NPS 30 section from the interconnection with the Groundbirch Mainline to the Dawson Creek North/Dawson Creek North No. 2 meter stations and then a NPS 24 section up to the Tower Lake meter station (Telescoping Scenario). The Telescoping Scenario would cost approximately $5 million or 3 per cent less than the proposed design on a CPVCOS basis. However, NGTL argued that the Telescoping Scenario would result in additional physical, environmental and land impacts as well as require separate in-line inspections on two shorter pipeline segments rather than a single inline inspection on the proposed TLS design. NGTL submitted that the Telescoping Scenario is a sub-optimal design compared to the proposed TLS and dismissed it as a viable alternative.

3.5 Ability to Finance

Views of NGTL

NGTL estimated the capital cost for the Project, in 2017 dollars, at $439 million ($420 million in pipeline cost and $19 million in compression).

NGTL submitted that it would fund the construction cost of the Project with proceeds from its parent company, TransCanada Pipelines Limited (TransCanada) and that TransCanada may potentially access the debt capital markets on behalf of NGTL and pass through the financing on these terms and conditions. NGTL further commented that in 2015, TransCanada issued $750 million of long-term debt in the Canadian capital markets on behalf of NGTL.

NGTL submitted that TransCanada expects to fund its existing capital program in 2015 and beyond through a combination of cash flow from its consolidated operations, access to capital markets in Canada and the Unites States, and cash on hand. NGTL also submitted that as of 30 June 2015, TransCanada and other subsidiaries of TransCanada Corporation have approximately $6.2 billion of capacity on $7 billion of committed, revolving credit facilities. NGTL submitted that TransCanada has been assigned an "A-" level investment-grade credit rating by Moody's Investor Service, Inc. and Standard & Poor's Rating Services in the United States., and by DBRS Limited in Canada. Furthermore, NGTL indicated that NGTL's outstanding debt has also been assigned the equivalent investment-grade credit rating by DBRS Limited.

Views of Participants

No Participants expressed views regarding NGTL's ability to finance the Project.

Views of the Board

Supply

The Board finds that the evidence demonstrates that there is adequate supply to support the Project.

Markets

Given the integrated nature of the North American natural gas market, the Board finds that the 24,338.3 10^3 m^3/d (859 MMcf/d) of natural gas expected to flow on the Project can be readily absorbed by the highly competitive North American market. The Board heard extensively about the Montney formation holding one of the largest unconventional gas resources in North America and being one of the most economic formations in the WCSB. Combined with offsetting natural declines in the WCSB, the Board expects that once production from this Project enters the integrated market, it will find new consumers, or cause displacement of existing volumes elsewhere. Ultimately, the Board is of the view that prices and contracts will determine how the market absorbs the additional gas from this Project.

Taking into account the bidirectional nature of the Project, the proximity of proposed receipt points associated with LNG export projects in British Columbia and NGTL's executed agreements for LNG export point locations amounting to 4.09 Bcf/d by 2025, the Board is of the view that there could be a relationship between the Project and proposed LNG exports

in the future. For this reason, and those discussed in Chapter 5, the Board decided to implement a condition regarding the change in use of the Tower Lake Section.

The Board acknowledges NGTL's position that the Project is not tied to any particular FT-D contract and is not currently linked to any proposed LNG project in British Columbia. However, the Board notes that NGTL is not shipping its own product on the Project and therefore, NGTL cannot directly attest to longer term intentions with respect to the ultimate desired markets for the natural gas shipped on the Project. Unlike Progress Energy in the North Montney proceeding, shippers underpinning this Project, including CRP, chose not to file written evidence. Notwithstanding the Board's finding that the Project is economically feasible (detailed below), the Board is of the view that in general, shippers' perspectives provide unique insights on gas value chains and market choice.

Transportation Contracts

The Board is satisfied that FT-R contracts executed in support of the Project with CRP and the five additional shippers, including contract durations, are consistent with FT-R contract terms and conditions for other similarly situated projects on the NGTL System and with the NGTL Tariff.

The Board acknowledges Interveners' arguments requesting stricter contract terms. However, matters related to Tariff changes are outside of the scope of this proceeding.

Nevertheless, the Board is of the view that the risk of transfer of FT-R contract quantities to another receipt point following the five-year Primary Term and of de-contracting of FT-R contracts following the eight-year term Secondary Term is low given the recent pace of resource development in the Montney area, the competitiveness of the formation, and NGTL's evidence with respect to the experience of 2014-2016 FT-R contract renewals in the Peace River area. Should either scenario develop, it is likely that capacity of the Project will be utilized through new FT-R contracts or other NGTL services.

System Design

While both the NPS 24 (with subsequent looping) and NPS 30 pipe sizes could meet NGTL's contracts for the TLS and peak design forecast, the Board considers NGTL's decision to select the lower CPCVOS alternative to be reasonable. The Board also accepts NGTL's rejection of the Telescoping Scenario due to the additional physical, environmental and land impacts. Further consideration is detailed in Chapter 4 of this Report.

For the design of the GBML Loop, the Board accepts NGTL's decision to select the lower CPVOS alternative that meets expected design flow requirements resulting from the Project. Accordingly, the Board finds the NPS 36 pipe size to be appropriate.

Financing

The Board is satisfied that NGTL is capable of financing the Project through TransCanada and TransCanada Corporation, which has ample access to financial markets.

Economic Feasibility

In arriving at its decision on the Application, the Board is governed by the NEB Act which, under section 52, lists economic feasibility as one the factors that the Board may consider.

The Board has traditionally determined the economic feasibility of a pipeline by considering evidence on all relevant factors which impact the likelihood that the applied-for pipeline will be used at a reasonable level over its economic life and that the associated tolls will be paid. In view of the foregoing, the Board concludes that the Project will be economically feasible.

Chapter 4

Facilities and Emergency Response Matters

The Board uses a risk-informed lifecycle approach in requiring that NEB-regulated facilities and activities are safe and secure from their initial construction through to their abandonment. In consideration of the safety and security of proposed facilities, the Board assesses, at a conceptual level, whether the facilities are appropriately designed for the properties of the product being transported, the range of operating conditions, and the human and natural environment where the facilities would be located. Specific considerations include the company's approach to engineering design, integrity management, security, emergency preparedness, and health and safety.

When a company designs, constructs, operates or abandons a pipeline, it must do so in accordance with the NEB Act and its regulations, including the *National Energy Board Onshore Pipeline Regulations* (OPR), the commitments made during the hearing, and the conditions attached to any approval. The company is responsible for ensuring that the design, specifications, programs, manuals, procedures, measures and plans developed and implemented by the company are in accordance with the OPR which includes by reference Canadian Standards Association Z662-15 Oil and Gas Pipeline Systems (CSA Z662-15).

4.1 Design and Construction

4.1.1 General

Views of NGTL

The proposed GBML Loop (55 km of NPS 36) will tie-into the approved (but not yet constructed) Groundbirch Compressor Station, the Tremblay, Tremblay No. 2, and Tremblay No. 3 Receipt Meter Stations, as well as the existing Groundbirch Mainline and the proposed TLS through a series of direct crossovers. The TLS (32 km of NPS 30) will begin at a proposed valve site connecting to the proposed GBML Loop, and extend north to terminate at the proposed Tower Lake Receipt Meter Station. The Project will be designed to transport sweet natural gas at a maximum operating pressure (MOP) of 9930 kilopascals (kPa).

The Project will include a total of five receipt meter stations, three on the TLS (Tower Lake, Dawson Creek North, and Dawson Creek North No. 2 Receipt Meter Stations), and two along the existing Groundbirch Mainline (Dawson Creek East Receipt Meter Station, and Groundbirch East Receipt Meter Station Expansion). Additionally, there will be interconnections along the pipeline, including tie-ins and crossovers, pipeline block valves and crossover valves, launcher and receiver facilities for cleaning and in-line inspection (ILI), a cathodic protection (CP) system, an alternating current (AC) mitigation system as required where the pipeline is routed in proximity to power lines, and miscellaneous works such as pipeline warning signs, fencing, and aerial markers.

NGTL submitted that the Project will be designed, constructed and operated in accordance with the OPR, CSA Z662-15 and other industry standards that are applicable to the Project. NGTL stated that if there are any inconsistencies between the OPR and CSA Z662-15, the OPR will govern.

NGTL stated that the class location designation for the Project will meet the CSA criteria for Class 1 or 2 along the GBML Loop and the TLS.

NGTL is a wholly owned subsidiary of TransCanada Pipelines Limited (TransCanada) and TransCanada's corporate policies are applied in its operation of the NGTL system.

Views of Participants

Although no Participants expressed concerns with respect to the proposed codes, standards or the designated class locations for the Project, FortisBC Energy Inc. (FortisBC) and Westcoast Energy Inc. (Westcoast) raised concerns over the capacity provided on the TLS with the design for a NPS 30 pipe. Westcoast requested information on the unconstrained rates for a variety of pipe size scenarios including using an NPS 30 pipe diameter between Tremblay No. 2 and Dawson Creek North/Dawson Creek North No. 2 and an NPS 24 pipe diameter between Dawson Creek North/Dawson Creek North No. 2 and Tower Lake (Telescoping Scenario).

Reply of NGTL

In its Reply Evidence, NGTL stated that the design of the TLS is based on NGTL's Facility Design Methodology Document and the facilities were selected as the most efficient and practical solution for the design flow requirements. Furthermore, NGTL stated that it considered but rejected the Telescoping Scenario because it would result in additional physical impacts including the need for additional valves, valve sites and launcher and receiver facilities, which in turn would increase amount of maintenance, inspection and monitoring activities.

Views of the Board

The Board is satisfied that the general design of the Project is appropriate for the intended use, and will adhere to regulatory requirements. The Board is further satisfied that the Project would be designed, constructed, installed and operated in accordance with the OPR and the widely accepted CSA Z662-15 standard.

In regard to the size of the pipe on the TLS, the Board is of the view that NGTL's current proposal of using an NPS 30 pipe for the entire TLS is more appropriate than the suggested Telescoping Scenario, especially considering the additional integrity measures and monitoring that would have to be put in place to mitigate the additional risks created by this option. The Board also provided views on the system design in Section 3.5.

The Board imposes **Certificate Condition 2 (Appendix II)** and **Section 58 Order Condition 2 (Appendix III)** requiring NGTL to construct, install and operate the Project in accordance with the specifications, standards, and other information referred in its Application, or as otherwise agreed to during questioning or in its related submissions.

In addition, the Board also imposes **Certificate Condition 22 (Appendix II)**, requiring NGTL to provide to the Board geographic information system (GIS) data on the Section 52 Facilities in the form of ESRI® shapefiles.

4.1.2 Material Specifications

Views of NGTL

NGTL stated that the line pipe material will comprise of Grade 483 (X70) steel with wall thicknesses of various sizes ranging from 11.8 mm to 22.2 mm for the GBML Loop and 10.0 mm to 18.8 mm for the TLS. The final material grade(s) will meet or exceed applicable code requirements.

For the receipt meter stations, NGTL stated that the pipe material standard will be based on CSA Z245.1 and TransCanada specifications with Grade 359 or 241 materials. NGTL also stated that the launcher and receiver facilities installed on the pipeline sections will comprise of Grade 483 material for the pipe and barrel piping sections with varying wall thicknesses.

NGTL submitted that a Quality Management System (QMS) is in place to control and monitor the quality of materials throughout the lifecycle of this Project. NGTL stated that one of the quality objectives established for this Project is to ensure that all equipment and materials procured and installed are consistent with the engineering design. NGTL also stated that all purchased items will be obtained from suppliers that are pre-qualified, and the documentation received for each purchase will be reviewed by the applicable subject matter expert to ensure it meets Project requirements.

Views of Participants

No Participants expressed any concerns with the respect to NGTL's material specifications or QMS for the Project.

Views of the Board

The Board is satisfied that the selected pipe grades for the Project are appropriate and meet the requirements of CSA Z662-15. The Board notes that a multi-component QMS is in place to help ensure the materials are of consistent quality and adhere to purchase specifications, applicable codes and standards. The Board imposes **Certificate Condition 5** requiring NGTL to file with the Board a description of NGTL's Quality Management Plan for pipe and components greater than NPS 16, including NGTL's material/vendor qualification requirements, quality control and assurance programs.

4.1.3 Geotechnical Design

Views of NGTL

NGTL contracted Golder Associates to perform a focused geohazard assessment to obtain information on specific areas of potential concern along the pipeline route. Geohazards evaluated in the assessments included locations of potential landslides, seismic activity, liquefaction, debris flow, fluvial scour and significant slopes. NGTL noted that site-specific geohazard mitigation will be incorporated along the RoW based on the results of these assessments.

NGTL stated that mitigation measures for design and construction, where required, may include:

- micro re-routes to avoid unstable slopes;
- detailed geotechnical investigation to understand the nature of instability if it is not possible to avoid the area;
- implementation of slope stabilization measures, including horizontal drains and/or toe buttress, where applicable;
- implementation of erosion protection measures, particularly at toe areas of watercourse crossings;
- diligent effort during construction to avoid re-activation of old slides;
- selection of heavy wall pipe to accommodate additional strains potentially induced by slides where they cannot be avoided;
- selection of low-friction backfill, where required and applicable, to minimize the impact of potential hill slides; and
- selection of reduced depth of cover to minimize the impact of potential slides and to facilitate strain relief if necessary.

NGTL further stated that mitigation measures for the operation phase, if required, may include:

- detailed geotechnical investigation and engineering assessment to understand the nature of the slides and their potential impact to pipe integrity;
- monitoring of ground movement and/or pipe strains;
- assessment of pipeline deformation using in-line inspection data;
- implementation of slope stabilization measures, including horizontal drains and/or toe buttress, where applicable;
- strain relief, where necessary; and
- pipe realignment, including placing pipeline on surface with mechanisms to accommodate sliding of ground.

For the areas where organic and muskeg deposits, general soil units and drainage conditions were identified, NGTL submitted that it expects standard buoyancy-control measures will be used for the Project and these potential measures include continuous concrete coating, swamp (saddle) weights, river (bolt-on) weights and screw anchors.

NGTL confirmed that the Project will not traverse areas of permafrost and that seismic events were not considered a significant threat to the integrity of the pipeline. NGTL committed to designing the Project to account for all anticipated ground conditions, and to make all effort to ensure that the Project will have a sustainable safe operation throughout the design life of the pipeline.

Views of Participants

No Participants expressed any concerns with respect to NGTL's geotechnical assessment or the proposed mitigation measures for the Project.

Saulteau and West Moberly listed concerns related to unstable banks on the Kiskatinaw River. However, these concerns are addressed in Section 4.1.5 Horizontal Directional Drilling section of this report.

Views of the Board

The Board is satisfied with NGTL's measures applied to the design, construction and operations phases of the Project to mitigate all the geohazards identified along the pipeline route and through the zones of muskeg and other organics. The Board notes NGTL's commitment to designing the Project to account for all potential ground conditions.

4.1.4 Depth of Cover

Views of NGTL

NGTL stated in the Application that the pipeline will generally have a minimum depth of cover of 0.9 m but the depth of cover will increase under certain circumstances, as follows:

- agricultural lands will have a minimum depth of cover of 1.2 m;
- valve site location will have a minimum depth of cover of 1.1 m;
- road crossings will have a minimum depth of cover of 1.5 m or as agreed to with the relevant statutory authority or third-party owner, whichever is greater;
- buried utility and foreign pipeline crossings, above or below the pipeline, will have a minimum clearance of 0.3 m or as agreed to with the third-party owner, whichever is greater; and
- watercourse crossings with defined beds and banks will have a minimum depth of cover of 1.8 m; increased depth of cover may be required at locations where there is a potential for scouring of the watercourse bed.

Views of Participants

The Canadian Association of Energy and Pipeline Landowner Associations (CAEPLA) and its member association, the South Peace Landowner Association (SPLA) expressed concern with NGTL's proposed minimum depth of cover of 1.2 m for agricultural lands and requested that NGTL undertake a greater depth of cover to accommodate current and future agricultural operations. However, negotiations were ongoing between CAEPLA/SPLA and NGTL throughout the hearing process and on 27 May 2016, CAEPLA/SPLA filed a letter advising the Board that CAEPLA/SPLA had resolved its issues related to the Project.

Reply of NGTL

In response to the concerns raised CAEPLA/SPLA, NGTL stated that the specified minimum depth of cover of 1.2 m for agricultural lands is consistent with other NGTL pipelines in the area and it takes into account standard farming practices and crossing of the RoW with typical farm equipment. NGTL also stated that it believes that the minimum 1.2 m depth of cover balances environmental disturbance and constructability without compromising safety. NGTL noted that its integrity, maintenance and operations programs include depth of cover confirmation, where site conditions indicate.

Views of the Board

The Board has reviewed the depth of cover information and is satisfied that the proposed design meets or exceeds CSA Z662-15 requirements. The Board is not aware of any terms

and conditions that NGTL and CAEPLA/SPLA may have agreed to regarding this Project; therefore, the Board recognizes that it is possible that an alternate depth of cover may have been agreed upon. Nevertheless, the Board is of the view that the proposed depth of cover is sufficient to accommodate conventional agricultural practices. The Board notes and is satisfied with NGTL's commitment to confirm the depth of cover through NGTL's integrity, maintenance and operations programs, where site conditions indicate.

4.1.5 Horizontal Directional Drilling

Views of NGTL

NGTL submitted that the pipeline route will intersect a total of 25 water crossings. NGTL considered trenchless crossing methods for watercourses with sensitive and/or high-value fisheries, (e.g., cold-water sport fish and SARA species), and/or with flows, water depths and channel widths that cannot be effectively isolated. The trenchless horizontal directional drilling (HDD) crossing method was proposed by NGTL at the following four crossings:

- Pouce Coupe River Crossing;
- Kiskatinaw River;
- Unnamed Creek within S.E. ¼ Sec 36-80-18-W6M; and
- Road 225, the swale, and Highway 97.

NGTL submitted that HDD will be the primary crossing method for the four watercourse crossings listed above with isolated open cut or relocated HDDs as the alternate crossing method. NGTL hired CCI Inc. (CCI) to design and evaluate the proposed HDD crossings. Preliminary geotechnical evaluations were provided for all the HDD crossings and the evaluations concluded that the proposed HDD crossings are considered feasible with low to medium risk, after the necessary mitigations are applied.

Views of Participants

Saulteau First Nations

Saulteau raised concerns about the impacts of the Project on the Kiskatinaw River. Specifically, Saulteau argued that the assumed bore/drill site is too close the edge of the Kiskatinaw River and surrounding wetlands. Saulteau requested to have the assumed bore/drill site moved away from the wetland/saturated soils area that lie west, and closer to Gate 1, as that would be the closest acceptable location to the Kiskatinaw River.

Saulteau recommended the Board include a condition requiring NGTL to commit to moving its drilling site northwest of its proposed location. Saulteau also recommended installing a steel gate to prevent access to sensitive areas around the site.

West Moberly First Nations

West Moberly expressed concern over the potential effects that constructions activities would have on the stability of the Kiskatinaw River and Pouce Coupe River watercourse valleys and walls. Further concerns were also expressed by West Moberly relating to the risks that frac-out events may have on surface water quality and fish habitat.

West Moberly recommended that the Board include a condition requiring NGTL to file with the Board, at least 60 days prior to commencing construction, a detailed drilling plan for the HDD watercourse crossings that accounts for site-specific factors in order to minimize the risk of frac-out and other drilling failures.

Reply of NGTL

In response to the concerns raised by Saulteau and West Moberly, NGTL noted that the HDD designs for the Kiskatinaw River and the Pouce Coupe River crossings account for the underlying geology of the land and based on the analysis conducted, the watercourse valley and walls would not be affected by the HDD.

Views of the Board

The Board notes the concerns of Saulteau about the impacts of the Project on the Kiskatinaw River, and the concerns of West Moberly regarding the stability of the Kiskatinaw River and Pouce Coupe River watercourse valleys and walls. However, without sound technical analysis from Saulteau and West Moberly to support the concerns raised, the Board is satisfied the Project would be constructed using accepted industry practices, and would comply with the requirements of the OPR and CSA Z662-15. The Board notes that the success of HDD installations for pipeline construction depends on accurate HDD feasibility assessments, proper design and planning, and actual conditions encountered during the execution of the HDD. The Board further acknowledges West Moberly's concerns regarding frac-out events. Accordingly, the Board imposes **Certificate Condition 18 (Appendix II)** requiring NGTL to file with the Board, prior to construction, detailed site-specific plans in accordance with Clause 6.2.11 of the CSA Z662-15. Further discussion regarding wetlands and sensitive areas is provided in Chapter 9.

4.1.6 Welding, Non-Destructive Examination and Pressure Testing

Views of NGTL

In the Application, NGTL stated that the joining program and weld non-destructive examination (NDE) will comply with the requirements of the OPR and CSA Z662-15. NGTL committed to use 100 per cent NDE coverage for all the high pressure gas piping designed to CSA Z662. NDE for facility piping will be done in accordance with TransCanada specifications TES-NDT-ADT, TES-NDT-RT, TES-NDT-VT, TES-MDT-MT and TES-NDT-UT2 which comply with the OPR and industry codes and standards.

In the Application, NGTL stated that the pipeline will be cleaned with pipeline inspection gauges (pigs) to remove construction debris, after which the pressure testing of the pipeline components will take place. NGTL also stated that pressure testing of the prefabricated components such as aboveground risers, valve assemblies and elbow fittings with associated piping will be conducted prior to arrival onsite. NGTL submitted that the prefabricated components will be tested in accordance with the pressure testing requirements in Clause 8 of CSA Z662-15. However, where possible, the facilities will also be pressure tested onsite in order to reduce the number of untested welds.

NGTL stated that it would only use water for hydrostatic testing but that depending on field conditions, a mixture of water and glycol or methanol might be used to avoid potential freezing of the test water. NGTL committed to disposing any hydrostatic medium other than pure water in accordance with the applicable regulations. NGTL also committed to preparing a hydrostatic test plan during detailed design and submit this plan to the Board prior to hydrostatic testing all pipeline sections. NGTL committed to provide the Board with a table listing the field welds that are not expected to be pressure tested and provide justification for each weld not pressure tested, as well as a plot plan showing the location of each untested weld before hydrostatic testing begins. NGTL noted that on the successful completion of hydrostatic testing, the pipeline will be prepared for commissioning and startup.

Views of Participants

No Participants expressed any concerns with the respect to the welding, NDE and pressure testing of the Project.

Views of the Board

The Board is satisfied that NGTL's proposed welding, non-destructive examination and pressure testing programs for the Project are appropriate as these programs will meet the requirements stated in CSA Z662-15 and the OPR. The Board notes NGTL's commitments to provide the Board with its hydrostatic test plan and information regarding the field welds that are not expected to be hydrostatically tested.

4.2 Operations - Pipeline Integrity

4.2.1 Control System and Overpressure Protection

Views of NGTL

NGTL stated that the NGTL System is monitored and controlled by the Operations Control Centre (OCC), a computer-based SCADA system that alerts the OCC operator of any changes in the pipeline system. The OCC is staffed 24 hours a day. Should the OCC become unavailable for any reason, a second fully functional, ready for service control centre, TransCanada Backup Control Centre will be used as backup.

NGTL submitted that the receipt meter stations proposed for the Project will be equipped with analyzers that continuously monitor the gas flow to ensure gas quality. If high levels of H_2S or H_2O are detected, NGTL stated that the analyzers will cause the station block valves to close automatically, isolating the station from the pipeline system. NGTL noted that these meter stations will also have containment capacity downstream to capture any off-spec gas that may flow through the station prior to the block valve closing, thereby preventing any off-spec gas from entering the mainline meaning that this gas could then be pulled back by the producer through the return meter run.

NGTL also stated that the primary pressure sources of the GBML Loop are the approved, but not yet constructed, Groundbirch Compressor Station (MOP of 9930 kPa) and the existing Saddle Hills Compressor Station (MOP of 9930 kPa), both of which have pressure control and overpressure protection (OPP) systems that meet CSA Z662-15 standards. On the TLS, NGTL submitted that the primary source of pressure is the proposed Tower Lake, Dawson Creek North and Dawson

Creek North No. 2 Receipt Meter Stations. NGTL stated that pressure control and OPP at its receipt meter stations are provided by the upstream customer. NGTL reviews the customer's OPP process and assesses for compliance with CSA Z662-15. NGTL committed that the metering station facilities associated with the Project would not be placed in service until the customer OPP information is checked and verified by a professional engineer. NGTL also stated that it has the ability to audit customer's maintenance records and conduct site visits, if necessary, in order to confirm compliance.

NGTL stated that the GBML Loop may be operated in bi-direction flow, as required by aggregate system needs, and confirmed that the effects of bi-directional flow were considered in the design of the Project.

NGTL stated that the actual pressure cycle spectrum will be monitored through NGTL's SCADA system to ensure the Project is operating within the design condition. If the pressure cycle spectrum changes, NGTL committed to perform fatigue assessment and adjust the IMP as appropriate.

NGTL confirmed that the MOP for all Project components is 9930 kPa. The MOP of the existing NGTL System will not increase because of the Project.

Views of Participants

No Participants expressed any concerns with the respect to the control system or the OPP systems proposed for the Project.

Views of the Board

The Board is satisfied that the Project's proposed pressure control and OPP systems are appropriate and would meet the requirements of the OPR and CSA Z662-15. The Board notes NGTL's commitment not to place the metering station facilities associated with the Project in service until the customer OPP information is checked and verified by a professional engineer. The Board included **Certificate Condition 17** (Appendix II) which requires NGTL to file confirmation that the pressure control and OPP provided at proposed metering stations in the Project comply with the requirements of CSA Z662-15, including Clause 4.18, and Clause 10.9.5.

4.2.2 Coating

Views of NGTL

NGTL stated that the buried piping would be primarily coated with fusion-bonded epoxy (FBE) and field girth welds would be protected with a liquid-applied coating. NGTL also stated that abrasion-resistant coating would be used where pipe is installed using HDD or other methods that could cause abrasion to the coating during installation. NGTL submitted that below-ground assembly piping will be protected with a liquid-applied coating while above-ground piping will be primed and painted.

In order to ensure that pipe and pipe coatings are not damaged during the lowering-in and backfill operations, NGTL stated that shielding or wood lagging methods might be used, as required.

Views of Participants

No Participants expressed any concerns with respect to NGTL's proposed coating for the Project.

Views of the Board

The Board is satisfied that NGTL has appropriately considered issues related to coating and integrity threats to the pipeline during construction and operation. The Board finds the coating measures to be appropriate for the Project.

4.2.3 Cathodic Protection

Views of NGTL

NGTL stated that in addition to the pipe coating, cathodic protection (CP) will be provided through impressed current CP systems, which may use existing or new CP systems. NGTL stated that the CP systems will include groundbeds and rectifiers as determined during detailed design, and be located at sites where a convenient source of electrical power exists. NGTL noted that sacrificial anodes may also be used at specific locations, as identified during detailed design. NGTL committed to installing CP test points, where required, along the pipeline and at road, foreign pipeline and utility crossings as this will allow the effectiveness of the operation of the CP system to be monitored through operations and demonstrates compliance to applicable code requirements. NGTL also stated that above-ground CP surveys may be employed as a threat management measure to identify areas of pipe coating damage.

Views of Participants

No Participants expressed any concerns with respect to NGTL's proposed CP systems for the Project.

Views of the Board

The Board is satisfied that NGTL's CP measures are appropriate for the Project. The Board notes NGTL's commitment that adequate monitoring of the CP system would be in place to ensure its effective operation.

4.2.4 Inline Inspection

Views of NGTL

NGTL stated that permanent launchers and receivers will be installed during construction on the GBML Loop and the TLS for the purpose of pipe cleaning and in-line inspections (ILI). On the GBML Loop, NGTL stated that the ILI facilities are designed for bi-directional flow conditions as the ILI tool can be launched or received at either facility.

During Project pre-commissioning, NGTL committed to using a high-resolution caliper ILI tool to inspect for dents or ovalities that may have been caused during the construction stage. NGTL also committed to performing a baseline magnetic flux leakage (MFL) and high-resolution caliper ILI in the first year of the Project's operation.

Views of Participants

No Participants expressed any concerns with respect to NGTL's ILI facilities and inspection plans.

Views of the Board

The Board is of the view that conducting baseline ILI assessments during the early stages of Project operation is an effective measure to assess the initial condition of a pipeline. Comparing this baseline data with subsequent ILI runs enhances a company's ability to identify and mitigate the potentially threatening changes to the integrity of the pipeline. The Board is satisfied that NGTL's ILI facilities and inspection plans are appropriate. The Board notes the NGTL's commitment to conduct ILI baseline assessments within the first year of the Project's operation.

4.2.5 Pipeline Maintenance Plan (PMP)

Views of NGTL

NGTL stated that coordinated risk-control measures encompassed in its overall pipeline maintenance plan include:

- monitoring via patrols, leak detection, and CP protection surveys, and monitoring of operating conditions, to detect the presence of hazards;
- prevention methods, such as CP, physical barriers, signs, and use of NGTL's Public Awareness Program, to protect against the likelihood of damage and failure;
- assessment methods, such as ILI, hydrostatic testing, and direct assessment, to determine the actual condition of the pipeline;
- remediation, such as recoating, pipeline repairing or replacing, and pressure de-rating, to correct a known pipeline condition issue; and
- mitigation methods, such as pressure de-rating, restricting access, and micro re-routing, to reduce the consequences of a failure.

Views of Participants

No Participants expressed any concerns with respect to NGTL's proposed PMP for the Project.

Views of the Board

The Board is of the view that NGTL's PMP is adequate, and includes programs that would reduce the probability of accidents occurring and the magnitude of any effects in the event of one.

4.2.6 Integrity Management Plan

Views of NGTL

NGTL stated TransCanada's management systems which include the Integrity Management Program (IMP), will apply to the entire lifecycle of the project. During operations, NGTL's IMP

uses coordinated risk-control measures designed to ensure all pipe assets are operated and managed to:

- minimize any safety impact on the public and employees
- minimize frequency and consequences of pipeline incidents, damage and failure
- minimize effects on the environment
- protect installed pipelines and facilities through effective security
- ensure compliance with regulatory requirements
- maintain service reliability

Views of Participants

No Participants expressed any concerns with respect to NGTL's proposed IMP.

Views of the Board

The Board notes the goals and objectives of NGTL's IMP and finds that NGTL's IMP for the Project is appropriate.

The primary goal of any IMP is to prevent leaks and ruptures caused by in-service degradation of a pipeline. The Board requires the companies it regulates to develop, implement and maintain an IMP that anticipates, prevents, manages and mitigates conditions that could adversely affect safety or the environment. The IMP is a continuous improvement process and is applied throughout the lifecycle of a Project.

4.3 Emergency Response, Safety and Security

Views of NGTL

NGTL stated that TransCanada's management systems will apply to the entire lifecycle of the Project, and consists of the Emergency Management Program, Integrity Management Program, Safety Management Program, Security Management Program and Environmental Protection Plan (EPP).

NGTL stated that the Project facilities will be incorporated into TransCanada's emergency management system and any related operating procedures and that TransCanada is accountable for emergency management for the NGTL System.

NGTL stated that during construction, the prime contractor will have overall responsibility for health and safety at the worksite, including:

- protecting the general public and the employees of NGTL, the prime contractor, subcontractors, suppliers, any other contractors and visitors;
- protecting and preserving NGTL's property and the property of all third parties on, along, adjacent to or near the site from damage resulting from performance of any work, and exercise suitable precautions necessary to prevent damage thereto;
- developing a site specific safety plan which outlines how the prime contractor will implement, measure and review its Health, Safety and Environment (HSE) processes on site;

- implementing all applicable health and safety laws and regulations including all orders, directives, codes, guidelines, permits, licenses and municipal by-laws;
- monitoring activities at the site to ensure that the health and safety system is functioning properly and providing records to verify that the health and safety system is functioning;
- developing a site-specific traffic management plan;
- developing an Emergency Response Plan (ERP); and
- developing a Project-specific safety inspection and audit program in conjunction with NGTL.

NGTL stated that it will develop a Safety Management Plan that provides the prime contractor with a necessary level of awareness of potential construction hazards associated with the Project. Additionally, NGTL stated that the Safety Management Plan outlines key safety guidelines for the prime contractor to consider when developing its site-specific safety plan so that a collaborative commitment to Project safety is achieved. Where required, NGTL will coordinate obtaining all safe work permits, and all personnel will be required to complete a contractor safety orientation before working on the worksite.

Before the Project components are put into operation, NGTL submitted that TransCanada will develop new emergency management plans or update existing emergency management plans to incorporate the proposed pipeline, pipeline loop and meter stations as required.

Once the Project components are placed into service, NGTL stated that TransCanada's Emergency Management System will be used to manage all emergency events associated with the Project.

NGTL also stated that TransCanada's Emergency Management System will meet the Board's expectations for emergency preparedness and response, as it governs all aspects of preparedness and response and it was developed in accordance with the NEB OPR (SOR/99-294), CSA Z731-03 (Emergency Preparedness and Response) and the NEB Emergency Procedures Manual (to All Oil and Gas Companies under the Jurisdiction of the National Energy Board and Interested Persons), dated 26 March, 2015.

NGTL noted that security management will be governed by TransCanada's corporate security policy and TransCanada Operating Procedures (TOPs), which adhere to CSA Z246.1 for security management, and includes the Security Threats TOP and another procedure specific to physical security and construction security**.**

Views of Participants

Northern Health Authority

Northern Health argued that NGTL's proposed mitigation would not be sufficient to mitigate health risks in the event of an accident or malfunction. Northern Health proposed the following four additional commitments in the event of a pipeline rupture or hazardous spill:

- design a communications strategy should water become contaminated;
- conduct a human-health risk assessment as part of NGTL's spill response;
- have commitment to long-term health assessment if impacts arise; and
- require NGTL to clarify its financial commitment post-spill.

Views of the Board

In the Board's view, public safety is paramount in the design, construction and operation of the proposed Project. While the Board finds that a pipeline such as the one proposed by NGTL can be built and operated safely, the Board acknowledges that risk cannot be completely eliminated. In accordance with the OPR, companies are required to develop, implement and maintain an emergency management program for all aspects of their operations that anticipates, prevents, manages and mitigates conditions during an emergency that could adversely affect property, the environment or the safety of workers or the public. In Letter and Order MO-006-2016 *Compelling Publication of Emergency Procedures Manuals*, the NEB required all regulated oil and gas pipeline companies to submit Emergency Procedures Manuals to the NEB, and to update them annually.

The Board is satisfied with the evidence submitted by NGTL with respect to safety and security. The Board is of the view that the measures proposed by NGTL to address safety, security and emergency preparedness and response are appropriate.

Chapter 5

Toll Principles and Methodology

In its Application, NGTL requested relief under Part IV of the NEB Act regarding its proposed tolling methodology for the Project. In assessing a proposed tolling methodology, the Board considers whether the resulting tolls would be just and reasonable, and whether, under substantially similar circumstances and conditions with respect to all traffic of the same description carried over the same route, the tolls would be charged equally to all persons at the same rate. The Board must also be satisfied that a proposed tolling methodology would not result in any unjust discrimination in tolls, service or facilities.

In order to make these determinations, the Board considers all relevant factors specific to each project application.

5.1 Overview

5.1.1 Introduction

NGTL has determined that the Project is required to meet existing incremental Firm Transportation – Receipt (FT–R) contracts at existing and new receipt points located within the vicinity of the existing NGTL System. The Project consists of the GBML Loop and the TLS.

5.1.2 Part IV Relief Requested by NGTL

NGTL requested an order from the Board pursuant to Part IV of the NEB Act affirming that:

- prudently incurred costs required to provide service on the applied-for facilities will be included in the determination of the NGTL System revenue requirement; and
- the tolls for services on the applied-for facilities will be calculated using the same methodology used to calculate tolls for services on the NGTL System, as determined through Board order from time to time.

NGTL submitted that it is not requesting that the Board exclusively consider the prudency standard in determining whether costs for the Project are recoverable, either now or in the future. NGTL stated that it seeks affirmation that the Board will not unduly distinguish the proposed facilities from other facilities that comprise the existing integrated NGTL System, based on the existing circumstances.

NGTL confirmed that it is not seeking requested assurance of future cost recovery opportunity if fundamental risk materializes on the NGTL System. If such a risk materializes, NGTL stated that the specific impact on it as the owner of the facilities would in part depend on the magnitude of the risk realization, which would reflect the difference in actual costs, including cost of capital, and revenue that arises from the risk materialization.

5.1.3 NGTL's Current FT-R Tolling Methodology

The existing NGTL System toll methodology has developed and evolved over the past 15 years. It was considered by the Board in the RHW-1-2010 proceeding and approved through Order-TG-04-2010. NGTL described the NGTL System tolling methodology as a cost-based toll methodology that reflects the integrated nature of the NGTL System where all system facilities are collectively used to provide service.

NGTL submitted that it has two primary services: receipt service on the NGTL System and delivery service off the NGTL System. Both receipt and delivery services are equally required to facilitate transportation of gas on the NGTL System. In recognition of this equal relationship between receipt and delivery services, NGTL explained that the toll methodology provides for a 50/50 allocation in the transmission revenue requirement between receipt and delivery services. NGTL added that diameter is a major factor in determining the unit cost of transportation as the rate at which the pipe capacity increases is greater than the rate that cost increases with increasing pipe diameter. Therefore, NGTL stated that its algorithm uses a Unit Cost Index to reflect the role of pipe diameter as a cost driver.

NGTL provided that the Unit Cost Index is a comprehensive determination of the relative unit cost for transportation for various pipe diameters, incorporating economies of scale derived from historical acquisition costs for each pipe size. The algorithm utilizes the path attributes of distance and diameter from individual receipt points to the major Group 1 delivery points. The combination of the receipt path distance and the Unit Cost Index determines the relative pricing determination for each receipt point. The relative prices for each receipt point using the path distance and Unit Cost Index are characterized as the unconstrained rates. NGTL stated that the unconstrained rates are then constrained by a plus or minus eight cents per Mcf floor and ceiling price, applied from the average receipt rate.

5.2 Project Costs

5.2.1 Estimated Capital Costs

Views of NGTL

In its Application, NGTL estimated the capital cost for the project facilities to be $452 Million and the metering costs to be $18 Million in 2017 dollars. NGTL provided a refined estimate of the capital costs for the Project facilities in its AWE. In addition to including two more receipt meter stations, the pipeline and original metering components of the cost estimate altered from a Class 5 estimate, with an expected accuracy range of -20 per cent / +30 per cent, to a Class 4 estimate, with an expected accuracy range of -15 per cent / +20 per cent. The estimate classification system used by NGTL is based on the Association for the Advancement of Cost Engineering International. The refinement of the pipeline and metering component of the estimate resulted in a decrease in the estimated Project cost from $470 million to $439 million as seen in Table 5-1.

Table 5-1: Updated Estimated Capital Costs (2017$)

Component	As Filed Capital Cost ($ million)	Revised AWE Capital Cost ($ million)
Pipeline (Class 4) Metering (Class 4) - Tower Lake Receipt Meter Station - Dawson Creek North Meter Station - Dawson Creek North No. 2 Meter Station	470	432
Additional Metering (Class 5) Dawson Creek East Receipt Meter Station Groundbirch East Expansion		7
TOTAL PROJECT COST	**470**	**439**

Table 5-2: Updated Estimated Capital Costs by Project Component (2017$)

	TLS ($ Millions)	GBML Loop ($ Millions)	TOTAL ($ Millions)
Pipeline	146	274	**420**
Metering	12	7	**19**
Total	158	281	**439**

Views of Participants

No Participants expressed any concerns with respect to the estimated capital costs of the Project.

5.2.2 Cost of Service Parameters

Views of NGTL

In its Application, NGTL concluded that the overall impact of the Project on the existing cost of service (COS) for the NGTL System is evaluated using the economic parameters shown in Table 5-3.

Table 5-3: COS Parameters

Parameters	Value (%)
Return on Equity	10.10
Deemed Common Equity	40.0
Return on Debt	6.31
Income Tax Rate	25.0
OM&A as a Percentage of Capital	1.0
Municipal Tax as a Percentage of Capital	0.5
Depreciation Rates	
Pipeline	2.59
Meter Stations	5.12
Escalation Rate for OM&A and Municipal	2.0

NGTL stated that the Operations Maintenance and Administrative (OM&A) cost estimate of one per cent of capital is reasonable based on historic data which shows direct facility-related operating expenses have been approximately one per cent of the Gross Plant in Service for its System. NGTL has further escalated the OM&A cost estimate by two per cent per year to account for inflation over the analysis period.

Views of Participants

No Participants expressed any concerns with respect to the COS parameters.

5.2.3 Cost of Service

Views of NGTL

NGTL stated that the expected increase in the NGTL System revenue requirement as a result of the Project, which includes both the GBML Loop and the TLS, is approximately $50.9 million in 2018 as seen in Table 5-4.

NGTL submitted that the payment of FT-R tolls by shippers with receipts solely on TLS will result in annual revenues of approximately $54.5 million annually which is about three times the $18.4 million incremental COS associated with the TLS facilities. NGTL further explained that revenues generated from FT-R contracts on the TLS will be sufficient to cover the entire COS associated with the TLS and make an annual contribution to the rest of the NGTL System of approximately $36.1 million. NGTL indicated that gas received on the TLS will contribute to reducing tolls on the rest of the NGTL System and specified that these figures do not take into consideration any indirect revenues that will result from the ultimate delivery of the volumes received on the TLS.

Table 5-4: Updated COS for the Project facilities ($000s)

Proposed Facilities	2017	2018	2019	2020	2021
Month in Service	November				
Project Capital Cost (2015$)	438,581				
Average Incremental Rate Base	72,170	431,056	419,227	407,399	395,571
OM&A	746	4,563	4,654	4,747	4,842
Depreciation	1,973	11,836	11,836	11,836	11,836
Municipal Taxes	373	2,281	2,327	2,374	2,421
Return	5,648	33,734	32,809	31,883	30,957
Income Tax	(4220)	(1478)	(739)	(72)	530
Total COS	**4,519**	**50,936**	**50,887**	**50,768**	**50,586**

NGTL provided annual revenues for each of the receipt meter stations on the TLS which is comprised of the Tower Lake, Dawson Creek North and Dawson Creek North No. 2 receipt points.

NGTL submitted that the annual revenues are premised on the capacity currently contracted on the TLS. Whether the additional 300 MMcf/d of capacity available on the TLS is contracted in future or not, NGTL stated that shippers will derive the benefits of lower tolls across the system. NGTL

added that there is also a potential for additional benefit if NGTL is able to execute additional receipt contracts on the TLS or if additional volumes flow under interruptible service.

Views of Participants

Westcoast Energy Inc.

Westcoast stated that, in 2019, the incremental revenue from the TLS FT-R contracts would be $1.06 million and the COS of the TLS would be $18.48 million. For the period 2017 through 2026 (the duration of the contracts on the TLS), Westcoast stated that the cumulative incremental revenue from the TLS FT-R contracts would be $8.26 million compared to a cumulative COS of the TLS of $165.3 million. Westcoast stated that under this analysis, CRP would only be paying about five per cent of the COS of the TLS and would be receiving a significant subsidy from shippers on the existing NGTL System. Westcoast submitted that, were the FT-R service of 550 MMcf/d (which is currently contracted on the TLS) contracted at the Tremblay No. 2 Meter Station it would result in annual revenues of $53.6 million.

Dr. Cicchetti, Westcoast's expert witness, supported Westcoast's view and added that the relevant comparison to consider is the incremental revenue the TLS contracts generate versus the incremental COS of the TLS. Dr. Cicchetti stated that from 2017 through 2026, the cumulative incremental revenue with primary and secondary terms is $8.26 million, with the primary portion equal to $3.94 million and the secondary portion equal to $4.32 million. Dr. Cicchetti added that the cumulative incremental COS from 2017 through 2026 is much greater and equals $165.30 million. Dr. Cicchetti explained that the significant under-recovery would be assigned to other NGTL shippers.

Dr. Cicchetti calculated that if NGTL allocated the annual revenue of $54.5 million first to the TLS, then there is a $17.5 million shortfall in the annual contribution to the COS of the rest of the NGTL System (i.e., remaining revenue of $36.1 million from the TLS contracts after deducting the TLS COS, as compared to the $53.6 million that would be contributed by comparable Tremblay No. 2 contracts). Conversely, Dr. Cicchetti also explained that if NGTL wishes to allocate the annual revenue of $54.5 million as a contribution to the rest of the NGTL System, then there is a shortfall of $17.5 million in the annual COS of the TLS (i.e., remaining revenue of $0.9 million from the TLS contracts after deducting the contribution to the existing NGTL system, as compared to the TLS revenue requirement of $18.4 million). Looked at either way, Dr. Cicchetti was of the view that NGTL's proposed tolling of the TLS results in cross-subsidization.

FortisBC Energy Inc.

Fortis submitted that shippers using the Project facilities will not pay a material additional amount for their use of the new facilities, especially on the TLS. Fortis stated that existing shippers of the NGTL system will provide a substantial subsidy to new shippers using the Project facilities, particularly to shippers using the TLS.

Dr. Makholm, Fortis' expert witness, stated that the result of the application of the NGTL Alberta System toll methodology, rather than stand-alone toll methodology, is an $18.47 million cross-subsidy not paid by users of the facilities.

Pacific Northwest Group

The PNG argued that the revenues generated by FT-R contracts on the extension would not satisfy the cost- based/ user-pay principle.

In its argument, the PNG agreed with Dr. Cicchetti's calculation and submitted that the difference the incremental COS ($165.30 million) for the TLS extension from 2017 through 2026 and the incremental revenues ($8.26 million) from the TLS extension over the same period will result in a shortfall of approximately $157 million. The PNG further argued that $157 million shortfall would be further exacerbated if a new export delivery point were established on or in the vicinity of the Groundbirch Mainline (e.g., to connect to TransCanada Pipelines Ltd.'s proposed Coastal Gas Link Pipeline Project (CGL), Merrick Mainline or Prince Rupert Gas Transmission Pipeline Project (PRGT). PNG argued that although a modest level of cross-subsidization from other shippers may be acceptable where there is clearly joint use of shared facilities, cross-subsidization is far more unacceptable when it involves much more than $150 million dollars over the first ten years to cover the costs of a facility used by a single shipper.

Western Expert Group

WEG argued that it is inappropriate, and in violation of cost-based/user-pay principles that existing shippers will pay 95 per cent of the costs of the TLS, while a new shipper only commits to pay what amounts to approximately five per cent of the COS on the TLS. WEG submitted that this is especially egregious because the one shipper paying the least enjoys all or substantially all of the benefits and capacity on any newly constructed TLS with no further committed cost or risk responsibility after the five-year primary term of its FT-R contract.

Canadian Association of Petroleum Producers

CAPP argued that the Project has contractual commitments consistent with the NGTL requirements for commercial support in an area of constrained capacity. CAPP submitted that these contracts will produce revenues that substantially exceed the COS of the Project and make a positive contribution to the NGTL system by reducing tolls for all shippers. CAPP argued that the magnitude of the economically recoverable resource and the related supply growth will ensure the long term utilization of the Project facilities.

Cutbank Ridge Partnership

CRP argued that it is overly simplistic to suggest that tolls on the TLS must align exactly with cost because, as confirmed by the Board in NEB decision RH-4-86, no toll will be absolutely cost-based and a toll does not have to precisely and completely reflect all expenditures related to a particular service over a precise distance to comply with the cost-causation principle. CRP argued that a requirement that tolls align exactly with cost would also discount the real benefits that would be received by existing shippers on the NGTL System by virtue of the TLS or the Project as a whole.

Reply of NGTL

NGTL acknowledged that cost causation is an important tolling principle and argued that at its core, this principle is about the appropriate allocation of costs and benefits to both new and existing shippers. In addition to the revenue the Project will generate, NGTL submitted that the additional

access to supply, the likelihood of indirect delivery revenue, and lower system tolls are all benefits to the NGTL System the Board should consider.

NGTL argued that the incremental annual revenues from the FT-R contracts associated with the Project will exceed $90 million, more than $40 million over and above the incremental COS of the Project. NGTL stated that these calculations are conservative because they do not include any indirect delivery revenues. NGTL argued that taken together with integration and nature of service, this demonstrates that rolling- in the costs of the Project to the existing NGTL System will produce no unreasonable cross-subsidization of the Project by existing NGTL System shippers. Mr. Reed, NGTL's expert witness, stated that the total contract demand of the FT-R contracts on the Project facilities is expected to generate revenue of approximately $92 million per year when fully on-line in 2020, which compares to an incremental revenue requirement associated with the proposed facilities at that time of approximately $51 million.

5.3 Proposed Tolling Methodology and Toll Impacts of the Project facilities

Views of NGTL

NGTL used the estimated capital cost of the Project and the resulting incremental COS together with the incremental receipt contracts to assess the Project's toll impacts.

Toll Impacts of Proposed Methodology

NGTL proposes to roll the cost of the Project facilities into the rate base of the NGTL System and to apply the existing toll methodology as described in Section 5.1 of the Report. NGTL stated that the toll methodology may change over time to adapt to changing NGTL System requirements.

NGTL stated that under a rolled-in tolling methodology, and the application of the existing NGTL rate design, the 3-year term FT-R station tolls on the TLS will range between 28.4¢/Mcf and 29.0¢/Mcf. (See Table 5-5)

Table 5-5: Estimated Towerbirch 3-Year Term FT-R Station Rates

2016 Interim Rates		
Proposed Receipt Meter Stations	**($/10³m³)**	**(¢/Mcf)**
Receipt Meters on the TLS		
Tower Lake	10.24	29.0
Dawson Creek North	10.04	28.4
Dawson Creek North No. 2	10.04	28.4
Receipt Meters on the GBML Loop		
Dawson Creek East	9.75	27.6
Groundbirch East	10.15	28.7

NGTL submitted that the Project is underpinned by contracts of 859 MMcf/d (24,338 10^3m^3/d) of FT-R service. Once all contracts are fully billable in 2019, NGTL estimates a resulting average full-path toll reduction of 1.78¢/Mcf (0.62$/$10^3m^3$) representing the net effects of increased COS,

receipt revenue and indirect delivery revenue. By 2021, the average full-path impact associated with the Project is a reduction of approximately 1.50¢/Mcf (0.53$/10³m³) as seen in Table 5-6.

Table 5-6: COS and Toll Impact of the Project

Project Details	2017	2018	2019	2020	2021
Incremental COS ($Millions)	4.5	50.9	50.9	50.8	50.6
Incremental Receipt Contract Demand (MMcf/d)	3	473	854	859	859
Associated Indirect Delivery Quantities (MMcf/d)	2	355	641	644	644
Illustrative Toll Impact (cents/Mcf/d)					
Average Receipt Toll Impact Due To COS	0.06	0.60	0.53	0.48	0.48
Average Receipt Toll Impact Due To Receipt Contract Demand	(0.01)	(1.16)	(1.73)	(1.52)	(1.53)
Cumulative Average Receipt Toll Impact	**0.05**	**(0.56)**	**(1.20)**	**(1.04)**	**(1.05)**
Average Delivery Toll Impact Due To COS	0.05	0.58	0.50	0.45	0.45
Average Delivery Toll Impact Due To Indirect Delivery Quantities	0.00	(0.74)	(1.08)	(0.88)	(0.90)
Cumulative Average Delivery Toll Impact	**0.05**	**(0.16)**	**(0.58)**	**(0.43)**	**(0.45)**
Cumulative Full Path Toll Impact	**0.10**	**(0.72)**	**(1.78)**	**(1.47)**	**(1.50)**
Illustrative Toll Impact $10³m³/d					
Average Receipt Toll Impact Due To COS	0.02	0.21	0.19	0.17	0.17
Average Receipt Toll Impact Due To Receipt Contract Demand	0.00	(0.41)	(0.61)	(0.54)	(0.54)
Cumulative Average Receipt Toll Impact	**0.02**	**(0.20)**	**(0.42)**	**(0.37)**	**(0.37)**
Average Delivery Toll Impact Due To COS	0.02	0.20	0.18	0.16	0.16
Average Delivery Toll Impact Due To Indirect Delivery Quantities	0.00	(0.26)	(0.38)	(0.31)	(0.32)
Cumulative Average Delivery Toll Impact	**0.02**	**(0.06)**	**(0.20)**	**(0.15)**	**(0.16)**
Cumulative Full Path Toll Impact	**0.04**	**(0.26)**	**(0.62)**	**(0.52)**	**(0.53)**

Note:
1. Contract demand quantities are annualized averages.
2. Full path toll impact is the total of average receipt and average delivery toll impacts.

NGTL stated that the receipt meter stations located on the existing Groundbirch Mainline are currently unconstrained by the ceiling, and the new receipt stations located on the Tower Lake segment are also expected to be tolled below the ceiling. As such, and in contrast to GH-001-2012,

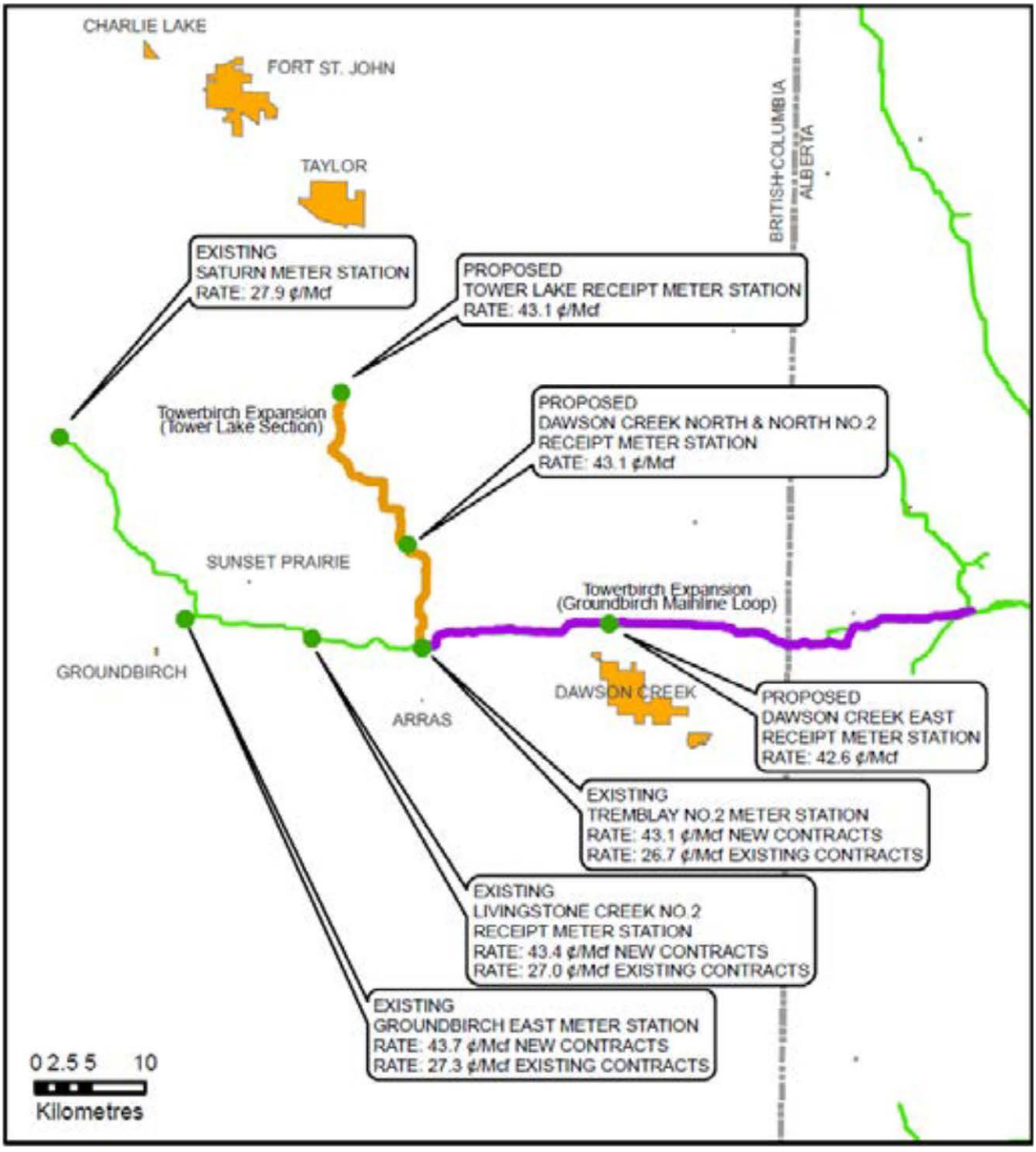
the applicable rates at these receipt stations will demonstrate the same distance sensitivity in tolls that applies elsewhere on the system at unconstrained locations.

Toll Impacts of Stand-Alone tolling methodology for the TLS

NGTL also provided an estimate of stand-alone tolls to be approximately 9.2¢/Mcf for gas received at the meter stations on the TLS. NGTL submitted that the stand-alone toll was calculated by dividing the estimated annual COS on the TLS by the applicable contract demand quantity. This calculation is based on the full contract demand quantity of 550 MMcf/d for the Tower Lake, Dawson Creek North and Dawson Creek North No.2 Meter Stations. The annual COS for 2020 is estimated at approximately $18.4 million using a capital cost estimate of $158 million for the TLS.

NGTL submitted that the meter stations located on the TLS are located closer to the existing Tremblay No. 2 Meter Station than other meter stations on the Groundbirch Mainline and Saturn Extension. However, applying a stand-alone methodology for the TLS would result in these stations paying a higher toll than the toll that applied at more distant locations as seen in Figure5-1. For example, the FT-R toll at the existing Saturn Meter Station, which is located 47 km from the Tremblay No. 2 Meter Station, would be approximately 8.0¢/Mcf less than the effective toll that would apply at the Dawson Creek North Meter Station, which is located 12 km from the Tremblay No. 2 Meter Station as seen Figure 5-1. NGTL submitted that these results demonstrate the appropriateness of applying the NGTL System rate design (as it exists from time to time) to the TLS, as it will ensure that similarly-situated shippers with respect to FT-R service on the integrated NGTL System pay similar rates and that no discrimination is made against shippers on the TLS relative to all other receipt shippers on the NGTL System.

Figure 5-1: Illustration of Resulting Tolls with Stand-alone Tolling for the TLS



5.3.1 NGTL's Proposed Tolling Methodology on the GBML Loop

NGTL proposes to roll the cost of the Project facilities, which includes the GBML Loop into the rate base of the NGTL System and to apply the existing toll methodology as discussed in Section 5.1.3.

Views of NGTL

NGTL submitted that the NGTL System tolling methodology is a cost-based toll methodology that reflects the integrated nature of the NGTL System where all system facilities are collectively used to provide service. As such, the capital costs associated with the Project will be added to the rate base of the NGTL System, and that rate base in its entirety and the prevailing toll design will be used as the basis for setting the revenue requirement and tolls over the entire NGTL System.

Views of Participants

Westcoast Energy Inc.

Westcoast is of the view that it is the aggregate demand of existing and new shippers that cause the need for the GBML Loop, and either the existing Groundbirch Mainline or the new facilities could be used to transport gas over the same route. Westcoast submitted that the costs of the GBML Loop should therefore be included in the same cost pool as the costs of the existing Groundbirch Mainline.

FortisBC Energy Inc.

Fortis submitted that the tolls for service on GBML Loop and the TLS should be established on an at risk basis until such time as the process to establish an appropriate toll methodology for use by NGTL in Northeast British Columbia is concluded. Fortis stated that the context of the at-risk approach is where the shippers and the pipeline company establish as between themselves the recovery of costs and division of risks associated with the new facilities. Fortis specified that an at-risk approach is similar to, but not necessarily identical to stand-alone tolling.

Specific to the GBML Loop, Fortis asserted that while it is unlikely that looping of the Groundbirch pipeline would be undertaken by a party other than NGTL, whether the loop of the Groundbirch pipeline is owned by NGTL, or owned by another party, it is not necessary for the tolls on the GBML Loop to be the same, or to be determined by the same methodology, as the tolls on the Groundbirch Mainline.

Fortis submitted that an at-risk approach would maintain and encourage competition in the construction of new natural gas facilities in Northeast British Columbia that connects gas production, not only between Westcoast and NGTL, but also for parties such as producers and other infrastructure participants.

Dr. Makholm submitted that the GBML Loop is a further expansion of NGTL's system in British Columbia intended to capture Northeast British Columbia supply at a toll that is well below cost. Dr. Makholm further argued that as such, the application of the NGTL Alberta System toll methodology to the GBML Loop does not reflect the cost-based/user- pay principle and represents a competitive problem in a concentrated origin market.

Pacific Northwest Group

The PNG submitted that in light of the current rolled-in tolling of the Groundbirch Mainline, it would be consistent to apply rolled-in tolling to the GBML Loop for the time being. However, to provide for the possibility of future changes in the tolling treatment of the Groundbirch Mainline and/or the GBML Loop, whether as a result of a new rate design or the Merrick Mainline, CGT or other facilities coming into service, the PNG submitted that the cost and direct revenues associated with the GBML Loop should be tracked in a separate cost pool in a manner similar to the North Montney Mainline Project Facilities.

Western Export Group

WEG submitted that it does not object to a potential rolled-in tolling treatment of the GBML Loop because WEG supports rolled- in tolls where a substantial potential shared use by new and existing customers together create the need for new facilities.

Canadian Association of Petroleum Producers

CAPP argued that tolling should be approved as proposed with a roll-in of Project costs. CAPP argued that the Board should not include conditions related to Issues 1 through 4 (found in Appendix I) other than the usual conditions applicable to an expansion that is to be tolled in accordance with the pipeline's established toll methodology.

Cutbank Ridge Partnership

CRP argued that it is appropriate to apply rolled-in tolling to the GBML Loop as requested by NGTL. CRP argued that stand-alone tolling is the exception and should only be applied when warranted under sections 62 and 67 of the NEB Act. In the case of the Project, CRP argued that stand-alone tolling would result in tolls which are unjust, unreasonable and unjustly discriminatory.

Reply of NGTL

NGTL argued that never has the Board found, or even suggested, that adherence to cost causation means that facilities must be tolled on a stand-alone basis. NGTL argued that the Project (including the GBML Loop) is fully integrated with the rest of the NGTL System, will not result in excessive cross-subsidization and will ensure that there is no unjust discrimination. As a result of all these factors, NGTL argued that the Board should approve its proposed toll treatment.

Mr. Reed added that there is nothing unique regarding the contractual commitments on, the use of, or the services provided on the GBML Loop that would suggest a tolling treatment other than rolled-in tolling is necessary. Mr. Reed argued that even Westcoast, which is a competitor of NGTL, agreed that the GBML Loop facilities should be tolled on a rolled-in basis, and that doing so will not affect competition.

5.3.2 NGTL's Proposed Tolling methodology for the TLS

NGTL proposes to roll in the costs of the TLS into the rate base of the NGTL System and to apply the existing toll methodology as discussed in Section 5.1.3

Views of Participants

Westcoast Energy Inc.

Westcoast argued that NGTL's proposed tolling methodology for the TLS would be inconsistent with the cost causation toll principle, would shift all of the cost and risk of unused capacity to shippers on the existing NGTL System and would subvert the competition to attract gas supply in Northeast British Columbia.

Westcoast argued that stand-alone tolling of the TLS would resolve the issue associated with the rolled-in tolling methodology by shifting the risk and cost of unused capacity to shippers on the existing NGTL System and would put NGTL on the same footing as its competitors.

Westcoast submitted that the TLS is not an expansion of the existing NGTL System, but is rather an extension, or lateral connecting gas supply to the existing NGTL System at the Tremblay No. 2 receipt point. Westcoast further submitted that it is the demand of CRP that is driving the need for the extension and therefore in order to adhere to the cost causation toll principle, CRP should bear the financial responsibility for the costs of connecting its gas supply in the Tower Lake area to the existing NGTL System at the Tremblay No. 2 receipt point.

Westcoast further submitted that the FT-R rates at the Tower Lake receipt Meter Station and at the Dawson Creek North/Dawson Creek North No. 2 receipt Meter Stations would only be respectively 0.9¢/Mcf and 0.3¢/Mcf higher than the FT-R rate at the Tremblay No. 2 Meter Station using the rolled-in tolling methodology; therefore, CRP would be paying less than a penny per Mcf to transport its gas on the TLS to the existing Groundbirch Mainline, despite the extra cost of $158 million to build the extension to meet CRP's transportation need. Westcoast stated that cost causation and cost accountability could be achieved by requiring NGTL to toll the TLS based on the establishment of a separate cost pool.

Westcoast noted that NGTL's Saturn toll is only 0.6¢/Mcf higher than the Groundbirch East toll, notwithstanding the 24 kilometer, $59 million extension that was required to connect Saturn to the existing Groundbirch pipeline and argued that this demonstrates that NGTL's existing tolling methodology does not adhere to the cost causation principle at existing NGTL receipt locations in Northeast British Columbia.

Westcoast submitted that requiring standalone tolls at TLS does not result in unjust discrimination because the TLS is in a different location that will go over a different route than the existing NGTL facilities.

Westcoast submitted if a competitor built the TLS, the price signal would be 9.2¢/Mcf and the risks would be internalized, whereas if NGTL builds the TLS, it can charge less than a penny per Mcf and the risks are borne by existing shippers. Therefore, Westcoast argued that NGTL's price signal is improper.

Dr. Cicchetti submitted that it is important to prevent harm to competition caused by a tilt of the playing field to favor a regulated pipeline that violates the principle of cost causation/user-pay in its tolls. Dr. Cicchetti further submitted that the risks of underutilization or oversizing would be assigned to other NGTL shippers, and not to NGTL or the one committed shipper on the TLS under a rolled-in tolling methodology. According to Dr. Cicchetti, within the context of the competitive

pipeline environment in Northeast British Columbia, stand-alone tolling would be appropriate for the TLS since a near-zero incremental toll on the TLS is not economically efficient and does not send the right price signal to shippers.

Dr. Cicchetti submitted that NGTL's proposed tolling will undermine competition and strand investments for other pipelines in the area because the tolls will be near zero and producers will have an overwhelming desire to use the TLS to access NGTL's downstream markets. Dr. Cicchetti further submitted that this would cause shippers to demand even more facilities to extend NGTL further into the producing regions of Northeast British Columbia that have existing competitive markets for producing, gathering, processing, and transporting gas out of Northeast British Columbia. No other pipeline could compete with NGTL's toll structure.

FortisBC Energy Inc.

Both Fortis and its expert witness, Dr. Makholm, stated that they are opposed to the use of the NGTL's toll methodology to set tolls for the Project. Fortis stated that the proposed toll methodology is not just and reasonable. Fortis submitted that the rolled-in tolling methodology allows NGTL to offer service at tolls that in Northeast British Columbia are unfair and anticompetitive. Fortis submitted that no competitor in Northeast British Columbia can offer service on a new 32 km NPS 30 pipeline, at a zero incremental toll, as NGTL does in respect of the TLS in this application.

Fortis further asserted that the toll information provided by NGTL in its calculation of stand-alone tolls, does not take into account the costs of the $281 million GBML Loop, which as NGTL contended is necessary to transport gas that will flow through the TLS. Fortis submitted that the result of what is being proposed is that existing shippers of the NGTL system will provide a substantial subsidy to new shippers using the Project facilities, and most clearly to shippers using the TLS.

Based on the evidence, Fortis argued that the Project should be tolled on an at-risk basis (as defined in Section 5.3.1) until such time as an alternative that is appropriate to the competitive Northeast British Columbia market is determined, either by way of NGTL bringing forward a solution that is approved by the Board, or by way of the inquiry recommended by Fortis.

Pacific Northwest Group

The PNG argued the Board should determine that stand-alone tolling is appropriate for the TLS. The PNG asserted that extending NGTL's rolled-in tolling and the current Receipt Service rate design model to the Project facilities would result in negative consequences including creating inequity and confusion regarding the inconsistent tolling models in effect in Northeast British Columbia.

The PNG stated that the approval of rolled-in tolling on the Project facilities would subvert meaningful competition in the connection and collection of new or replacement gas supply in Northeast British Columbia. The PNG added that it would also undermine Westcoast's ability to attract new gas supply, resulting in potential de-contracting and underutilization of existing facilities. PNG submitted that this would increase risk of stranding existing Board-regulated assets on the Westcoast system.

The PNG also submitted that rolled-in tolling would add significant costs and an undue risk of underutilization allocated entirely to NGTL's shippers and would require existing shippers on NGTL to provide an inappropriate subsidy to Project shippers. The PNG emphasized that a rolled-in tolling methodology could increase the risk of losing a long-term traditional market for Northeast British Columbia supply and strand existing assets on downstream pipelines, by reducing the availability of connected supplies at the Sumas Receipt Point.

The PNG submitted that the use of the Receipt Service rate design that would likely result in lower tolls for receipts from the Project facilities upon designation of a new FTD-1 delivery point, regardless of whether or not the new gas supply is intended for the incremental LNG export market, tilts the playing field even further and gives unfair inducement for current and future gas suppliers to connect to the NGTL system rather than the Westcoast system.

Western Export Group

WEG argued that the application of NGTL's existing toll methodology to the TLS would represent a significant cross-subsidy from existing NGTL shippers and the benefits of the TLS are disproportionately in favor of the new shipper on the TLS, with significantly limited benefits to existing NGTL Shippers. WEG argued that NGTL's proposal for rolled-in tolling of the TLS will result in costs and risks for the TLS being borne excessively and disproportionately by the existing NGTL shippers.

WEG argued that the increment in rates applicable to the TLS - over and above the receipt service at the Tremblay No. 2 receipt point, where the TLS connects to the existing NGTL System is between 0.3¢/Mcf and 0.9 ¢/Mcf which is at nearly no cost to the new shipper.

WEG requested that rolled-in tolling on the TLS be denied and that just and reasonable tolling consistent with cost-based/user-pay and economic efficiency principles be approved by the Board on the TLS, prior to any construction or operation thereof.

Canadian Association of Petroleum Producers

CAPP argued that based on the facts of this Project, tolling should be approved as proposed with a roll-in of Project costs in accordance with the cost-based/user-pay principle.

CAPP submitted that the revenues from the customers that have contractually supported the Project will contribute significant revenues that will more than pay the annual cost of service of the facilities and will reduce tolls for all shippers.

CAPP argued that the expansion shippers seek access to the NGTL System and to the NIT market and this engages the integrated NGTL System in terms that have been applied for decades: the nature of the service to be provided on a non-discriminatory basis, system operation, and system design. CAPP argued that it is discriminatory for a shipper group like WEG, to assert that a shipper should be treated differently if they are driven only by satisfying the need of a new shipper to access the market hub.

Cutbank Ridge Partnership

CRP argued that the TLS be tolled on a rolled-in basis and that requiring stand-alone tolls would unjustly discriminate against TLS shippers as compared to similarly situated shippers on the NGTL System.

CRP argued that there is no undue cross-subsidization associated with the TLS. Like tolls elsewhere on the NGTL System, tolls on the TLS reflect receipt point-specific pricing which ensures that it will pay for the use of TLS facilities. CRP argued that requiring NGTL to depart from the NGTL Toll Methodology and apply an at risk model while Westcoast continues to charge rolled-in tolls on its directly-competing Zones 3 and 4 would result in an unfair and undue advantage to Westcoast.

Blueberry River First Nations

Blueberry noted that the Project's role in facilitating development is evidenced by the keen interest of industry intervenors in this proceeding. Blueberry noted Fortis's position that the Project, and associated tolling methodology, has the potential to result in the construction of unnecessary facilities and the underutilization of Westcoast facilities. Blueberry stated that it is concerned that the proposed Project will result in the construction of redundant infrastructure, when existing infrastructure might fulfill the same purpose.

Commenters

Several commenters also submitted evidence on NGTL's tolling Methodology, with Black Swan Energy and Cambriam Energy Inc. indicating their support for rolled-in tolls on the project. Northwest Industrial Gas Users submitted that it did not oppose the project, but it opposed NGTL's rate treatment as in its view the rate treatment could have a broad negative impact on the natural gas market in the US Pacific Northwest.

Reply of NGTL

NGTL submitted that cost causation is an important tolling principle and that this principle is about the appropriate allocation of costs and benefits to both new and existing shippers. As a result, NGTL submitted that in addition to the revenue the Project will generate, the additional access to supply, the likelihood of indirect delivery revenue, and lower system tolls are all benefits to the System that should be considered.

NGTL did not agree with Westcoast, Fortis and PNG's argument that the difference between the FT-R toll at the Tower Lake receipt Meter Station and the existing Tremblay No. 2 receipt Meter Station, expected to be roughly 0.9 ¢/Mcf, creates cross-subsidization because it is less than the stand-alone toll for the TLS. NGTL argued that the application of NGTL's receipt pricing algorithm in the FT-R tolls for the Project, which includes distance sensitivity, is identical to that applied across the rest of the NGTL System. NGTL submitted that its tolling algorithm produces tolls that are more closely aligned with cost causation than postage stamp tolling, which is the current tolling methodology on Westcoast's T-North system.

NGTL stated that the difference between the receipt tolls at meter stations on the TLS and at the Tremblay No. 2 Meter Station is not an indication of cross-subsidization; rather, it is reflective of

the distance sensitivity of the NGTL System and of the small difference in distance of haul between these receipt locations and the major delivery locations approximately 1,000 km away.

NGTL disagreed with the description of the Project tolls by Westcoast, Fortis and PNG as "near zero incremental tolls". NGTL argued that the Project shippers will pay the full FT-R tolls that apply at each meter station, which reflect the relative usage of the NGTL System by those shippers compared to shippers at other receipt locations. NGTL contended that revenues associated with the Project FT-R contracts will significantly exceed the Project cost of service, even without taking into account indirect delivery revenue and other benefits to the System.

Mr. Reed submitted that the TLS is like many other supply laterals on the NGTL System. Mr. Reed stated that there is no basis to use different approaches to tolling depending on whether the facilities represent an expansion or extension of an existing system, whether the facilities represent an extension to access new supply or deliver to new markets, whether the facilities are located in Alberta or British Columbia.

Mr. Reed asserted that arguments made by Parties that rolled-in tolling is appropriate only in areas in which NGTL does not currently face pipeline-on-pipeline competition is unreasonable. From a policy perspective, and for consistency with economic efficiency and competitive principles, Mr. Reed submitted that it is important to ensure that a toll design is appropriate not only when competition exists, but rather also when competition does not currently exist.

5.3.3 Integration and Nature of Service

Views of NGTL

NGTL submitted that the NGTL System currently provides receipt and delivery service in Northeast British Columbia and Alberta. The major markets connected to the NGTL System include intra-basin markets located near Fort McMurray, Cold Lake, the Edmonton area and Calgary, and interconnections with interprovincial and international pipelines at the Alberta – British Columbia (ABC) and Empress/McNeil export delivery points.

NGTL submitted that this Project is required to provide additional service in an area where NGTL already provides service. The new receipt meter stations associated with the Project are similarly situated to existing NGTL System receipt meter stations in the area for which the existing rate design applies. NGTL stated that the Project facilities will be fully integrated with the rest of the NGTL System and the service provided will be standard FT–R service and other services pursuant to the terms of the Tariff and cannot function independently of the rest of the NGTL System.

NGTL stated that all gas received under the new FT–R contracts supporting the Project will physically flow through the NGTL System and will be commercially available to all gas buyers in the NIT hub. NGTL specified that in the present circumstances, there is no new delivery point associated with the Project that could affect the degree of integration with the existing NGTL System. NGTL added that all gas received on the Project will physically flow to existing Firm Transportation – Delivery (FT–D) Group 1, 2 and 3 locations elsewhere on the NGTL System, increasing the overall supply available to all NGTL delivery customers.

NGTL explained that the Project will provide receipt shippers with commercial access to the NIT market and all delivery markets attached to the NGTL System. NGTL cited that examples of these

markets include the intra-basin residential and industrial markets, existing NGTL exports at interconnecting pipelines, or other markets that may connect to the System. NGTL specified that these latter markets include the proposed LNG export market projects that may access the NGTL System through downstream pipelines, such as the proposed PRGT and CGL. NGTL explained that the Project is not directly connected to these other pipelines, but is connected through the integrated NGTL System. NGTL contended that the Project is required to accommodate new FT-R service contracts and neither the North Montney Mainline nor the potential interconnection with the CGL or PRGT pipelines are required to achieve full utilization of the applied-for facilities.

NGTL submitted that gas flows on any particular segment of the NGTL System change constantly, depending on actual supply and demand across the NGTL System at any time and a host of other factors. If aggregate demand for gas west of the Groundbirch Mainline and the proposed GBML Loop exceeds area supply, gas will flow west to meet that excess demand. Such demand could include proposed LNG markets that can be served through the NGTL System and interconnections with downstream pipelines.

NGTL stated that if there were a new export delivery point on the west side of the system for LNG that materially changed the flow patterns on the NGTL System and how facilities are used, it would look at whether changes were required to its rate design. In that event, NGTL submitted its rate design may need to change to reflect different usage of the NGTL System.

Views of Participants

Westcoast Energy Inc.

Westcoast submitted that the TLS is not integrated with existing NGTL System facilities in this same sense as the GBML Loop. However, Westcoast clarified that it is of the view that the TLS will be physically and operationally integrated with the existing NGTL System

FortisBC Energy Inc.

Fortis submitted that the direction in which gas flows does not play a part in NGTL's concept of integration. Fortis explained that gas flows from Westcoast's T-North facilities onto NGTL's facilities at Groundbirch and Gordondale, but T-North is not considered by NGTL to be integrated. Fortis contended that if a pipeline following the route of the TLS were built by an entity other than NGTL and flowed gas into the Groundbirch Mainline at the same location as proposed, NGTL would argue that the new pipeline is not integrated. Fortis submitted that the only difference from the perspective of gas flowing from a production area towards markets is that if the new lateral was not owned by NGTL then the NGTL Tariff would not apply and the circular argument would be reversed: the standard NGTL Tariff would not apply and therefore the new lateral would not be integrated.

Fortis further submitted that similar service to that provided by the GBML Loop could be provided in a separate pipeline constructed by a third party. Accordingly, the GBML Loop is not integral or integrated, and service on the capacity provided by the GBML Loop need not have tolls determined by the NGTL System toll methodology.

Pacific Northwest Group

The PNG stated that NGTL has not provided evidence proving increased market demand elsewhere on the existing NGTL System, indicating that the Project facilities are clearly designed to connect a major new production source to the LNG export market via the CGL and/or Merrick and/or PRGT pipelines. The PNG added that as such, the Project facilities are not a necessary part of NGTL's integrated system and therefore, it is not necessary or appropriate to apply NGTL's historic rolled-in tolling or current Receipt Service rate design to the Project facilities.

The PNG argued that the Board should provide for a potential change in the nature of use of the TLS, by directing that designation of an export delivery point on or in the vicinity of the TLS would trigger a re-examination of the tolling methodology for those facilities.

Western Export Group

WEG stated that the TLS is outside of the footprint of the NGTL System. Furthermore, WEG contended that none of the facilities on the TLS parallel or share the route of the existing NGTL System is proposed to be connected at a single point on the outer extremities of the NGTL System. WEG argued that the TLS will not affect the capacity on the NGTL System.

WEG submitted that service on the TLS is a custom service to a specific user with a need to access the NIT market at a reduced transportation cost, with limited benefit to existing NGTL shippers. WEG is of the view that the level of integration of the TLS with the existing NGTL System supports a finding that rolled-in tolls are not appropriate in this circumstance.

Canadian Association of Petroleum Producers

CAPP argued that the evidence submitted by NGTL clearly shows that the TLS and the GBML Loop are both fully integrated with the rest of the NGTL system. CAPP submitted that integration is assessed reasonably and on the basis of all the facts and circumstances of the case looked at cumulatively, not individually.

Cutbank Ridge Partnership

CRP argued that the Project cannot be distinguished from the existing NGTL System in any meaningful way because the gas received on the Project will be commingled with gas on the remainder of the NGTL System and FT-R service associated with the Project will be provided under the same terms and conditions as is provided to existing FT-R shippers.

Reply of NGTL

NGTL argued that the Project facilities will be fully integrated with the NGTL System. According to NGTL, neither the TLS, nor the GBML Loop, can function independently of the rest of the NGTL System. All gas received on the Project, whether along the Groundbirch Mainline or the TLS, will be commingled with gas on the existing NGTL System and used together with all other supplies that are received onto the System to meet aggregate delivery requirements. In addition, all gas received on the Project facilities must use components of the existing NGTL System to reach delivery markets. NGTL provided Figure 5-2 to demonstrate that the proposed Project facilities, both the GBML Loop and the TLS, are similar in scale and scope to many existing NGTL facilities

that are tolled on a rolled-in basis and used to provide the same Tariff services to be provided using the Project facilities. Figure 5-2 also shows that the NGTL System is currently comprised of several mainline segments and many more lateral sections, with mainline segments shown in black, laterals shown in red, and the TLS in blue.

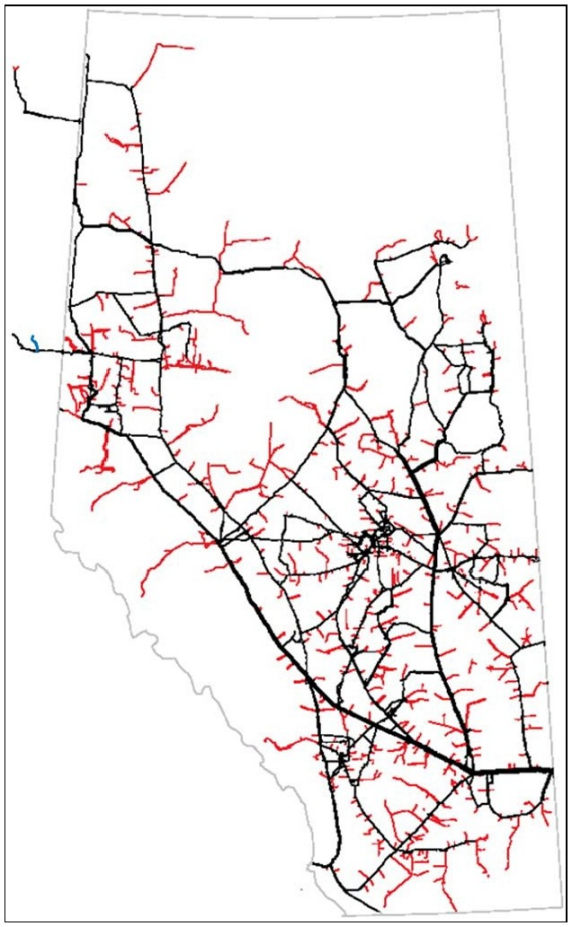
Mr. Reed submitted that the integration and nature of service factors that led the Board to favor rolled-in tolling in GH-001-2014 during the Transition Period are equally present regarding the TLS.

Mr. Reed was of the view that like the North Montney facilities during the Transition Period, the TLS would not be used separately and independently of the NGTL System, and the gas will be physically commingled with gas from other receipt points and delivered to the existing NGTL System.

Mr. Reed added that similarly, like the GBML Loop, the receipt services to be provided to the shippers using the TLS are the same receipt services that are provided to all other shippers on the NGTL System. The gas that will be received on the TLS will not be physically directed to a specific market or markets, meaning the services provided do not have characteristics of a point-to-point service, but rather will be utilized to satisfy the needs of demand shippers on the NGTL System as a whole.

Regarding a potential change in use of the facilities, Mr. Reed indicated that should the use of a facility change such that and it is no longer sufficiently integrated with the rest of the NGTL system, it would be possible to isolate the capital and operating costs of that facility at a later date without the need to set up a separate cost pool for that facility from the outset.

Figure 5-2: NGTL System Mainline and Laterals and Table of NGTL Expansions and Extensions since 2009



Project	Length (km)	Size (inches)	Extension/ Expansion
Chinchaga Lateral Loop No. 3	33	NPS 48	Expansion
Horn River Mainline – Ekwan Section (Purchase)	85	NPS 24	Extension
Horn River Mainline – Cabin Section	72	NPS 36	Extension
Groundbirch Mainline	77	NPS 36	Extension
Leismer to Kettle River Crossover	79	NPS 30	Expansion
NWML Loop – Timberwolf Section	50	NPS 48	Expansion
Tanghe Creek Lateral Loop No. 2 – Cranberry Section	32	NPS 48	Expansion
Horn River Mainline – Ekwan Loop (Kyklo Creek Section)	29	NPS 42	Expansion
Doe Creek Lateral Loop / Henderson Creek Lateral Loop No.3	17.7	NPS 16	Expansion
Kearl Extension	4.16	NPS 24	Extension
Komie East Extension	2.2	NPS 24	Extension
Bear River West Lateral Loop	8.6	NPS 10	Expansion
Cheecham West Crossover and Kettle River North Lateral Loop – Engstrom Section	14/11.5	NPS 20/24	Expansion
Cutbank River Lateral Loop – Bald Mountain Section	38	NPS 24	Expansion
Bear River Lateral Loop No. 2	10	NPS 10	Expansion
Gordondale Lateral Loop No. 2	24	NPS 42	Expansion
GPML Loop – Karr North Section / Nose Hill Creek Section (Athabasca River Crossing)	20	NPS 42	Expansion
Tanghe Creek Lateral Loop No. 2 – Sloat Creek Section	38	NPS 48	Expansion
Cutbank River Lateral Loop – Red Rock Section / Musreau Lake Lateral Loop No. 2	10/16	NPS 24/20	Expansion
Groundbirch Mainline – Saturn Section	24	NPS 36	Extension
Moosa Crossover	5	NPS 20	Expansion
Leming Lake Lateral Loop	37	NPS 20	Expansion
Sunday Creek Lateral Loop No. 3	13 km 200 m	NPS 24 NPS 12	Expansion
Norma Transmission Pipeline	3	NPS 20	Expansion
Saddle Lake Lateral Loop	12	NPS 16	Expansion
McDermott Extension	8	NPS 20	Extension
Cutbank River Lateral Loop No. 2	32	NPS 24	Expansion
Liege Lateral Loop No. 2 (Thornbury Section)	36	NPS 30	Expansion
Musreau Cutbank Expansion	28	NPS 24	Expansion
Medicine Hat Capacity Expansion	1.2 240 m	NPS 20 NPS 16	Expansion
Simonette Lateral Loop	22	NPS 24	Expansion

5.3.4 Competition and Commercial Impacts

Views of Participants

Westcoast Energy Inc.

Westcoast submitted that the construction and operation of the TLS on the basis proposed by NGTL would entice existing and incremental volumes in the Tower Lake area away from Westcoast's South Peace pipeline and the McMahon Gas Plant by offering an alternative path to market with service priced well below costs. According to Westcoast, if NGTL is permitted to provide service on the TLS at a price below costs, it would propose such pricing for its extensions into other supply areas in northeast British Columbia. The result would be to entice volumes away from the Westcoast gathering, processing and sales gas facilities currently serving those supply areas. Westcoast concluded that there would be a cascading degree of adverse consequences, involving the stranding of Westcoast facilities and a reduction in market liquidity at Station 2.

Westcoast provided an estimate of the impacts on Westcoast of the construction and operation of the TLS on the basis proposed by NGTL:

- Gas would leave the South Peace Pipeline (and the McMahon Gas Plant and the Zone 3 system) as the existing contracts on the South Peace Pipeline expire. The South Peace Pipeline has the capacity to transport approximately 340 MMcf/d of raw gas. The loss of these volumes would result in a loss of annual revenue to Westcoast of approximately $100 million, which is approximately 15 per cent of the combined annual revenue from Zones 1, 2, and 3.

- The value of the Westcoast assets at risk of being by-passed and stranded is approximately $360 million.

- The degree of potential underutilization of the South Peace Pipeline is 100 per cent, of the McMahon Gas Plant is approximately 40 per cent, and of the Zone 3 system is approximately 12 per cent.

- The loss of 12 per cent of the firm contracts in Zone 3 would increase the Zone 3 toll by approximately 14 per cent.

Westcoast submitted that for every additional 100 MMcf/d of gas that is lost by Westcoast would result in a loss of approximately $30 million in annual revenue from Zones 1, 2 and 3.

Westcoast submitted that the volumes currently contracted on the South Peace Pipeline could be de-contracted in annual increments over the period November 2017 to November 2029, that a total of about 50 per cent of the current contracted volumes could be de-contracted by November 2022, and that almost 100 per cent of the current contracted volumes could be de-contracted by November 2029.

Westcoast submitted that the approval of NGTL's rolled-in tolls for the TLS would subvert the competitive market for transportation because NGTL will have an advantage to get gas to market, and over time, Westcoast will lose volumes and will have challenges to attract gas in the future.

Westcoast submitted that such an outcome will not result from fair competition, but rather due to a regulatory outcome where one party is allowed to offer a service at a toll that is well below what it costs to provide that service.

In Reply to NGTL's submission that future offloading and underutilization of the South Peace Pipeline is not support by evidence, Westcoast submitted that, because CRP and Encana will have their raw gas transported and processed by Veresen, they will have no reason to renew the raw gas transportation and processing contracts that they currently have with Westcoast.

In response to NGTL's position that each pipeline should be able to offer the most direct and lowest cost means of accessing its market, Westcoast submitted that access to the NIT market occurs by building a pipeline to connect gas supply to the NGTL System and that anybody can build such a pipeline. Westcoast argued that NGTL has no inherent right to have the cost of its pipeline rolled-in and subsidized by existing NGTL shippers, so that NGTL can offer the lowest price to access the NIT market.

Westcoast submitted that rather than proposing to have the Board economically burden the most efficient option for producers by regulatory intervention, as submitted by NGTL, Westcoast is asking the Board to require the shipper to pay the costs that it causes to transport its Tower Lake area gas to the existing NGTL System rather than have the other NGTL shippers subsidize 95 per cent of those costs.

In response to NGTL comments that Westcoast has the tools to compete and should be expected to use them, Westcoast emphasized that there are no tools available to that would allow Westcoast to compete against a near zero incremental toll to transport gas from the Tower Lake area to NGTL. Under cross-examination, Westcoast witnesses advised that a provincially-regulated Westcoast affiliate Spectra Midstream had the opportunity to provide gathering and processing services that CRP ultimately awarded to another entity.

FortisBC Energy Inc.

Fortis opposed NGTL's proposed toll methodology, arguing that it has the potential to result in the construction of unnecessary facilities and the underutilization of Westcoast facilities, upon which Fortis and its customers rely on for gas supply. Moreover, Fortis stated that it will provide an unfair and inappropriate advantage to NGTL in the competition for the construction of pipeline infrastructure in northeastern British Columbia and will grant NGTL an effective monopoly to transport natural gas from British Columbia to Alberta.

Specifically, Fortis submitted that shippers that currently flow gas on Westcoast's T-North facilities and move gas to Station 2 or Alberta markets through existing interconnections with NGTL (Gordondale or Groundbirch) could alternatively tie into new facilities proposed by NGTL and transport gas directly to Alberta at a near zero toll, thereby bypassing the Westcoast system. This would decrease the gas supply that is flowing on the T-North system to Station 2 and reduce liquidity in that market, increasing costs to Fortis and its customers.

As well as being concerned about the impact on liquidity at Station 2, Fortis was concerned about the future level of the utilization of the Westcoast T-North and T-South systems as any reduction in their use will increase the costs to captive shippers such as Fortis.

Fortis submitted that although Station 2 is currently well supplied with gas and the Project is unlikely to have an effect on Station 2 liquidity in the short-term. However, Fortis stated that it is concerned about the potential market distortions that the use of NGTL's Alberta System toll methodology could create in the longer-term.

Fortis submitted that NGTL is uniquely able, by virtue of its tolls based on average, rolled-in costs methodology, to offer a toll increment for transportation of gas on new facilities well below the cost of the new facilities. Fortis questioned the competitive tools available to Westcoast to overcome the difference between a stand-alone toll and the cross-subsidized tolls that NGTL offers. Fortis argued that no third party in the region has the tools in its tool box to compete with the advantage granted to NGTL through the regulatory approval of its toll methodology. Fortis argued that regulation should not subvert competition by providing an unfair advantage to one market participant. Fortis further argued that the toll methodology and other criteria used by NGTL to review the acceptability of new projects allows NGTL to bring forward projects that would never be proposed in a competitive marketplace.

Canadian Association of Petroleum Producers

CAPP submitted that in the case of the Project, Westcoast had a chance at the business but the market chose NGTL to provide the service. CAPP submitted that CRP and the other shippers seek access to the NIT market and not to Westcoast's Station 2 market. However, CAPP argued that given a large market in the PNW and lower Mainland and the infrastructure in place to serve that market, there is no logical reason why the market will not be served and no reason why the only pipeline, Westcoast, which provides the connection between those markets and the supply areas in northeastern British Columbia would become redundant. Accordingly, CAPP rejected interveners' arguments that approving rolled-in tolling for the TLS will give NGTL a monopoly over transportation in northeastern British Columbia.

CAPP argued that competition does not mean every competitor has exactly the same attributes or means to compete and is not the role of regulation to put competitors with different attributes or different means to compete on an identical footing.

Cutbank Ridge Partnership

CRP rejected opposing interveners' position that there will be negative commercial impacts associated with the Projected, citing a lack of credible or substantive evidence or analysis of potential market impacts. CRP submitted that there is no evidence that supports the assertion that the South Peace Pipeline would, at some point in time, be underutilized by up to 100 per cent, thereby decreasing utilization of the McMahon Plant and downstream Westcoast sales gas transmission system. Furthermore, CRP submitted that the NGTL system is not in competition with the South Peace Pipeline and that NGTL should not be required to meet the tolling standard set by Westcoast for facilities that are not comparable to or in competition with the NGTL System.

CRP submitted that it is not service to CRP on the TLS that results in Westcoast's concerns about the potential for underutilization of the Westcoast system. Instead, CRP argued that these concerns instead appear to arise from CRP's choice to contract Veresen to provide RGT/Processing services for certain of CRP's Tower Lake assets instead of Westcoast or its affiliate.

CRP submitted that the competition between RGT/Processing operators should not have any bearing on the toll methodology on the NGTL System. Similarly, Westcoast's concerns about potential lost revenues resulting from the unproven possibility of underutilization of the South Peace Pipeline are irrelevant to the Board's determination in this Proceeding. CRP argued that under the Framework, Westcoast operates its Zones 1 and 2 facilities on an "at risk" basis and should not be afforded protections that its provincially-regulated competitors in the RGT/Processing field are not at risk of afforded protection.

NGTL Reply

In response to Interveners' positions on impacts to Westcoast and its customers, NGTL submitted that each pipeline should be able to offer the most direct and lowest cost option to access its markets. While there are interconnections between each of Westcoast, NGTL and Alliance, for producers that want to access a specific trading hub or market, the most cost-effective option is connecting directly to the pipeline associated with that market. For example, for producers that seek to sell their gas at Station 2, the T-North system is the most cost effective sales gas option.

However, for producers that have pre-determined that they wish to sell their gas at NIT, connecting directly to NGTL is and should be the most cost-effective solution. NGTL argued that what Westcoast is proposing is to have the Board economically burden the most efficient option for producers by regulatory intervention, all to gain a competitive advantage. NGTL argued that Westcoast wants to keep its cost advantage for access to Station 2 through rolled-in postage stamp and short-haul tolls on Zone 3, and also be able to compete favorably with NGTL for access to NIT. In fact, NGTL argued that if Westcoast can roll-in all expansions of T-North and NGTL is required to toll the same facilities on a stand-alone basis, Westcoast will be able to offer lower tolls to bring gas supply to the NIT market than NGTL can. NGTL submitted that such position is unreasonable.

NGTL submitted that there is no evidence to support Westcoast's claims that there will be de-contracting and underutilization of the Westcoast system Rather, NGTL argued that the evidence indicates that this has not occurred after NGTL's previous expansions into northeastern British Columbia, Westcoast has constructed and applied-for numerous expansions of its T-North system after NGTL extended its system into northeastern British Columbia including the High Pine Expansion project, Wyndwood Expansion project, Jack Fish Lake Expansion project, and the Transmission North Expansion project. NGTL argued that Westcoast's suggestion that the South Peace Pipeline may underutilized as a result of the Project is not the case for the following reasons:

- The South Peace Pipeline transports raw gas, not sales gas, in the opposite direction of the NGTL System.
- When it was applied for in 2008, the South Peace Pipeline was essentially fully contracted (94 per cent) and Westcoast had contracts to 2028. NGTL submitted that the information submitted by Westcoast with respect to the timing of de-contracting suggests little possibility of de-contracting until at least 2022.
- CRP was not formed until several years after the South Peace Pipeline was proposed and the purpose of CRP was to develop what were then undeveloped lands. NGTL argued that the supply that underpinned the South Peace Pipeline (and which is still available to it) is not the same supply that CRP now intends to flow through the Project.

NGTL submitted that Westcoast is alleging offloading of the South Peace Pipeline when Westcoast was apparently prepared to allow its unregulated midstream affiliate to construct the same facilities with the same alleged effects. NGTL argued that if Westcoast thought this type of project would have material adverse effects on its existing operations, presumably it would not have proposed this itself.

NGTL disagreed with opposing Interveners' submissions that Westcoast does not have the tools to compete. NGTL identified competitive advantages and tools that give Westcoast flexibility: Westcoast can attract supplies in Zones 1 and 2, where Westcoast has discretion to set tolls however it wants for raw gas gathering and processing; it can extend and expand its Zone 3 system through rolled-in postage stamp rates; and it can pursue projects through its provincially regulated affiliate. Moreover, Westcoast could offer short-haul service to connect producers to NGTL. NGTL argued that if Westcoast believes it will be negatively impacted by application of NGTL's rate design in northeastern British Columbia, it should be expected to use the tools available to them.

Views of the Board on the Appropriate Tolling Methodology

Tolling Principles and Key Considerations

In this proceeding, Participants made reference to various tolling principles and key considerations which have guided the Board's decisions in past hearings. The Board finds it beneficial to review the guiding principles and considerations in this section as they provide an effective framework for deciding the appropriate tolling methodology.

Requirements of the Act

The Board's mandate for traffic, tolls and tariff matters is found in Part IV of the NEB Act. The Board is governed by sections 62 and 67 of the NEB Act which state:

- all tolls shall be just and reasonable, and shall always, under substantially similar circumstances and conditions with respect to all traffic of the same description carried over the same route, be charged equally to all persons at the same rate; and
- no toll shall result in unjust discrimination.

However, the Board has wide discretion in choosing the method to be used by it and the factors to be considered by it in assessing the justness and reasonableness of tolls.

Cost-based and User-pay

The Board has stated that tolls should be, to the greatest extent possible, cost-based and that the users of a pipeline system should bear the financial responsibility for the costs caused by the transportation of their product through the pipeline. This is referred to as the cost-based/user-pay principle, or the cost causation principle. In the reasons that follow, the Board will refer to this principle as the user-pay principle for simplicity. The term "cross-subsidization" is used to denote a departure from the cost causation principle. The Board has recognized there is some inherent cross-subsidization in many rate designs. However, the Board has also stated that all reasonable efforts should be made to minimize cross-subsidization.

In past hearings, when deciding whether rolled-in or stand-alone tolls would best adhere to the user-pay principle, the Board also considered the following two factors:

- the degree to which the proposed facilities would be integrated with the rest of the pipeline system; and
- the nature of the service to be provided by the proposed facilities in relation to the service provided by the rest of the pipeline system.

Economic Efficiency

In the context of regulated tolls, economic efficiency generally means that tolls should promote proper price signals in order to maximize the utilization of the pipeline system and thus lower costs.

No Acquired Rights

In the GH-2-87 and GH-5-89 Decisions[9], the Board rejected the notion that shippers who have used the pipeline in the past are entitled to continue using the existing facilities without being affected by new circumstances. In other words, shippers have no acquired rights and cannot be exempted from a toll increase simply because they paid tolls in the past.

Disposition

The Board approves NGTL's request, with respect to the GBML Loop, that the tolls for services on the applied-for facilities will be calculated using the same methodology used to calculate tolls for services on the NGTL System, as determined through Board order from time to time. The Board approves NGTL's request that prudently incurred costs required to provide service on the GBML Loop will be included in the determination of the NGTL System revenue requirement. Members differed on some reasons for reaching this conclusion, as explained below.

With respect to the TLS, the members of the Board are not in full agreement. The Majority approves the requests of NGTL that prudently incurred costs required to provide service on the applied-for facilities will be included in the determination of the NGTL System revenue requirement, and that the tolls for services on the applied-for facilities will be calculated using the same methodology used to calculate tolls for services on the NGTL System, as determined through Board order from time to time. However, the Majority finds that rolled-in tolling on the TLS is only appropriate in the circumstances proposed in NGTL's Application and therefore, have attached a condition to the Part IV Order. Member Parrish dissents as he would deny NGTL's requests with respect to the TLS.

The Board notes that it is not restricted, now or in the future, to the prudency standard when determining NGTL's opportunity for the recovery of costs associated with this Project.

Tolling Methodology on Groundbirch Mainline Loop – Views of the Board

The Board finds that approval of the proposed tolling methodology on the GBML Loop will result in tolls that are just and reasonable and not unjustly discriminatory. The Board also finds that the proposed tolling methodology on the GBML Loop is consistent with the user-pay principle. Accordingly, the Board approves NGTL's proposed toll treatment for the GBML Loop portion of the Project.

The Board finds that the GBML Loop will be fully integrated with the existing NGTL System because the Project will not be used separately and independently of the NGTL System. Upon entering the GBML Loop, gas will be commingled with existing gas streams on the Groundbirch Mainline. Furthermore, it is the demand of both existing and new shippers which has created the need for service. This high degree of physical and operational integration supports utilizing the same toll methodology already in place on the Groundbirch Mainline. In addition, the nature of the service new shippers will receive is the same as the nature of service that the existing shippers on the Groundbirch Mainline receive.

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[9] GH-2-87 Reasons for Decision, Chapter 8, page 70 and GH-5-89 Reasons for Decision, Volume 1, Chapter 2, page 12.

The proposed tolling methodology for the GBML Loop also best conforms to the Board's no acquired rights principle because rolled-in tolling will provide equitable treatment to both new and existing shippers on the Groundbirch Mainline and GBML Loop. To use another methodology only for shippers on the GBML Loop, such as stand-alone tolling, would confer an acquired right to the existing shippers on the Groundbirch Mainline even though their use of the facilities will not differ from shippers on the GBML Loop.

Tolling Methodology on Groundbirch Mainline Loop – Views of the Majority

The Majority finds that the proposed tolling methodology on the GBML Loop does not result in cross-subsidization in the circumstances proposed in the Application. NGTL's evidence demonstrated that the revenues provided by service on the GBML Loop are more than sufficient to cover the costs caused by the shippers using the GBML Loop facilities.

Tolling Methodology on Groundbirch Mainline Loop – Views of the Member Parrish

I find that any cross-subsidization resulting from the application of the proposed tolling methodology is acceptable because of the high degree of integration with the NGTL System and the finding that the nature of service for shippers on the GBML Loop is the same as the nature of service for existing shippers.

Tower Lake Section – Views of the Majority

The Majority finds NGTL's proposed toll treatment for the TLS to be appropriate in the circumstances proposed in NGTL's Application; therefore, the Majority approves NGTL's proposed toll treatment for the TLS portion of the Project. However, pursuant to the condition attached to the Part IV Order, NGTL must re-apply to the Board for approval of a tolling methodology on the TLS if the path of the gas received on the TLS is substantially altered from what has been applied by NGTL, as explained further below.

The Majority finds that rolled-in tolling for the TLS is appropriate for the following reasons:

- the proposed tolling methodology does not result in cross-subsidization in the circumstances proposed in NGTL's Application;
- existing shippers should benefit from the revenue resulting from increased flows brought on by the TLS over the contract term and beyond due to expectations of forecast production growth in the Montney area in general and the Tower Lake area in particular;
- the TLS facilities will be fully integrated with the rest of the NGTL System;
- the proposed tolling methodology conforms with the legislative requirement for no unjust discrimination; and
- the proposed tolling methodology best adheres to the no acquired rights principle.

User-pay Principle: Cross-Subsidization

The Majority finds that the proposed tolling methodology on the TLS does not result in cross-subsidization in the circumstances proposed in the Application.

The Majority is of the view that cross-subsidization will occur if revenue from a particular shipper group is insufficient to cover the costs caused by the transportation of their product. When cross-subsidization occurs, it can result in existing shippers paying a higher toll for the service as a result of new facilities being constructed.

By tolling the TLS on a rolled-in basis, the incremental toll will not cover the incremental costs of the TLS. Some intervenors argue that this shows cross-subsidization will occur on the TLS section. However, the Majority does not agree with this narrow view of cross-subsidization, and finds that it is appropriate to review cross-subsidization in the context of the entire NGTL System. Based on the discussion and description of cross-subsidization in this proceeding, the Majority finds that the revenue from the FT-R tolls is sufficient to cover the cost of the TLS as well as provide a contribution to the rest of the NGTL System which, in turn, lowers tolls across the NGTL System. This toll reduction demonstrates that the FT-R revenue contribution is more than sufficient to cover the costs of the TLS shippers' service, and that the user-pay principle is respected.

User-pay Principle: Integration and Nature of Service

Notwithstanding the Majority's finding that the TLS does not result in cross-subsidization, the Majority finds that the TLS facilities are fully physically and operationally integrated into the NGTL System and will not be used separately and independently from the NGTL System. Furthermore, the Majority finds that the TLS facilities offer a similar nature service as virtually all other supply laterals on the NGTL System.

The Majority finds that the TLS will not be used separately and independently of the NGTL System. Gas will flow from the Project's receipt points to the existing NGTL System and will be physically commingled with gas from other receipt points and ultimately delivered to the existing NGTL System delivery points.

In assessing integration, the Majority also considered whether the aggregate demand of all shippers on the NGTL System caused the need for the Project, or whether CRP primarily drove that need. The NGTL System network configuration is unique, and distinguishable from "bullet-line" type systems. The NGTL System functions as a network, with various producers, marketers, intra-system and ex-system gas users relying on the NGTL System's integration for their needs, and benefiting from this network of connectivity. As discussed in section 3.2 of this Report, the annual well production decline rates average 18 per cent per year on the NGTL System, and therefore, there is aggregate transportation demand from all NGTL System users to replace that supply. The Majority notes that access to cost-competitive supply sources, like the Montney area supply, is crucial to the WCSB and its numerous participants. NGTL's shippers, including but not limited to CRP, will benefit from the increased access provided by the TLS and a reduction in tolls. Therefore, the Majority finds that all NGTL System users, and not just the specific shippers utilizing the TLS facilities, contribute to the need for the TLS facilities and will reap the benefits of the TLS's connectivity.

In terms of the nature of service provided, the TLS will ship gas to the Groundbirch Mainline, where the gas stream will commingle with existing gas on the NGTL System and be transported via various paths to ultimate destination points. Like several laterals on the NGTL System for which the Board has approved the same tolling methodology, the TLS sourced gas becomes part of the commingled NGTL System gas stream. However, unlike NGTL's North Montney application, there are no new delivery points associated with this Project that would call into question the similar nature of service provided by the TLS. The Majority finds that the similar nature of service provided by the TLS supports the approval of proposed tolling methodology consistent with NGTL's current rate design.

No Acquired Rights and No Unjust Discrimination

The Majority finds that the approval of rolled-in tolls for the TLS is supported by the no acquired rights principle, and is consistent with the Board's obligations under the NEB Act to ensure that tolls are not unjustly discriminatory.

The Majority is of the view that to depart from rolled-in tolls would confer acquired rights to existing shippers on the NGTL System because those shippers would benefit from additional gas on the NGTL System and associated increased throughput without bearing any additional costs of the TLS facilities.

NGTL's submissions showing the multitude of facilities that have been added and tolled on a rolled-in basis (Figure 5-2) strongly support the use of rolled-in tolling for the TLS. This evidence provided the Majority with perspective on the role of the TLS in the context of the entire NGTL System and the many pipeline segments making up the NGTL System.The Majority did not find sufficient evidence in this case that would warrant a departure from NGTL's long-standing toll methodology for the TLS. The Majority is of the view that if stand-alone tolls were applied, it would unjustly discriminate against shippers on the TLS as compared to shippers on other laterals on the NGTL System.

Furthermore, the Majority finds that in the context of NGTL's overall tolling methodology, its application to the TLS is administratively simple. While this simplicity is not determinative in its decision, the Majority finds that applying the current rate design methodology and tolling the extension as proposed in the Application provides administrative and tolling simplicity and certainty for NGTL and its existing and potential shippers.

Competition and Commercial Impacts

In the case of competition amongst regulated pipelines, the Majority finds that the principle of user-pay lays the foundation for fair competition. Given the competitive environment in northeastern British Columbia, including the different trading hubs that have been established, the vast potential of the resource and the potential to benefit Canadians, the Majority is mindful of the need to prevent competitors from gaining a regulatory advantage as a result of its tolling decisions.

The Majority finds that, based on evidence of business development described by the Parties, regulated pipelines are currently competing successfully in northeastern British Columbia. Westcoast and NGTL currently compete with different tolling methodologies as

approved by the Board and both Westcoast and NGTL have established trading hubs (Station 2 and NIT respectively). The Majority also finds that this Project provides necessary additional infrastructure in the area that will serve to provide area producers with more capacity and optionality in choosing where to ship their gas and provide additional supply options to existing users of the NGTL System.

The Majority have considered Westcoast's submissions related to the potential negative consequences of the TLS facilities to area competitors. However, the Majority were not persuaded that this Project would have any significant offloading impacts on Westcoast's infrastructure. Furthermore, the Montney gas production to date has proven to be one of the more cost-efficient plays in North America. In considering the principle of economic efficiency, the Majority believe that the TLS is not duplicative in these circumstances and is, in fact, required infrastructure for a constrained supply area seeking market access. Therefore, although competition and commercial impacts were not determinative factors in deciding the appropriate toll methodology for this Project, the Majority finds that the commercial impacts in the area on-balance are positive.

The Board heard evidence around the potential for further extensions from the TLS to Westcoast's McMahon Gas Plant. The Board notes that such a project is not currently in front of the Board for review and therefore, it is premature to make any findings regarding such a potential extension.

Alternative Toll Methodologies

The positions of the Parties on the proposed tolling methodology for the TLS are clearly defined and sharply opposing views have emerged. NGTL, CRP and CAPP supported retaining the status quo with rolled-in tolls while Westcoast, PNG and EUG advocated for stand-alone tolls. Fortis advocated for NGTL to be placed at-risk for the both the GBML Loop and the TLS. Proponents for all positions cite the potential to create inequities and undue price discrimination if their preferred tolling methodology is not adopted for the TLS.

The opposing parties offered guidelines, including unique flow paths to distinguish between expansions and extensions, which, in turn, would determine whether rolled-in or stand-alone tolls would apply. Fortis suggested that all supply laterals should be tolled on an at-risk basis until there is a review of the tolling methodology for the NGTL System. The Majority finds the guidelines proposed by the opposing parties to be subjective. Considering flow on individual laterals, rather than considering converging and comingling flows downstream on the NGTL System can result in misguided decisions.

The Majority disagree with the view of Dr. Makholm, that the NIT is "not that great"[10]. The Majority are of the view that the NIT, along with other trading hubs such as Station 2, are of great value to shippers and other market participants and that the integrity of trading hubs should be maintained.

The Majority further note that Westcoast is using a rolled-in tolling methodology in northeastern British Columbia, where there is inter-pipeline competition. Opponents to the

[10] GH-003-2015 Hearing Transcript Vol. 5, line 4988 – A77493

proposed tolling methodology for TLS and advocates for a level playing field for inter-pipeline competition in northeastern British Columbia do not appear to have given this fact meaningful consideration in their submissions.

Condition Regarding Change in Use of the Tower Lake Section

The Majority notes PNG's submissions regarding the potential for the Project facilities to eventually serve different markets, such as the LNG market. A scenario where the path of the gas is substantially altered from what has been applied by NGTL for could conflict with the Majority's finding around cross-subsidization and the degree of integration with the NGTL System, and constitute a "change in use" of the facilities resulting in unique service offerings. Accordingly, the Majority finds that should TLS ship gas to alternate delivery markets not currently attached to the NGTL System, NGTL will be required to re-apply to the Board for approval of a tolling methodology on the TLS. Accordingly, the Majority finds it necessary to attach the following condition to the Part IV Order:

> If, over the operating life of the Project, some or all of the gas transported on TLS does not continue to travel eastward on the Groundbirch Mainline to delivery points on the NGTL System in Alberta, and instead is delivered to markets not currently attached to the NGTL System, NGTL must re-apply to the Board for approval of a tolling methodology on the TLS.

The Majority does not believe maintaining a separate cost pool for the TLS is either appropriate or necessary at this time. As discussed by Mr. Reed in cross examination, should a different toll methodology need to be employed in the future, this would be possible without segmenting the TLS in a separate cost pool at this time.

Tower Lake Section – Views of Member Parrish

In my view, rolled-in tolling for the TLS of the Project is not in accordance with the user-pay principle. The applied-for tolling will not result in economic efficiency or allow for competitive outcomes in the development of the Tower Lake area resources and beyond. The rolled-in tolling methodology could lead to higher costs for end-users and duplication of facilities. Although I do find that there is a need for this Project and that cumulative effects have been adequately minimized, denying the tolling methodology for the TLS, in my view, would help to ensure that NGTL and shippers have the appropriate tolling incentives to more carefully consider cumulative environmental and socio-economic effects in northeastern British Columbia.

Access to supply in Northeast British Columbia needs to be competitive, and I find that NGTL should not be granted a regulatory advantage in drawing that supply to its system via rolled-in tolls on the TLS. Therefore, I dissent from the Majority's decision to approve rolled-in tolls on the TLS of the Project. My decision would be to deny the applied-for tolling methodology with respect to the TLS of the Project, and require NGTL to re-apply for an alternative tolling methodology that respects both the user-pay principle and allows for fair competition to access supply and the NGTL system.

User-pay Principle

The application of rolled-in tolling on the TLS is inconsistent with the user-pay principle. NGTL's analysis, indicating that annual revenues generated from FT-R tolls on the TLS of $54.5 million will cover the annual costs of the extension of $18.4 million disregards, in my view, the fact that TLS shippers should be accountable for their costs on the rest of the NGTL System after their gas is comingled and shipped from the Tremblay Meter Station.

By tolling the TLS on a rolled-in basis, in my view, shippers on the TLS are cross-subsidized by existing users of the NGTL System. If the NGTL System were operating in a competitive vacuum - a monopoly-like environment - this cross-subsidization may be justifiable. However, the NGTL System is not operating in a competitive vacuum in these circumstances because there are competitors in the area that could potentially build competing alternatives at a lower price to connect gas to the NGTL System, as described below. If successful, these competing proposals could lower overall costs for pipeline transportation in the WCSB.

Integration and Nature of Service

In my view, it is one shipper causing the requirement for the TLS, not a collective of NGTL System users. I find NGTL's arguments about the degree of the TLS's integration with the rest of the system to be flawed. In this case, as in the Komie North case, a single shipper has requested service on the TLS. Molecules on the TLS are distinguishable from the rest of the NGTL System's gas until they are comingled with other streams on the GBML Loop. This portion of the service – transportation from the TLS to Tremblay – is distinguishable and unique from every other path on the system, which speaks to the low degree of integration exhibited by this particular segment of pipeline.

I recognize NGTL's System functions as a network. However, I do not find that this network design necessitates that NGTL must build further supply laterals to connect additional gas to the NGTL System because any competitor could build additional supply laterals to connect to the NGTL System. By extension of NGTL's logic that well decline rates result in the need to connect new supply to the NGTL System, competitors that connect to the NGTL System and deliver gas could also be considered operationally integrated with the system. However, absent negotiated deals such as Transportation By Others (TBO) arrangements, these competitors cannot offer service under NGTL's Tariff, and therefore cannot be considered commercially integrated. The fact that service will be offered under NGTL's existing Tariff should not be determinative in considering whether the applied for facilities are integrated with the existing system.

Economic Efficiency

In my view, the Board's economic regulation of pipelines should – to the greatest extent possible – result in outcomes that emulate those of a competitive market. I find that NGTL's proposed tolling methodology would do just the opposite, by granting NGTL a regulatory advantage in accessing supply in the Tower Lake area.

NGTL's submission – that the TLS is a sales-gas line, moving gas in the opposite direction of Westcoast's existing infrastructure – was not compelling. While it is true that the systems move different products, I find that producers' economic decisions are strongly influenced by costs across the value chain. Gas could move via Westcoast, or other competitors in the area, to the NGTL System. These parties don't just compete on a full-path basis to ship gas to their respective destination markets, but they also compete to transport gas to the NGTL System. Allowing NGTL to roll-in the costs of the TLS and offer an incremental toll substantially below cost alters the "total cost" factor in a producer's decision-making process and could lead to economically inefficient outcomes.

It is not solely NGTL who can build infrastructure to connect gas to the NGTL System. However, by utilizing rolled-in tolling, NGTL would be able to offer service from the Tower Lake area to Tremblay at a toll increment of only 0.9¢/Mcf, versus a comparable stand-alone toll of 9.2¢/Mcf. If the toll for the TLS does not reflect that incremental cost, I find that NGTL will be provided with an insurmountable competitive advantage in an otherwise competitive environment. A competitor building an identical pipeline and with an identical cost structure, for example, would have to charge 9.2¢/Mcf to recover its costs, and could not compete with a 0.9¢/Mcf offering from NGTL. Even if a competitor in the area could build an alternative to connect Tower Lake supply to the NGTL System at a lower cost, it could not compete with NGTL's rolled-in toll while still recovering its costs. This could lead to more expensive infrastructure than what would have been the cheapest option, with all shippers on the NGTL System paying for these potential inefficiencies.

Over-Proliferation and Resultant Cumulative Effects

As NGTL's tolling methodology results in cross-subsidization on the TLS, gas producers will have little incentive to factor pipeline transportation costs into their optimization of resource locations and access costs. This cross subsidization of remotely located resources may incent expansion of the NGTL System prematurely and inefficiently, rather than NGTL first ensuring that utilization of its existing infrastructure is maximized.

The incentivizes created by the tolling methodology promote NGTL System expansion, and do not hold NGTL or project proponents cost-accountable, which may result in sub-optimal and inefficient system expansion. Another such inefficient outcome is that the incentives created by NGTL's toll methodology might lead to over-proliferation of facilities, and result in negative cumulative environmental and socio-economic impacts. The combination of NGTL's Guidelines for New Facilities with this tolling methodology appears to enable NGTL to add extensive facilities on a project-by-project basis. This short-term, project-by-project approach could result in inadequate long-term optimization of NGTL System facilities and lost opportunity to minimize the cumulative impacts of projects occurring over several years.

NGTL's evidence that the TLS was within NGTL's wheelhouse as determined by its Guidelines for New Facilities and that third parties would have little interest in building such facilities highlights my concern. This suggests to me that NGTL is using its tolling methodology and its Guidelines for New Facilities to attract most of the new pipeline business associated with the expansion of the NGTL System's supply sources in northeast British Columbia. Near-term facility additions appear to take precedence over the effective

management by NGTL of long-term cumulative effects. In this regard, I share the concerns raised by Fortis, and noted by Blueberry, that NGTL's tolling methodology has the potential to result in construction of unnecessary facilities, disregard established routes, and lead to the underutilization of Westcoast's facilities. In my view, the incentives provided under NGTL's tolling methodology result in NGTL viewing projects too narrowly, without looking at the big picture.

To be clear, this dissent only applies to the tolling methodology for the TLS.

5.4 Comprehensive Review of Tolling in Northeast British Columbia

Views of Participants

Westcoast Energy Inc.

Westcoast stated that an inquiry is not needed. Westcoast submitted that it is looking for the TLS to be tolled on a stand-alone basis. Such a Board decision, in its view, would send a very strong signal to the industry.

FortisBC Energy Inc.

In its written evidence, Fortis made a recommendation that the Board should conduct a hearing or an inquiry to determine an appropriate toll methodology for use by NGTL in Northeast British Columbia that fairly reflects the competitive environment and other circumstances in the region. Fortis argued that a Board-led inquiry may lead to the conclusion that a zoned toll structure may be the appropriate way to capture and reflect the competitive dynamic of Northeast British Columbia. Fortis agreed that such an inquiry should necessarily involve all parties competing for gas supply in Northeast British Columbia and should not be limited to NGTL.

Dr. Makholm submitted that the current proceeding only pertains to the Project facilities and their tolling. In his view, parties interested in a wider review of the NGTL rate design as it applies to the competitive environment of Northeast British Columbia may differ from those involved in this case. Dr. Makholm added that among other things, such a review would address the need to ensure efficient investment and competition in Northeast British Columbia.

Pacific Northwest Group

PNG is of the view that direct competition between NGTL and Westcoast in the same supply areas necessitates a reconciliation of the two tolling models. In the PNG's view, the public interest requires that a single common regulatory paradigm applies to all Board-regulated competing pipelines in Northeast British Columbia. The PNG argues that to minimize the prospect of a succession of protracted fights over the appropriate tolling treatment for future NGTL facilities in Northeast British Columbia, it encourages the Board to provide possible direction regarding the circumstances in which stand-alone tolling or rolled- in tolling likely would be applied. Absent such direction, the PNG supports the Board initiating an inquiry to examine appropriate tolling methodology in Northeast British Columbia

Western Export Group

WEG submitted that the TTFP Procedures acknowledge no party loses its recourse to the NEB and the NEB is the final decision maker. WEG is of the view that given the shortcomings of the 2016 and 2017 revenue requirement TTFP settlement process, the Board should consider becoming a more proactive participant in overseeing the financial regulation of NGTL.

Canadian Association of Petroleum Producers

CAPP is of the view that an inquiry is not necessary and that the Tolls, Tariff, Facilities & Procedures Committee (TTFP) is a better platform to submit ideas and suggestions for improvements to the NGTL tolling methodology.

Cutbank Ridge Partnership

It CRP argued that the Board should continue to assess toll methodology for infrastructure in Northeast British Columbia (and Alberta) on a case-by-case basis. CRP argued that the current NGTL toll methodology was developed in collaboration with stakeholders, most of which are not involved in this proceeding. The NGTL Toll Methodology will continue to be reviewed through the NGTL TTFP Committee. CRP submitted that the TTFP is the appropriate venue in which to raise the broader tolling concerns that have been raised

Reply of NGTL

NGTL stated that an inquiry into its NGTL System rate design is unnecessary and beyond the scope of this proceeding. NGTL submitted that it would be redundant and unnecessary for the Board to re-consider the tolling methodology for all competitors in Northeast British Columbia through a generic inquiry, when each competitor is subject to its own review processes. NGTL added that NEB-regulated pipelines do not all have to have the same toll design. Each pipeline should be free to develop toll designs that best meet the needs and interests of that pipeline and that produce just and reasonable tolls for its shippers.

NGTL argued that there is no evidence before the Board in this proceeding that the NGTL rate design fails to address the circumstances of the Project as compared to other existing NGTL System facilities, including those in Northeast British Columbia. As a result, there is no evidentiary basis for the Board to recommend the type of generic inquiry requested by intervenors.

Mr. Reed was of the view that there is no justification for the inquiry into competition in Northeast British Columbia. Mr. Reed argued that there is no need to delay a ruling in this proceeding regarding the tolling methodology for the Project, nor to reject rolled in tolling for the Project, even if a comprehensive inquiry into competition is conducted.

Views of the Board

The Board acknowledges the a number of intervenors were of the view that an inquiry or formal review of competition and the appropriate tolling methodology in northeast British Columbia should be initiated by the Board.

The Board is of the view that it is not appropriate to make any long-term decision about the appropriate tolling methodology for the comprehensive NGTL System in this proceeding. The Board is of the view that such a review should involve the participation of all parties competing for gas supply in northeastern British Columbia. The Board is bound by the principles of natural justice, which requires that those affected by a review of NGTL's tolls on a system-wide basis be given notice and an opportunity to participate. Furthermore, the Board finds that a determination for the need for this type of inquiry is outside the scope of this proceeding. Nevertheless, the Board emphasizes that it will not be precluded from determining that a different tolling treatment would be appropriate for the NGTL System in the future.

5.5 Abandonment Cost Estimate

Views of NGTL

According to NGTL, the Abandonment Cost Estimate (ACE) for the Project is $8.9 million which represents approximately 0.4 per cent of the ACE for the entire NGTL System. NGTL added that there could also be a commensurate impact on the Annual Contribution Amount and abandonment surcharge calculation on the NGTL System. These impacts would be reflected in periodic updates of ACE which NGTL files with the Board, as required by the Board's MH-001-2012[11] Reasons for Decision and in NGTL's Annual Contribution Amount calculation filings.

Views of Participants

No Participants expressed any concerns with respect to the ACE of the applied-for Project facilities.

Views of the Board

The Board notes that there were no concerns raised by Participants regarding the proposed ACE.

The Board is not making a finding in this proceeding since it recognizes that NGTL's ACE for the Project would be addressed in a separate Board process[12].

[11] Board's Reasons for Decision MH-001-2012, dated 14 February 2013 – Abandonment Cost Estimates [A50478].

[12] Review of Abandonment Cost Estimates, File OF-AF-ACE 01 dated 29 October 2015 [A73532-1].

Chapter 6

Land Matters

The *National Energy Board Filing Manual* (Filing Manual) sets out the Board's expectations for lands information in support of an application for a certificate under section 52 and for an order under section 58 of the NEB Act. Applicants are expected to provide a description and rationale for the proposed route, the location of associated facilities, and the permanent and temporary lands required for a project. Applicants are also expected to provide a description of the land rights to be acquired and the land acquisition process, including the status of land acquisition activities.

Aboriginal Participants raised concerns with regard to land matters. These concerns, primarily related to how the Project would negatively affect their Aboriginal interests, including rights, are discussed in Chapter 8.

6.1 Route Selection

Views of NGTL

NGTL stated that routing for the Project is based on established route-selection criteria, preliminary constructability assessments, and feedback obtained through engagement with Aboriginal communities, stakeholders and government agencies.

NGTL submitted that the Project, as described in Chapter 2, is located on both private land and Crown land. The predominant land use along the Project route is agriculture and the amount of undisturbed land required for the Project was significantly reduced through paralleling existing or proposed linear disturbances for approximately 82 per cent of the total route. NGTL noted that in general, deviations from existing linear disturbances along the route were planned to avoid existing or proposed facilities, minimize the number of water crossings, and accommodate landowner and Aboriginal requests and to mitigate potential constructability issues. In addition, to accommodate future third party facilities, the entire TLS route has been shifted approximately 30 m west of the original proposed route in multiple locations. Additionally, NGTL submitted that the locations of the meter stations were determined to provide the best accessibility for access for servicing, customer location, and optimal location for minimizing adverse environmental effects.

Views of Participants

West Moberly First Nations

West Moberly raised concerns regarding the amount of TWS required within wetland habitat (approximately one third of all proposed wetland disturbance). West Moberly also raised concerns regarding the effectiveness of NGTL's proposed mitigation and the establishment of adequate parameters to measure reclamation success, once the disturbance has occurred.

Reply of NGTL

NGTL stated that after refinements to the Project footprint it was able to reduce the amount of TWS within identified wetlands from approximately 2.2 ha to approximately 0.23 ha. Regarding the adequacy of the parameters used to measure reclamation success, NGTL confirmed that both species composition and per cent cover of all species are two of the measures included in its PCMP. NGTL also explained that it uses the similarity index or coefficient approach, based on Alberta Environment's Reclamation Assessment Criteria for Pipelines, to accommodate natural variation

6.2 Land Requirements

Views of NGTL

NGTL stated that the Project requires approximately 87 km of new RoW and TWS. The TLS will require approximately 109 ha of permanent RoW and 43 ha for TWS while the GBML will require approximately 146 ha of permanent RoW and 104 ha for TWS. The proposed route of the RoW crosses 86 tracts of land owned in fee simple by individuals and 23 tracts of land owned in fee simple by corporations. NGTL stated that in total, 89 per cent of the permanent Project footprint is located on freehold land, and the remaining 11 per cent is on provincial Crown land. NGTL noted that 70 m of permanent access road is required to be constructed.

In order to satisfy preconstruction conditions and meet planned in-service dates, NGTL submitted that it will need to start meter station construction by the start of Q2 2017. As a result, NGTL requested that all activities related to meter station construction be included in the Section 58 Order.

NGTL stated that the Project generally requires a minimum construction RoW width of 22 m to 32 m for safe and efficient movement of vehicles and equipment during construction. NGTL also stated that site-specific TWS will be required at highway, road, pipeline and watercourse crossings, log deck sites, valves sites and other locations to accommodate pipeline construction activities. The construction RoW will be reclaimed after construction and maintained for pipeline operation.

6.3 Land Acquisition Process

Views of NGTL

NGTL determined that land users such as agriculture tenure holders may be affected by the Project. NGTL provided these stakeholders with Project information in accordance with the Stakeholder Engagement Program and considered their feedback to the extent possible during route selection.

NGTL stated that they also notified other directly affected industrial land tenure holders, including, but not limited to energy, mining and forestry companies. Overall, NGTL reported that there are 60 individual landowners and 15 corporate landowners in addition to the two provincial Crown landowners (Government of Alberta and British Columbia) crossed by the proposed route, and 29 of these landowners were represented by CAEPLA/SPLA.

In response to NEB Information Request 5.6, NGTL stated that it has served 73 of the 77 notices required by subsection 87(1) of the NEB Act, and that it expected to serve all notices by 15 June 2016. NGTL also reported that as of May 2016, it has obtained 43 easement agreements and 43

temporary work space agreements and 70 easement agreements and 73 temporary work space agreements remained outstanding. NGTL also stated at the oral hearing that they had 80 per cent of all the landowner agreements in place and didn't anticipate they would have difficulty in achieving 100 per cent acquisition.

Negotiations were ongoing between CAEPLA/SPLA and NGTL throughout the hearing process and on 27 May 2016, CAEPLA/SPLA filed a letter advising the Board that CAEPLA/SPLA had resolved its issues related to the Project.

On 31 May 2016, at the oral portion of the hearing, the Presiding Member asked whether NGTL was planning on tabling the agreement between NGTL and CAEPLA/SPLA as part of the record. NGTL responded that:

> "…the commercial arrangements that we've reached with CAEPLA, we do consider them to be commercially sensitive and confidential, both us and CAEPLA. There are components of the compensation in particular around various aspects of the agreement that we've reached with CAEPLA and its members that both sides would consider to be confidential. And through the arrangements that's what we've both agreed to, to maintain the confidentiality.
>
> I'd also observe from our experience in discussions with landowner organizations, CAEPLA and others, generally in those types of arrangements both sides are interested in maintaining the confidentiality of them. So I'd say it's more common than not that those arrangements in such circumstances are kept confidential. They're not publicly released."

Views of Participants

In their written evidence, CAEPLA/SPLA stated that CAEPLA/SPLA landowners had concerns regarding the easement/TWS rights, NGTL's construction/restoration methodology, NGTL's compensation structure, the proposed depth of cover and NGTL's failure to propose any resolution of landowner concerns in relation to the Project's operations and maintenance.

As noted above, CAEPLA/SPLA notified the Board on 27 May 2016 that it had resolved its issues related to the Project, including but not limited to the construction, routing (including detailed route and timing and methods of construction), and acquisition of lands for the Project. Accordingly, CAEPLA/SPLA withdrew further participation in the hearing.

Views of the Board

The Board is of the view that NGTL's route selection process and resultant proposed route for the Project are acceptable. The Board notes that routing decisions involve the consideration of many factors, including consultation with landowners and Aboriginal groups. The Board notes that NGTL has accommodated a number of minor reroutes based on input from landowners. The Board also notes that NGTL has endeavored to reduce adverse Project impacts by paralleling existing RoW to a significant degree. Further discussion regarding the effectiveness of NGTL's proposed mitigation and reclamation measures are found in the Board's EA (Chapter 9).

The Board finds that NGTL's anticipated requirements for permanent and temporary land rights, and the process for the acquisition of these land rights, are acceptable. The Board notes that CAEPLA brought forward issues and concerns that are relevant to the Board's

decision and the List of Issues (Appendix I), and worked closely with NGTL to resolve these issues. However, NGTL confirmed at the oral hearing that the negotiated agreement between CAEPLA and NGTL was not to be filed with the Board as evidence. In order to promote the continual improvement of landowner issues for the benefit of all landowners, the Board encourages parties to transparently share progress, when possible.

Chapter 7

Public Consultation

The Board's Filing Manual sets out the Board's expectations of applicants regarding consultation to support a project application. Applicants are expected to undertake an appropriate level of public involvement, commensurate with the setting, nature, and magnitude of a project. The Board considers public involvement to be a fundamental component during each phase in the lifecycle of a project (that is, project design, construction, operation and maintenance, and eventual abandonment) to address any potential impacts of that project. This chapter addresses NGTL's public consultation for the Project.

NGTL's consultation with Aboriginal groups for the Project is discussed in Chapter 8.

7.1 NGTL's Stakeholder Engagement Program

Views of NGTL

In its Application, NGTL stated that it used its Stakeholder Engagement Program to ensure stakeholders are aware of Project plans and have an opportunity to provide input into the Project in a fair, honest, open, consistent, and timely manner.

NGTL stated the purpose and goals of its Stakeholder Engagement Program for this Project are to:

- formally introduce the Project to key stakeholders;
- actively seek and consider comments on:
    - pipeline routing and facility site selection;
    - potential environmental and socio-economic effects;
    - mitigation measures, where necessary, to address potential adverse Project effects
    - enhancement measures, where appropriate, to improve potential positive socio-economic effects;
- identify and respond to issues and concerns before filing the Application;
- provide stakeholders with ongoing Project updates, including communication about the proposed Project and the anticipated regulatory schedule and planned application to the Board;
- ensure, where practical and reasonable, that stakeholder concerns or issues, if any, were incorporated in Project planning;
- communicate changes to the Project, if any, to stakeholders; and
- facilitate ongoing communications that continue through the construction and operations phases to ensure future stakeholder concerns and issues, if any, are addressed appropriately and in a timely manner.

NGTL outlined that the Stakeholder Engagement Program is undertaken in a phased approach and implemented using open communication and participatory stakeholder involvement practices. The phases of the program include:

- identification of stakeholders and development of notification materials;
- notification and engagement; and
- transition of Project from construction to operations.

7.2 Design of Public Consultation Activities

Views of NGTL

NGTL submitted that it compiled the following initial list of potentially interested and affected stakeholders in the Project area through a combination of desktop research, TransCanada and NGTL's own operating experience in the area, established network of contacts in the communities and personal contacts with, and referrals from, stakeholders:

- landowners and occupants whose lands are traversed by the Project;
- adjacent landowners and occupants;
- land users (e.g., guides, outfitters and trappers);
- community members;
- municipal leaders and representatives (e.g., regional districts and municipalities);
- elected officials (i.e., provincial and federal);
- government agencies and representatives;
- non-government organizations; and
- emergency responders.

NGTL stated that engagement activities will continue through all phases of the Project and that during operations, ongoing engagement activities for the Project will be conducted in accordance with the provisions of TransCanada's Public Awareness Program.

7.3 Implementation of Public Consultation Activities

Views of NGTL

NGTL stated that initial implementation of the phased Stakeholder Engagement Program began in May 2014. Since then, NGTL stated that it has used a variety of engagement tools for the Project, including its website, an email box, face-to-face meetings, mail-outs of Project information, open houses, newspaper and radio advertisements, and a toll free telephone number.

NGTL stated that during consultation and engagement with the general public, the primary topics of conversation were:

- construction RoW width;
- TransCanada's general level of activity in northeastern British Columbia;
- location of facilities sites;
- local contracting and hiring opportunities available through the Project,
- timing of land acquisition;
- reclamation and land use after construction;
- necessity of crossing agreements to traverse pipeline RoW;
- pipe integrity and emergency response; and
- weed management on the Project and the existing Groundbirch RoW.

In its response to the Potential Conditions issued by the Board on 17 May 2016, NGTL stated that Potential Condition 22, Condition Compliance Activity Notifications, is not required because many stakeholders have expressed consultation fatigue and would prefer less email and other notices so that their work-flow is more manageable. NGTL further stated that Participants are unlikely to be interested in the majority of notices received. NGTL also stated that it maintains designated points of contact for, and is already regularly engaged with, each Participant, whether through NGTL's Land, Indigenous Relations, Supply Chain, or Commercial departments.

7.3.1 Consultation Activities with Landowners and Land Users

Views of NGTL

Since 8 January 2016, NGTL stated that it has held approximately 100 landowner and occupant meetings and exchanged numerous related phone calls and emails. NGTL noted that these discussions have covered the following topics:

- service of Section 87 notices;
- landowner agreements;
- soil, archaeological and wildlife surveys;
- construction methods; and
- construction mitigation practices.

NGTL indicated that it had been in communication with the CAEPLA since 7 July 2015, when it received a letter from CAEPLA's CEO, on behalf of the SPLA, a committee of CAEPLA member landowners affected by the Project. In addition to landowner and occupant meetings NGTL met with CAEPLA/SPLA representatives in Dawson Creek on 4-5 April 2016 and 25-26 April 2016.

Views of Participants

CAEPLA/SPLA

In their written evidence, CAEPLA/SPLA stated that CAEPLA/SPLA landowners had concerns regarding the easement/TWS rights, NGTL's construction/restoration methodology, NGTL's compensation structure and NGTL's failure to propose any resolution of landowner concerns in relation with to the Project's operations and maintenance.

On 27 May 2016, CAEPLA/SPLA filed a letter advising the Board that CAEPLA/SPLA had resolved with NGTL issues related to NGTL's Project, including but not limited to the construction, routing (including detailed route and timing and methods of construction), and acquisition of lands for the Project. Accordingly, CAEPLA/SPLA advised it was withdrawing from further participation in the hearing and any further intervention in the regulatory proceedings in respect of the Project.

7.3.2 Consultation Activities with Government Stakeholders

Views of NGTL

NGTL stated that from August 2014 to August 2015, it met with representatives from two regional and three local districts in close proximity to Project components to provide information on the

Project, and to understand and address their questions and concerns. Meetings were held with representatives from the following regional governments:

- Peace River Regional District;
- Saddle Hills County;
- City of Dawson Creek;
- City of Fort St John; and
- District of Chetwynd.

NGTL also stated that it contacted Northern Health by email, phone and in person in the spring of 2016.

Throughout its consultation and engagement with local government, NGTL found the following matters are of concern:

- visual effects of RoW construction;
- watercourse crossing methods;
- local contracting and hiring opportunities available through the Project;
- effects on recreational land users;
- potential effects on community infrastructure;
- traffic management;
- employment and economic benefits;
- capacity of small, local governments with limited staff resources to assess applications and consult through council presentations and meeting requests; and
- Land Use Permits in the Peace River Regional District.

Views of Participants

Northern Health Authority

On 14 April 2016, the Board granted Northern Health's request to participate as a Commenter in the hearing process. On 2 May 2016, Northern Health submitted its Letter of Comment where it raised a number of concerns in relation to emergency services. Issues raised by Northern Health are addressed in Chapter 4 and Chapter 10.

7.3.3 Commercial Third Party Notification

Views of NGTL

NGTL submitted that it provided notification about the Project through the TTFP, a group of over 100 NGTL System customers and stakeholders that work collaboratively with NGTL to address NGTL System matters. NGTL also provided notification through the filing of the Project Description, news release postings on the TransCanada website and invitations to the Project open house, which was communicated through local area newspaper and radio advertising, and digital media posts.

NGTL indicated that it regularly provides notifications to the TTFP about NGTL System activities and events. NGTL added that it provided advance notice of capacity capital projects to the TTFP, and described the Project at the 9 June and 18 August, 2015 TTFP meetings. During these presentations, NGTL requested that parties advise NGTL should they have any concerns with the

Project. At the time of the Application, NGTL stated that it has not been made aware of any specific concerns related to the Project.

NGTL posted notification of the additional two meter stations added to the Project scope to the TTFP Committee webpage on 5 January 2016. In the notification, NGTL requested that parties advise NGTL should they have any concerns with the addition of the new facilities to the Project. As of the filing of its Additional Written Evidence, NGTL stated that it has not been made aware of any specific concerns related to the change of Project scope.

Views of Participants

No Participants expressed any concerns with respect the commercial third party notification of the Project.

Views of the Board

The Board is of the view that NGTL's design and implementation of Project-specific public consultation activities are appropriate for the scope and scale of the Project, and that NGTL has adequately identified and engaged stakeholders, developed engagement materials, notified stakeholders of the Project, and responded to their input. The Board is also satisfied that all interested commercial third parties that could be potentially affected by the Project have been appropriately advised of the Application

The Board notes that NGTL initiated consultation with government stakeholders and landowners early in the process, and responded promptly to Northern Health who self-identified their interest during the hearing process. The Board expects NGTL to continue its efforts to consult and to maintain effective and timely consultation activities with government stakeholders, affected landowners and Aboriginal groups, as appropriate, throughout the lifecycle of the Project.

On 17 May 2016, the Board proposed Potential Condition 22, Condition Compliance Activity Notifications, with a view to ensuring proactive measures are being undertaken by NGTL to allow stakeholders timely and easy access to compliance documentation in the format that works best for them. The Board considered NGTL's objection to Potential Condition 22 and finds that it is not necessary to include the proposed condition in the Certificate. However, the Board notes that **Certificate Condition 6** and **Order Condition 4** require NGTL to notify all interested parties, which have expressed an interest, of condition compliance filings and Commitment Tracking Table updates. In addition, the Board encourages any Participants with an interest in receiving compliance documentation to contact NGTL directly.

Chapter 8

Aboriginal Matters

8.1 Overview

In assessing the potential impacts of the Project on Aboriginal interests, including rights, the Board considered all of the evidence provided. The Board's hearing process was designed to obtain as much relevant evidence as possible on Aboriginal concerns regarding the Project, the potential impacts on Aboriginal interests, and possible mitigation measures to minimize adverse impacts on Aboriginal interests. The Board was provided with and considered extensive information about concerns related to the Project, and the measures that would be required to address those concerns, as brought forward through consultation undertaken by the applicant and through the participation of potentially affected Aboriginal groups and others in the hearing process.

This chapter includes summaries of evidence provided directly by Aboriginal groups through their participation in the hearing, as well as summaries of Aboriginal concerns and interests as recorded by NGTL in its evidence. The Board notes that identifying and referring to specific passages within the record can lead to other direct and indirect references being overlooked. Therefore, anyone wishing to fully understand the context of the information and evidence provided by Aboriginal groups should familiarize themselves with the entire record of the hearing. In addition, evidence provided by Aboriginal groups and evidence of Aboriginal concerns and interests recorded by NGTL in its evidence is summarized in chapters throughout this Report, particularly in the Environmental and Socio-economic Matters (Chapter 9) and Infrastructure, Employment and Economy (Chapter 10).This chapter of the Report cannot be considered in isolation from the Report as a whole.

8.2 NGTL’s Consultation program with Aboriginal groups

NGTL explained that its Aboriginal Engagement Program (AEP) is designed to foster productive dialogue and exchange of information with potentially affected Aboriginal communities and organizations with an interest in the Project. It is also developed and adapted according to the nature, location and potential effects of the Project, and the interests, information needs and concerns of Aboriginal communities and organizations. NGTL stated that at its core, the AEP is an iterative process designed to provide Aboriginal groups the opportunity to participate in the Project and contribute Aboriginal Traditional Knowledge for consideration within the Project’s ESA report, the Section 52 Application and the Section 58 Order application process.

Factors that influenced NGTL’s AEP design included that the Tower Lake Section (TLS) crosses approximately 93 per cent freehold land and 7 per cent Crown land and the Groundbirch Mainline Loop (GBML) crosses approximately 82 per cent freehold land and 18 per cent Crown land; and that approximately 82 per cent of the entire Project will parallel existing or proposed linear disturbances.

The goals of the AEP for the Project are to:

- build and maintain positive long-term relationships with Aboriginal communities and organizations potentially affected by the Project;
- develop and share timely information to allow for informed, effective and meaningful engagement with communities; identify acceptable community engagement protocols and practices;
- respond promptly to commitments and communication with respect to the needs and interests and concerns identified by each community;
- identify education, training, employment and contracting opportunities;
- strive to create short- and long-term employment and business opportunities for Aboriginal peoples affected by NGTL's activities;
- support learning opportunities to provide a well-trained source of Aboriginal employees and build capacity in Aboriginal communities;
- support the participation (for example, capacity funding and information sharing) of Aboriginal communities and organizations who might be affected by the Project through negotiation of mutually acceptable work plans and budgets;
- use Traditional Knowledge (TK) to inform the Project design, where feasible;
- ensure that input from and concerns of Aboriginal communities and organizations are gathered, understood and considered in Project design and execution, including the ESA, as appropriate;
- ensure that Aboriginal communities and organizations are aware of how their input has influenced the ESA and Project planning; and
- ensure that issues and concerns with respect to potential effects related to Aboriginal interests are identified and addressed.

To identify a preliminary list of Aboriginal communities and organizations that might be affected by the Project, NGTL stated that it considered the proximity of the Project to:

- Reserves under the *Indian Act*;
- First Nations asserted traditional territory;
- Aboriginal settlements and communities; and
- Aboriginal harvesting and traditional use areas.

NGTL submitted that the Project is located within the boundaries of Treaty 8 in Alberta and British Columbia. The Project does not cross any lands that are defined as a reserve, or that have been designated for reserve, under the *Indian Act*. No Métis Settlements governed by the Métis

Settlements General Council are traversed by the Project. The Project area is located in Métis Nation of Alberta – Region 6. The Project is also located in the Northeast Region of the Métis Nation British Columbia and the BC Métis Federation.

NGTL determined its initial list of Aboriginal communities and organizations potentially affected by the Project through a combination of desktop research, NGTL's own operating experience, including past projects in the region, and an established network of contacts with Aboriginal communities and organizations in the Project area.

8.3 NGTL's Consultation Activities with Aboriginal groups

NGTL initially identified 24 Aboriginal groups and began engaging with these groups in June 2014. Based on input provided by the Board and the Major Projects Management Office (MPMO), three groups (Dene Tha' First Nations, Grade Prairie Métis Local 1990 and Métis Nation of Alberta Region 4) were added to the list of potentially impacted Aboriginal groups. NGTL stated that it commenced engagement activities with these additional three groups in August 2015. Accordingly, NGTL engaged with the following 27 Aboriginal groups identified as being potentially affected by the Project:

1. Blueberry River First Nations (Blueberry)
2. British Columbia Métis Federation (BC Métis Federation)
3. Dawson Creek Métis Federation (Dawson Creek Métis)
4. Dene Tha' First Nation (Dene Tha')
5. Doig River First Nation (Doig River)
6. Duncan's First Nation (Duncan's)
7. Fort Nelson First Nation (Fort Nelson)
8. Fort St John Métis Society (Fort St John Métis)
9. Grande Prairie Métis Local 1990 (Grande Prairie Métis)
10. Halfway River First Nation (Halfway River)
11. Horse Lake First Nation (Horse Lake)
12. Kelly Lake Cree Nation (Kelly Lake Cree)
13. Kelly Lake First Nation (Kelly Lake FN)
14. Kelly Lake Métis Settlement Society (Kelly Lake Métis)
15. McLeod Lake Indian Band (McLeod Lake)
16. Métis Nation of Alberta (MNA)
17. Métis Nation of Alberta – Region 4 (MNA Region 4)
18. Métis Nation of Alberta – Region 6 (MNA Region 6)
19. Métis Nation British Columbia (Métis Nation BC)
20. Moccasin Flats Métis Society (Moccasin Flats Métis)
21. North East Métis Association (Northeast Métis)
22. Prophet River First Nation (Prophet River)
23. Red River Métis Society (Red River Métis)
24. Saulteau First Nations (Saulteau)
25. Treaty 8 Tribal Association (Treaty 8 Tribal Association)
26. Western Cree Tribal Council (Western Cree Tribal Council)
27. West Moberly First Nations (West Moberly)

NGTL said its initial engagement activities with Aboriginal groups for the Project included:

- mail-out of project information packages, including: Preliminary Project Fact Sheet; NEB brochure Information for Proposed Pipeline or Power Line Projects That Involve a Hearing; TransCanada brochure *Your Safety, Our Integrity*; TransCanada brochures *Stakeholder Engagement, Aboriginal Relations*; and, a copy of the Project description filed with the NEB; and
- face-to face meetings to:
    - introduce the Project;
    - provide a broad understanding of NEB process;
    - discuss methods of conducting engagement in the community;
    - identify and develop strategies to address capacity issues with Aboriginal communities to participate in the Project review, including negotiating traditional knowledge protocol agreements and engagement capacity work plans;
    - identify community concerns, interests and opportunities;
    - obtain input and feedback on environmental field studies;
    - identify site-specific issues and concerns and discuss proposed mitigation measures, and
    - identify economic development opportunities including training, contracting and employment.

NGTL stated that input received from Aboriginal communities and organizations during the engagement program is considered throughout Project planning, and development of the Application and the ESA. Although community members and representatives raised a wide range of issues throughout the engagement process, the following recurring themes had emerged at the time of NGTL's application:

- consultation fatigue;
- lack of capacity to engage on the Project;
- increased access and access restrictions;
- cumulative effects;
- environmental concerns, including habitat fragmentation;
- training and employment; and
- participation in field studies.

NGTL maintained detailed engagement logs for the 27 identified Aboriginal groups, which were filed with the Application and updated on 15 January 2016 and 24 May 2016. NGTL stated that it will continue to facilitate opportunities with potentially affected Aboriginal communities to contribute to Project planning and design. It remains committed to working with interested communities to reasonably address any Project-specific concerns raised and to identify further opportunities for Project engagement throughout construction and operation.

NGTL stated that it invited interested Aboriginal groups, as listed below and discussed further in Section 8.2, to participate in a series of biophysical field studies to support the ESA. According to NGTL, these studies provided further opportunities for Aboriginal groups to learn about the Project and provide input and information to NGTL. Additionally, NGTL undertook site visits and mapping workshops with certain groups, which it submitted is also part of consultation. Table 8-1 below lists the Field studies undertaken by NGTL.

NGTL submitted that through its efforts, each interested Aboriginal group had extensive opportunities to inform NGTL of their interests and concerns in relation to the Project, and to share their knowledge about Traditional Land and Resource Use (TLRU) practices and sites relevant to Project activities.

Table 8-1: Summary of Consultation via Field Studies

Aboriginal Group	**Types of Field Studies**
Blueberry	Participated and contributed to discussion of issues and concerns, however, chose not to share traditional ecological knowledge (TEK) for Project purposes during their participation in the biophysical field studies
Duncan's	Aquatics, Wildlife (winter tracking), Vegetation, Soils, Archaeology
Doig River	Participated and contributed to discussion of issues and concerns, however, chose not to share TEK for Project purposes during their participation in the biophysical field studies
Horse Lake	Wildlife (winter tracking), Soils, Archaeology
Kelly Lake Cree	Wildlife (winter tracking), Soils, Archaeology
McLeod Lake Indian Band	Wildlife (winter tracking), Soils, Archaeology
Prophet River	Wildlife (winter tracking), Archaeology
Saulteau	Wildlife (winter tracking), Soils, Archaeology
West Moberly	Participated and contributed to discussion of issues and concerns, however, chose not to share TEK for Project purposes during their participation in the biophysical field studies

8.4 Concerns raised about NGTL's Consultation with Aboriginal groups

Views of Aboriginal Participants

Blueberry River First Nations

In its ATP request, Blueberry submitted that it had not been adequately consulted by NGTL with respect to the proposed Project. Blueberry explained that it was only provided with preliminary information, and had not had an opportunity to provide meaningful input into Project design. In a subsequent submission, Blueberry also stated that it had not been consulted regarding the National Energy Board process or timelines for the Project.

In communicating its decision not to participate in the oral portion of the hearing, Blueberry referred to the severe limits of using NEB processes as a forum for First Nations engagement. Blueberry also stated that it looks forward to engaging in consultation with the provincial and federal Crown outside the NEB processes. Additionally, Blueberry requested in its comments on the Board's potential conditions that the Board require NGTL to report to the Board that it has sought to meaningfully engage with Blueberry and/or First Nations, and that NGTL be required to show evidence to the NEB of an agreed upon dispute resolution mechanism in case of disagreements with Aboriginal groups. Blueberry also suggested that the filings generated by the Board's potential conditions, along with commitments made by NGTL, be shared with potentially-affected Aboriginal groups.

Blueberry submitted that NGTL has not collected, and the NEB has not considered, sufficient evidence on Blueberry's traditional activities and treaty rights. Blueberry submitted that it was significantly limited in preparing its evidence for the Board due to capacity constraints and lack of Project support, and that the generic information provided by NGTL cannot provide this necessary information. Blueberry stated that the Crown should have engaged Blueberry before the NEB hearing commenced for this Project. Blueberry stated that early engagement would have allowed the traditional land use (TLU) study to have been initiated and completed before the filing of NGTL's application; subsequently, the Crown could have taken steps to ensure a proper cumulative effects assessment of the Project impacts on Blueberry's territory and treaty rights was conducted. Blueberry submitted that as of the date of the filing of written argument, there had been no consultation between it and the federal Crown on this Project. Blueberry requested that the NEB decline to recommend the issuance of a Certificate and recommend that no Certificate be issued in respect of the Project until the federal Crown has discharged its duty to consult and accommodate Blueberry in relation to the Project.

Saulteau First Nations

Saulteau stated that it was unable to provide further details on the use of each traditional use (TU) site, as reported in its written evidence, because of capacity and funding constraints. Saulteau stated that the Board should take into consideration the disadvantages that it (and other First Nations) experience in NEB regulatory proceedings. For example, Saulteau stated the Application and related information are highly technical in nature, making it difficult for Saulteau to adequately assess the impacts of the Project. Additionally, the Project is considered separately, and in isolation from, other plans and proposals for natural gas infrastructure in the region. Saulteau stated that this

means that First Nations in the region are not included in regional planning initiatives, and are not informed about how the Project will contribute to the infringement of treaty rights in the region.

Saulteau stated that Crown consultation obligations have not been met in the present case. Saulteau stated that neither the Province of British Columbia (or any of its agencies) nor Canada (or any of its agencies) have filed evidence demonstrating that Saulteau was contacted by, or met directly with, either provincial or federal representatives in respect of the Project. Saulteau noted that Crown Participants filed only their ATPs in the Board's regulatory proceedings.

Saulteau stated that, prior to recommending the issuance of a Certificate, or any related Project authorizations, the Board should have a condition requiring the Crown to carry out its consultation and accommodation obligations, and provide the Board with an update regarding the same, in order to facilitate the Board's assessment of the adequacy of consultation.

West Moberly First Nations

West Moberly stated that it shares Saulteau's concerns in regard to the role of the Crown in the consultation process. West Moberly also stated that NGTL should work cooperatively with West Moberly to develop defined and concrete reclamation targets in relation to West Moberly's proposed active revegetation of temporary work spaces.

NGTL's Reply to the concerns raised by Participants

NGTL stated it disagrees with Blueberry's characterization that the support it provided to Blueberry limited its ability to prepare evidence for the Board. NGTL stated that it has been engaging Blueberry on the Project since June 2014 and has supported the participation of 14 Blueberry members in Project biophysical field studies conducted in 2014 and 2015.

NGTL submitted that it has reached out to Blueberry on an on-going basis to schedule meetings to discuss Project-related issues, including Blueberry's capacity to engage with NGTL with respect to the Project. Blueberry and NGTL met in November 2015, at which time NGTL and Blueberry began discussions on the scope of planned engagement activities and capacity funding. NGTL received Blueberry's proposed funding request for capacity and TLU work in early April 2016. NGTL stated that Blueberry and NGTL reached agreement on planned engagement activities and capacity funding for the Project, including funding for a community-led TLU study. NGTL also stated that the parties were in the process of finalizing the agreements to provide the agreed-upon capacity funding at the time of filing reply evidence. NGTL confirmed that capacity funding is also available to Blueberry through the existing Community Agreement between Blueberry and NGTL.

In response to Saulteau's statement that it has not undertaken a TLU study for this Project due to limited internal capacity and lack of funding, NGTL submitted that it offered Saulteau funding to complete a TLU study but that Saulteau advised NGTL on 22 September 2015 that a TLU study was not necessary for the Project. Instead, NGTL and Saulteau finalized funding for Saulteau's site-specific field visit on 9 March 2016.

In response to West Moberly's request to develop mutually agreeable targets for determining reclamation success, NGTL confirmed that it has provided a variety of opportunities to potentially-affected Aboriginal communities and organizations to share traditional knowledge and identify site-specific and general concerns regarding the Project. NGTL also stated that West Moberly has been

and continues to be included in these opportunities. If sensitive areas are identified in West Moberly's TLUS, NGTL stated it will continue to work with West Moberly to address concerns and establish appropriate mitigation measures.

8.5 The Government of Canada's consultation process with Aboriginal groups

In July 2015, the Government of Canada, through its Major Projects Management Office (MPMO), issued letters to Aboriginal groups potentially affected by the Project indicating that it would rely on the Board's public hearing process, to the extent possible, to fulfil its duty to consult. The Government of Canada indicated that the NEB process will be used to identify, consider and address the potential adverse impacts of the Project on Aboriginal and treaty rights. The Government of Canada advised that it will be tracking issues raised by Aboriginal groups during the hearing process; and, that matters brought forward will be assessed to determine whether additional consultation obligations may exist. A representative of the MPMO registered their appearance at the oral portion of the hearing in Dawson Creek, which included both the oral traditional evidence of West Moberly First Nations and oral cross-examination.

The Government of Canada encouraged all Aboriginal groups whose established or asserted rights could be impacted by the Project to participate in the Board's process and also encouraged potentially-impacted Aboriginal groups to engage directly with NGTL, since the Project proponent has the ability to make changes to the Project to address any specific concerns raised. Any unresolved concerns should be brought forward through the NEB's hearing process.

The Government of Canada indicated that federal authorizations for the proposed project will only be issued once the Crown determines that its consultation obligations with respect to each of these authorizations have been discharged, and that all regulatory requirements have been met.

8.6 Participation of Aboriginal groups in the Board's hearing process

The Board's Enhanced Aboriginal Engagement (EAE) initiative aims to provide proactive contact with Aboriginal groups that may be affected by a proposed project, and to help Aboriginal groups understand the Board's regulatory process and how to participate in that process. The Board reviews the completeness of the list of potentially affected Aboriginal groups identified in the proponent's Project Description filed with the MPMO and the Board. The Board may suggest to the applicant any necessary revisions. The Board then sends letters to each potentially impacted Aboriginal group on the revised list, informing them of the project as well as the Board's regulatory role in respect of the project, and offers to provide further information on the hearing process. Following issuance of these letters, Board staff follow up, respond to questions or conduct information meetings, where requested.

The Board carried out its EAE activities for the Project commencing with the receipt of the Project Description on 29 May 2015. In July 2015, the Board sent a letter to the 27 potentially affected Aboriginal groups and organizations listed in Section 8.3 of this Chapter. The letter discussed the Board's hearing process and it's Participant Funding Program (PFP). It also included a summary of the Project, information on how to obtain further information and an offer for NEB staff to attend a community meeting.

Of the 27 groups contacted by the Board and the MPMO, six Aboriginal groups (those are: Fort St John Métis, Kelly Lake Métis Settlement, BC Métis Federation, Grande Prairie Métis, Métis Nation British Columbia and Red River Métis) requested and participated in meetings with Board staff to discuss the hearing process, the PFP, and how to participate in the hearing. Board staff delivered these meetings in person or via video-conference based on the preference of the Aboriginal groups.

Board staff also met with an additional group: Fairview Métis Local (Fairview Métis), as per its request, and provided a copy of the information package that was distributed to the list of potentially affected Aboriginal groups. The following Aboriginal groups applied for and were granted participation in the hearing as:

Commenters:

- BC Métis Federation

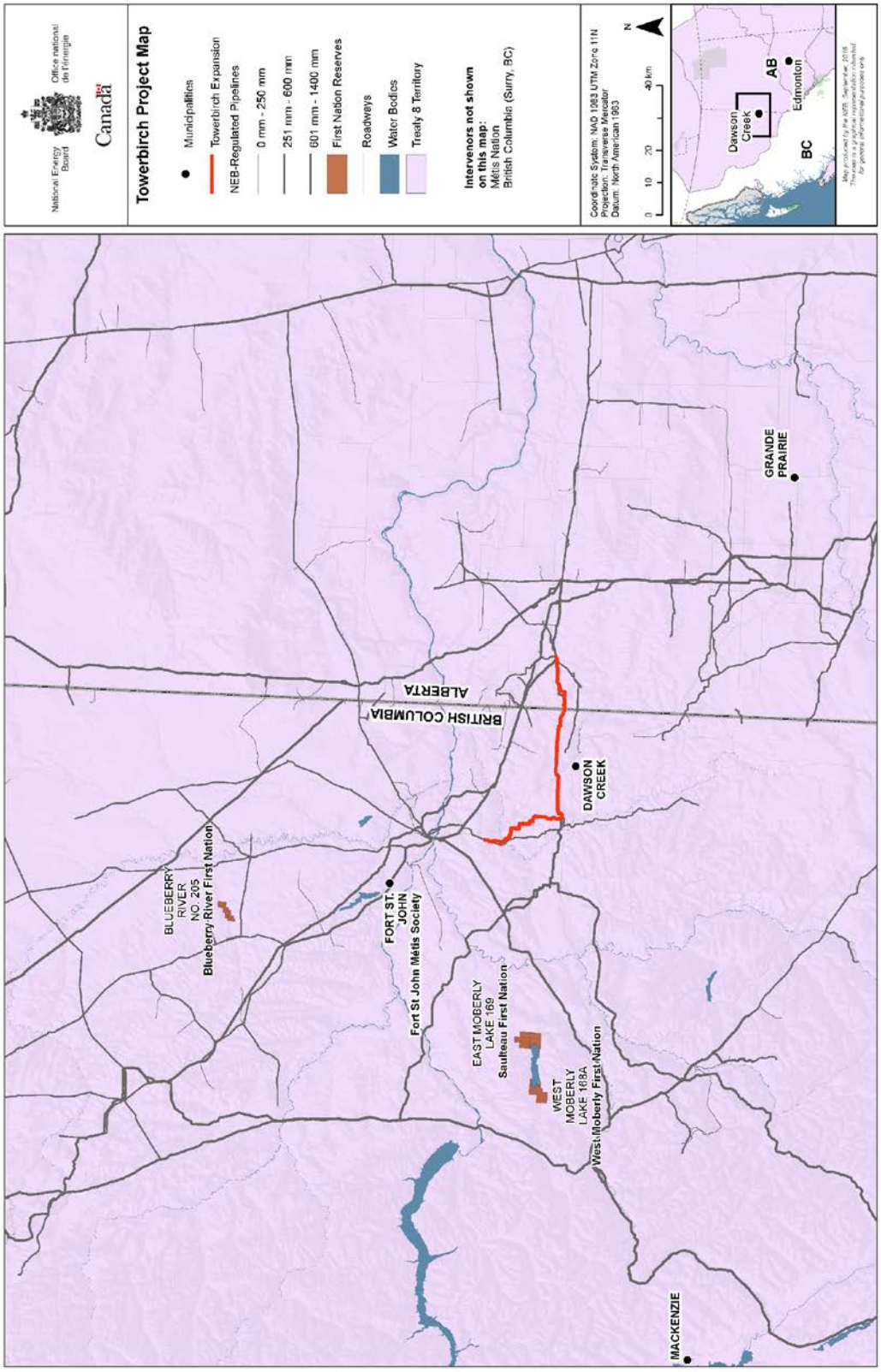
Intervenors:

- Métis Nation British Columbia
- Fort St John Métis
- Blueberry
- Saulteau
- West Moberly

BC Métis Federation subsequently withdrew its participation in the hearing as a Commenter. Métis Nation British Columbia did not participate beyond the filing of its ATP. Fort St John Métis filed written evidence. Blueberry was granted late Intervenor status. Blueberry, Saulteau and West Moberly issued information requests to NGTL, filed written evidence, responded to information requests and filed written argument. West Moberly also made a witness panel available for oral cross-examination. Blueberry and Saulteau advised the Board in advance of the oral hearing that they would not be participating in oral cross-examination. To facilitate Blueberry and Saulteau's continued participation, the Board offered to allow for the further testing of evidence through other means, including remote participation at the hearing or a second round of Information Requests. Saulteau filed a letter stating that it would be amenable to a second round of Information Requests. NGTL determined that it did not have additional written questions for Saulteau, so a second round of Information Requests was not undertaken. The map in Figure 8-1 shows the approximate locations of the Aboriginal Participants in the proceeding and also provides a view of the southern boundary of the Treaty 8 lands. The Board notes that Blueberry, Saulteau and West Moberly are all signatories and adherents to Treaty 8.

The Board extended an invitation to provide oral traditional evidence in person or remotely to all Aboriginal Intervenors in the proceeding. Three Aboriginal Intervenors: Blueberry, Saulteau and West Moberly, indicated they would provide oral traditional evidence. Two of these Intervenors: Blueberry and Saulteau subsequently withdrew their Notices of Intent to provide oral traditional evidence. Saulteau stated that it was of the view their concerns in respect of the Project were sufficiently set out in its filed written materials, including responses to the proponent's Information Requests. Blueberry stated that it had not received appropriate capacity funding to undertake a Project-specific Traditional Land Use Study, and as a result was not in a position to provide appropriate oral traditional evidence at the oral hearings. West Moberly attended and provided oral traditional evidence to the Board. West Moberly opened their oral traditional evidence to the Board with a prayer lead by Elder George Desjarlais.

Figure 8-1: Aboriginal Participants in the GH-003-2015



The Board initially selected Dawson Creek, British Columbia as the location for oral tradition evidence based on several factors, including the proximity of Aboriginal Intervenors. The Board received an invitation from West Moberly to conduct oral traditional evidence sessions in Kiskatinaw Provincial Park (Park). West Moberly shared that it wished to provide an opportunity for its Elders and knowledge holders to provide the Board with oral traditional evidence, but felt that the typical hearing setting undermines the communication of this critical evidence. Blueberry and Saulteau also indicated a preference for presenting their oral traditional evidence at the Provincial Park.

In its letter to all Parties dated 10 March 2016, the Board conveyed its appreciation for the invitation from West Moberly and indicated that it had begun assessing the Park to determine if oral traditional evidence could be accommodated at that location. By letter dated 11 April 2016, the Board noted that a number of concerns had been identified through this work and found that it could not meet its obligations to provide a safe and accessible hearing for Board staff and the public at this particular park. Accordingly, the Board reverted to hearing oral traditional evidence at the hotel in Dawson Creek, British Columbia. However, the Board invited Aboriginal Intervenors to contact the Board's process advisor with any suggestion as to how oral traditional evidence could be conducted to meet the needs of the Aboriginal presenters.

8.7 Potential Impacts of the Project on Aboriginal groups

8.7.1 NGTL's assessment of impacts on Aboriginal groups

NGTL's proposed Project is located within the boundaries of Treaty 8 in Alberta and British Columbia and the Project does not cross any lands that are defined as a reserve, or that have been designated for reserve, under the *Indian Act*. No Métis Settlements are traversed by the Project. NGTL stated that the amount of undisturbed land required for the Project was significantly reduced through paralleling existing or proposed linear disturbances for approximately 82 per cent of the total route. Further, the Project is located in an area that is predominantly agricultural; 96 per cent of the lands along the Project ROW are arable or potentially arable.

NGTL said that Aboriginal groups were invited to participate in supplemental biophysical field studies (aquatics, wildlife, wetlands, archaeological) for the GBML Loop and the TLS. Table 8-1 lists the groups who elected to contribute TEK during participation in the biophysical field studies for the Project. NGTL stated that all potentially affected Aboriginal groups were invited to provide TEK during the biophysical and heritage resource field studies. NGTL indicated that, at the request of some Aboriginal groups, information collected would remain confidential. NGTL stated that it continues to support interested Aboriginal communities and organizations in the completion of TLU or TU studies for the Project. The status of each community study is provided in Table 8-2 below, as at the close of the evidentiary record.

Table 8-2: Status of Traditional Land Use Studies

Aboriginal Group	Traditional Land Use Study Status
Blueberry	NGTL and Blueberry reached agreement on planned engagement activities and capacity funding for the Project, including funding for a community-led TLU study.
BC Métis Federation • Dawson Creek Métis • Fort St John Métis	No TLU studies were planned. BC Métis Federation information was collected through Project site visits conducted with Dawson Creek Métis and Fort St John Métis.
Doig River	Doig River conducted an independent study.
Duncan's	Duncan's confirmed interest in conducting an independent TLU study for the Project.
Horse Lake	Golder facilitated a Project footprint ground assessment in support of a Horse Lake TLU study from October 14 to 17, 2015.
Kelly Lake Cree	Kelly Lake Cree conducted an independent study.
Kelly Lake Métis	No TLU studies were planned. Kelly Lake Métis information was collected via helicopter site visits.
McLeod Lake Indian Band	McLeod Lake Indian Band confirmed interest in conducting an independent TLU study for the Project.
Métis Nation British Columbia	Métis Nation BC conducted a Métis Use & Occupancy Study.
MNA Region 6	MNA Region 6 confirmed interest in conducting an independent TU study for the Project.
Prophet River	Prophet River confirmed interest in conducting an independent TLU study for the Project.
Saulteau	Saulteau conducted independent TLU research for the Project which Saulteau then filed as part of its written evidence.
West Moberly	West Moberly requested to conduct an independent TLU study.

NGTL's Supplemental traditional knowledge report provided a summary of Project-specific issues or concerns identified by: BC Métis Federation, Doig River, Duncan's, Horse Lake, Kelly Lake Cree, McLeod Lake Indian Band, Métis Nation British Columbia, Northeast BC, Prophet River,

Saulteau and West Moberly. NGTL noted that some concerns expressed were common among participants such as:

- Access;
- Accidents and malfunctions;
- Cultural sites and areas (such as potential disturbance to an historic wagon / pack trail, the exact location of which was not provided);
- Cumulative effects;
- Employment and contracting;
- Equipment servicing (such as use of environmentally friendly oils and lubricants for machinery and vehicles employed on the Project footprint);
- Fish and fish habitat;
- Environmental monitoring;
- Surface water quality;
- Vegetation (plant gathering and traditionally important plant species such as potential disturbance to diamond willow fungus; use of chemical applications such as herbicides, and
- Wildlife and wildlife habitat (loss of moose habitat, change in wildlife movement patterns, bear dens; potential disturbance to game trails, salt licks, and eagle nests).

To address these concerns, NGTL proposed a suite of mitigations, in addition to the standard mitigation discussed in Chapters 9 and 11 of this Report. Specifically, with respect to access, NGTL submitted that it would prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW, and discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs. NGTL submitted that it has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and power lines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access.

Concerning impacts to cultural sites and areas, although Doig River could not confirm the location of the wagon/pack trail in relation to the Project footprint, NGTL submitted that, should it confirm, prior to construction, that the trail intersects the Project footprint, it would, among other things, provide Aboriginal communities with the proposed construction schedule, pipeline route and meter station maps and implement mitigation measures as described in the TLU Sites Discovery Contingency Plan.

With respect to fish and fish habitat, NGTL submitted that it would, among other things, provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps, restrict all construction activities to the approved surveyed ROW, implement permanent bank reclamation measures, screen all water intakes and conduct all crossings in accordance with DFO requirements and narrow the ROW through the riparian area, if possible.

NGTL submitted that it would implement measures to reduce potential effects on traditional plant gathering and provide Aboriginal communities with opportunities to harvest plants prior to construction. Also with respect to vegetation, plant gathering and wetlands, NGTL indicated it would, among other things, limit the disturbance to vegetation (that is, crops and native vegetation) to the extent practical and restrict the general application of herbicide near rare plants or rare ecological communities.

To address concerns about water quality, NGTL submitted that it would develop water quality monitoring plans that would require the water quality monitors to alert Environmental Inspectors if the monitoring reveals sediment values are approaching threshold values; and, if corrective actions are not successful, it would temporarily suspend construction activities until it identifies effective solutions.

NGTL also proposed a number of mitigation measures with respect to wildlife and wildlife habitat. To specifically address West Moberly's concern about the inactive wolf den, it advised that Environmental Inspectors would inspect the potential den prior to the start of construction to confirm if it is inactive and that it would notify Alberta AEP if it confirms any other inactive wolf dens on the project footprint. NGTL noted that the bear den will not be directly disturbed during construction since it is located approximately 4 m east of the Project ROW.

NGTL submitted that by carefully selecting a pipeline route that will largely parallel other linear features and that is predominantly on agricultural land, together with its suite of field-tested mitigation measures, it has effectively minimized environmental and socio-economic impacts associated with the Project.

8.7.2 Impacts raised by Aboriginal groups

Blueberry River First Nations

Blueberry stated that it was, formerly, part of the Fort St. John Band, which adhered to Treaty 8 in 1900. Blueberry also stated that its Dene-zaa ancestors once travelled seasonally around the Peace River country from the Rocky Mountains to the Alberta plains. Blueberry stated that the lands that would be impacted by the proposed Project are part of its territory, and that historically they were a central part of Blueberry's seasonal round, relied on to support its traditional mode of life. Blueberry stated that these traditional lands have always been, and remain foundational to its way of life, culture and identity. Blueberry stated that its members have used, and in some places continue to rely on the lands impacted by the proposed Project for the exercise of their treaty rights.

Blueberry stated that its territory has been subject to extensive, Crown authorized, industrial development (for example, land privatization, agricultural development and fencing, government rules and regulations, the registered trapline system, oil and gas development), which has resulted in Blueberry no longer being able to meaningfully practice their traditional way of life throughout much of the territory. Blueberry submitted that all activities proposed in Blueberry territory must be considered within this important context.

Blueberry stated that given the lack of Project-specific TLU data, the lack of clear evidence about the role the Project will play in facilitating additional natural gas development in Blueberry's core territory and the lack of analyses of the impacts of the same on Blueberry's treaty rights it would be inappropriate for the NEB to recommend approval of the Project at this time. Blueberry also provided comment on the Board's proposed condition for Post-construction Environmental Monitoring Report, which is discussed in Chapter 9.

On a number of conditions, Blueberry expressed concerns regarding the lack of inclusion of Aboriginal groups. Blueberry recommended the Board provide specific direction for NGTL to share and collaborate with Aboriginal groups in various planning and monitoring conditions proposed for the Project. These recommendations included directing NGTL to share copies of

filings with Aboriginal groups, a more comprehensive integration of TEK and TLU values, and continued engagement with Aboriginal groups.

Blueberry also expressed concern that none of the NEB conditions specifically addressed impacts on Blueberry's treaty rights and interests, or provided final or binding conditions on Project approval that guarantee impacts on Blueberry's treaty rights or interests will be mitigated or accommodated.

Fort St. John Métis Society

Fort St. John Métis Society submitted that it reviewed the proposed Project and requested that indigenous seeds from the Twin Sisters Nursery be used for reseeding areas outside private agricultural lands. Revegetation is further discussed in Chapter 9.

Métis Nation British Columbia

Métis Nation British Columbia stated that the construction and operation of the proposed project could put local Métis Aboriginal rights and traditional land-uses at risk. Métis Nation British Columbia also stated that Métis harvesters who rely on the direct and surrounding area for sustenance, social and ceremonial purposes could see negative impacts from the construction and operation of the proposed project. Métis Nation British Columbia stated that as there is current traditional harvesting (hunting, fishing, and plant harvesting for foods and medicines) occurring in the proposed Project area there are Métis traditional knowledge and land-use information activities that could be negatively impacted.

Saulteau First Nations

Saulteau stated that it is an adherent to Treaty 8 and continues to use, occupy, and rely on the lands, waters and resources of Treaty 8 territory in British Columbia for sustenance, livelihood, and the maintenance of its culture. Saulteau stated that the main Saulteau community (I.R. No. 169) is located West of Dawson Creek, and Saulteau members live in the vicinity of the Project and throughout the Peace Region. Saulteau noted its established Treaty 8 rights include hunting, fishing trapping and continuing in the Saulteau way of life and traditional patterns of activity without interference. Saulteau stated in its experience, development like the Project would have the potential to impact adversely on Saulteau's way of life and treaty rights.

Saulteau stated that in addition to the treaty text, oral promises also inform the scope of treaty rights. In the case of Treaty 8, in addition to confirming the ability to exercise hunting, fishing and trapping rights, the oral promises provided Saulteau with a right to continue in its traditional way of life and livelihood. Saulteau asserted that some of the Project's impacts on their constitutionally protected rights, on the environment that makes up Treaty 8, and on Saulteau's way of life, include:

- adverse impacts on wildlife and Saulteau's ability to exercise hunting and trapping rights;
- other limitations on Saulteau's treaty rights;
- adverse impacts on the Kiskatinaw River system; and
- further degradation of already degraded TLU sites.

Saulteau also stated that it anticipates that the Project will result in increased access to, and traffic in, Treaty 8 lands. Saulteau stated that these activities interfere with Saulteau's traditional way of life, and they may also result in a reduction of Saulteau's ability to protect and use the land that it

relies on for its way of life. Further discussion of traffic and access concerns are addressed in Chapter 10 of this Report.

Saulteau raised concerns about the impacts of the Project on the Kiskatinaw River. Specifically, Saulteau stated that the location NGTL proposed to place its bore/drilling is too close the edge of the Kiskatinaw River and recommended a condition requiring NGTL to commit to moving its drilling site northwest of its proposed location. Further discussion regarding the HDD of the Kiskatinaw River is found in Chapter 4 of this Report.

Saulteau submitted that NGTL appears to be trying to minimize the impacts that the Project will have on First Nations (including Saulteau) by indicating that much of the land on which the Project is to be located is private and has already been developed for agricultural or industrial purposes. Saulteau further noted that NGTL appeared to be minimizing the Project's impacts by questioning the current and frequency of land use by Saulteau. Saulteau stated that the fact that the land is private does not restrict a First Nation's ability to use those sites for the exercise of their rights and that the fact that a particular TLU site may not see regular activity at present does not mean that it is not used or does not hold value by Saulteau.

Saulteau did confirm that none of the 25 TLU sites, set out in its written evidence, are located directly within the Project footprint, as defined in NGTL's ESA (that is, none of the sites fall on the direct path of the pipeline expansion and the related facilities). Saulteau noted that all of the sites fall within what it has defined as the Project Radius of a 2.5 km zone in either direction around the Project footprint. Saulteau further noted that many of the sites fall within NGTL's defined Local Study Area with respect to terrestrial environmental components. Additionally, it pointed out that all of the sites fall within what NGTL has defined as the Regional Study Area for terrestrial environmental components related to the Project. Saulteau submitted that the impacts of a project are not limited to the immediate location of the proposed project and its various elements; therefore to assess impacts in such a manner would be unreasonable. It is for this reason, that it used the Project Radius as a range for measuring the impacts of the Project on TLU sites, and on TEK.

Saulteau noted that the Board's potential Condition 7 – Aboriginal Monitoring Plan addressed its concern around monitoring and it strongly supported this draft condition. Saulteau recommended a number of conditions to limit the impact of the Project, including to:

- limit vegetation clearing, manage the timing of construction and protect areas of importance to wildlife (for example, salt licks);
- share and explain the effectiveness of its training for construction personnel around the identification of culturally important First Nation sites and/or heritage resources;
- employ an Saulteau monitor who will be present during construction activities so the monitor would ensure the proper identification and management of any culturally important site or resource discoveries, including the discovery of traditional burial grounds, and that NGTL use trenchless methods to prevent disturbance and avoid culturally important sites;
- continue to work with and assist Saulteau in its ground-truthing efforts for sites that have not yet been visited in the field (due to accessibility and seasonal issues that existed at the time the field work was carried out); and

- keep all Project access roads away from any TLU sites, in order to avoid disturbances to land use and the exercise of treaty rights; and
- commit to ensuring that Project construction activities avoid, and do not further destroy, any of Saulteau's culturally important and TLU sites, even if those sites are located on private agricultural land.

Saulteau also stated that Crown consultation obligations were not met for the Project. Saulteau recommended a condition requiring the Crown to carry out its consultation and accommodation obligations, and provide the Board with an update regarding the same, in order to facilitate the Board's assessment of the adequacy of consultation.

West Moberly First Nations

West Moberly stated that it is an adherent to Treaty 8, and continues to use, occupy, and rely on the lands, waters and resources of Treaty 8 territory in British Columbia for sustenance, livelihood, and the maintenance of its culture. The main West Moberly community is located on a reserve to the west of the Project area. West Moberly stated that its members live and work throughout the Peace region. West Moberly also stated that Treaty 8 guaranteed to West Moberly that "they shall have right to pursue their usual vocations of hunting, trapping and fishing throughout the tract surrendered", and that "the treaty would not lead to any forced interference with their mode of life".

The Board heard directly from West Moberly during its oral traditional evidence presentation, whereby the Elders gave evidence of West Moberly's history and culture, their use of the land and water and how the Project may affect them. For instance, West Moberly Elders indicated:

> *[in the springtime]when leaves start coming out, that was the sign that life is beginning again on the land. That was our New Year's Day. And there would be a big celebration, feasting, prayer ceremonies that would happen.*
>
> *…our practice of trapping has also been limited by the imposition of registered traplines, even though our treaty rights says we don't need registered traplines to exercise our right to trap. But out of respect of the trapline owner… we won't go and trap on somebody else's trapline unless we have their permission to do so.*

West Moberly Elders also provided additional context for the importance that the Kiskatinaw River, which will be crossed by the proposed Project, plays in the lives of its people:

> *The Kiskatinaw River is not the only water source there. There's other streams. And then there's also ground water or sub-surface water that need to be considered in the event of a major break in the pipeline because water is the most important element [for life].*
>
> *What the cause of [the changes to the Kiskatinaw River] is we don't really know… It might have something to do with the logging industry up in the headwaters, the oil and gas industry up there. Maybe farmers using it for irrigation purposes and runoff on their fields into*

> *the river. We don't know. But now it's always dirty. It's not clear and clean like it used to be.*

West Moberly stated that it is concerned about the suitability of NGTL's proposed approach to revegetation of temporary work sites, the risks associated with HDD river crossings, and cumulative effects, including those associated with upstream. West Moberly also stated that it shares Saulteau's concerns including NGTL's plans for dealing with heritage resources and culturally important sites, new and expanded access, the rights of Treaty 8 members on private land, and the need for First Nation monitors during all stages of construction. Chapter 9 of this Report discusses impacts of the Project on vegetation.

West Moberly agreed with NGTL that the information requested by NGTL in its IR No.1 to West Moberly should be available prior to the hearing, to inform the design of the Project and the Board's decision. West Moberly stated that in the absence of detailed TLU study information to indicate which areas contain plant species important to West Moberly traditional land users, NGTL and the Board should use a precautionary approach to re-vegetation planning as represented by the recommendations set out in West Moberly's written evidence regarding vegetation reclamation.

West Moberly also provided insights about the abundance of medicines available on their traditional lands, including areas that would be impacted the proposed Project. The Elders of West Moberly pointed out that their people find medicinal value in plants even though some of these plants are seen as weeds by others. For instance, they stated:

> *…there's some medicines that are just massively abundant. Forestry people call it weeds. For us it's a medicinal plant and edible plant and a spiritual plant. And it also has a number of other uses. Ministry of Forests thinks it's a weed. It's called cow parsnip.*
>
> *We watch for [fungus], which is used in the spiritual ceremony. We smudge with it to purify our hearts, minds, body, and spirit before prayer. And it's also…[used]to ward off mosquitoes.*

West Moberly objected to NGTL's proposal to remove the Board's draft condition for an Aboriginal Monitoring Plan and replace it with NGTL's Aboriginal Construction Participation Program. West Moberly submitted that NGTL erroneously characterized First Nations' interest in monitoring programs as based on a desire for additional employment and training opportunities. West Moberly stated that while it values such opportunities, the purpose of monitoring is first and foremost to ensure the protection of the environment and cultural and heritage resources during construction. West Moberly also stated that the retention of this condition will help ensure accountability and effectiveness of NGTL's monitoring program.

West Moberly submitted it has concerns with the suitability of NGTL's proposed approach and recommended that the Board impose the following additional conditions to ensure that the development of the Project does not create unjustified adverse effects on the environment and Treaty rights:

- NGTL be required to implement measures to avoid, minimize, restore, and offset any potential impacts of the Project on values identified by affected First Nations to the greatest extent possible within the limits of technical and economic feasibility;

- NGTL be required to file with the Board, and serve a copy on the First Nations that participated in the hearing, at least 60 days prior to commencing construction, a plan regarding revegetation of temporary work spaces and any other areas not required to be kept clear during operation, and

- NGTL be required to file with the Board, at least 60 days prior to commencing construction, a detailed drilling plan for the HDD watercourse crossings that accounts for site-specific factors in order to minimize the risk of frac-out and other drilling failures.

Matters related to revegetation of temporary work sites and cumulative effects assessment are addressed in Chapter 9 of this Report. Matters related to HDD are addressed in Chapter 4 of this Report.

West Moberly submitted that NGTL did not provide sufficient information to support a finding that the Project is in the public interest. West Moberly submitted that it cannot support the issuance of a certificate of public convenience and necessity in respect of the Project.

8.7.3 NGTL Reply to the potential impacts on Aboriginal groups

NGTL stated that it understands that the Crown has a legal duty to consult potentially affected Aboriginal peoples regarding potential impacts of Crown decisions on Aboriginal and treaty rights. NGTL also understands that its AEP is separate from, but complementary to, the Crown's duty to consult. NGTL stated that its AEP was developed and implemented to anticipate, prevent, mitigate and manage potential Project-related effects on the exercise of Aboriginal or treaty rights and interests. NGTL submitted that it recognizes that engagement activities conducted for the Project may be used by the Crown to determine whether the Crown's duty to consult has been fulfilled. NGTL submitted that it seeks to identify the Project-related interests and concerns of potentially affected Aboriginal communities through its engagement and ESA activities.

NGTL reiterated that Aboriginal communities engaged for the Project have indicated that traditional use of private land is, in fact, either limited or requires agreement of the landowners. NGTL also stated that it reviewed its findings regarding the Project's potential impacts to TLU in light of Saulteau's evidence, and has determined that the significance conclusions of the ESA remain unchanged. NGTL stated that it reviewed whether its assessment would be affected by this changed assumption, and it determined that the conclusions would not change (in large part because the environmental resources that support TLU activities were assessed for the full length of the Project).

NGTL indicated that monitoring of access control would be specific to where access control measures have been employed. These would be limited to Crown lands where their use has been approved by the land manager, and would be limited to areas of new cut or where the right-of-way is intercepted by other linear features.

TLU Sites Discovery Contingency Plan

NGTL stated that to date, no specific TLU sites have been identified by any Aboriginal Intervenor along the Project route. With respect to Saulteau, NGTL confirmed that none of the sites identified in their written evidence are located directly within the Project footprint. NGTL also stated that if Saulteau, Blueberry or any other Aboriginal group identifies a TLU site to NGTL during

subsequent engagement activities, or if such sites are discovered during construction, it is committed to working with the affected Aboriginal group, together with the applicable regulatory agencies, to determine how best to avoid or mitigate impacts on that site. NGTL stated that there are a number of avoidance and mitigation strategies that can be employed depending on the nature of the site and its location relative to the Project.

NGTL stated that as of February 2016, it was in the process of finalizing a Project-specific Letter of Agreement for additional capacity funding with Saulteau. NGTL stated that this funding would support Saulteau's request to conduct site visits to potential areas of cultural significance that it identified along the Project right-of-way in advance of the proposed construction activities. Following the completion of Saulteau's site visits, NGTL committed to engaging with Saulteau to propose mitigation measures and discuss Saulteau's interest in ensuring protection of heritage sites within areas of cultural significance. In addition, NGTL committed to providing Saulteau with regular updates or special notifications with respect to construction activities scheduled for the Project.

NGTL confirmed it has and will continue to:

- review all TLU studies;
- work with the communities to identify and understand issues and concerns;
- ensure appropriate mitigation is planned to address Project-related concerns and issues; and
- include any spatially specific mitigation identified through this process into the EPP and Environmental Alignment Sheets to ensure mitigation is implemented during construction.

Aboriginal Participation in Monitoring

With respect to the Board's potential Condition 7 requiring NGTL to develop an Aboriginal Monitoring Plan for the Project, NGTL submitted that such a condition is not appropriate. NGTL indicated that it has already proposed to have an environmental monitor on site during construction to ensure that NGTL implements its planned mitigation and that any chance finds related to wildlife, TLU or heritage resources are appropriately addressed.

NGTL submitted that its planned mitigations are sufficient, and a water quality monitoring plan will be developed for the Project. NGTL stated that it does not plan to employ any Aboriginal monitors to monitor construction of any trenched or trenchless watercourse crossings. NGTL stated that it will follow-up to provide information to Aboriginal communities and organizations, including West Moberly, with respect to additional engagement activities and opportunities to provide feedback to the Project within their traditional territory or area of interest during the Project's construction and post-construction phases.

NGTL stated that it remains committed to working with Saulteau to reasonably address any outstanding Project-specific concerns raised and to identify further opportunities for Project engagement with Saulteau throughout construction and operation. NGTL stated that a description of Aboriginal community involvement in post-construction monitoring will be included in the Aboriginal Construction Participation Program.

Views of the Board

The Board interprets its responsibilities in a manner consistent with the *Constitution Act, 1982*, including section 35(1), which recognizes and affirms the existing Aboriginal and treaty rights of Aboriginal peoples. In order to ensure that its recommendations and decisions with respect to this application are consistent with both section 35(1) and procedural fairness requirements, the Board has adopted the following assessment process. The Board is of the view that this process is appropriate, recognizing the nature of this application, the importance of the constitutionally protected rights of Aboriginal peoples, and the many and varied societal interests that must be considered in its assessment.

The Government of Canada and the NEB hearing process

The Board notes that the Government of Canada indicated in letters to potentially affected Aboriginal groups that it is relying on the NEB process to the extent possible to meet the Crown's duty to consult Aboriginal groups. The Board is of the view that this reliance is appropriate given the Board's robust and inclusive process, its technical expertise, and broad remedial powers with respect to Project-related matters. The Board notes that a number of judicial decisions, including Taku River Tlignit First Nation v. British Columbia (Project Assessment Director) 2004 SCC 74, have acknowledged the Crown's ability to rely on opportunities for Aboriginal consultation that are available within existing processes for regulatory or environmental review. This is a means by which the Crown may be satisfied that Aboriginal concerns have been heard and, where appropriate, accommodated.

Requirements of NGTL

The Board's process was designed to obtain as much relevant evidence as possible on Aboriginal concerns about the Project, potential impacts on Aboriginal interests, including rights, and possible mitigation measures to minimize adverse impacts on Aboriginal interests. In addition to providing technical information addressing Project-related impacts on, among other things, fisheries, wildlife, vegetation, and heritage resources, NGTL was required to make all reasonable efforts to consult with potentially affected Aboriginal groups and to provide information about those consultations to the Board. This included evidence on the nature of the interests potentially affected, the concerns that were raised and the manner and degree to which those concerns have been addressed. NGTL was expected to report to the Board on all Aboriginal concerns that were expressed to it, even if it was unable or unwilling to address those concerns. Therefore, even if an Aboriginal group chose not to participate in the subsequent hearing process, any concerns could be brought to the attention of the Board through the applicant's evidence.

This early consultation was guided by the Board's Filing Manual Requirements, direction given by the Board during the Project Description phase, as well as information the applicant received from other government departments and agencies that it consulted in relation to the Project. The requirements reflect the fact that an applicant is often in the best position to respond to Aboriginal concerns about a project before an application is filed and while a project is still in the early stages of development.

The Board expects an applicant to design and implement its consultation activities with regard to the nature and magnitude of a project's potential impacts. Where there is a greater risk of more serious impacts on Aboriginal interests (which would, in part, depend on the nature of that interest), the Board has greater expectations in terms of the applicant's consultation with the potentially impacted Aboriginal group. In contrast, where there is a remote possibility of an impact on Aboriginal interests, or the impacts are minor in nature, the applicant's consultation will generally not be expected to be as extensive. An evaluation of NGTL's consultation is outlined below.

Aboriginal groups and the NEB hearing process

In addition to the mandated one-on-one consultation that is to occur between an applicant and potentially impacted Aboriginal groups, it should also be understood that the Board's hearing process itself, including this report, is part of the overall consultative process. While much of the early consultation was performed by NGTL, the Board process acted as a necessary and important check on that consultation and gave Aboriginal groups an additional avenue to explain their concerns about the Project and have those concerns carefully considered by the Board.

The Board conducted an Application to Participate (ATP) process, which required interested persons or groups to request participation in the Board's hearing process by demonstrating that they are directly affected by the proposed project or that they have relevant information or expertise that will assist the Board in making its decisions and recommendation in respect of a proposed project. All Aboriginal groups that submitted ATP's were granted the level of participation they requested.

Aboriginal groups who are concerned with potential Project-related impacts on their interests, including rights, had opportunities to present their views directly to the Board. While the Board required the applicant to implement a consultation program and perform an impact assessment, the Board also took steps to facilitate the direct participation of Aboriginal groups in its proceedings. The Board sent letters to each potentially impacted Aboriginal group informing them of the Project, as well as the Board's role in respect of the Project. The letters provided information regarding the Board's participant funding program and offered to provide further information on the hearing process. Board staff followed up on these letters, responded to questions regarding the Board's process and conducted information meetings where requested.

Independent of the Panel and the regulatory process, the Board administered a participant funding program, which allotted funding to assist Intervenors with their participation. A total of approximately $200,000 was made available for participant funding for this hearing. This amount was offered to 4 eligible Intervenors[13], with $148,000 of the funding offered to Aboriginal groups.

In addition, potentially affected Aboriginal groups were provided with a choice of a number of methods of participating in the hearing. Aboriginal Commenters were able to submit a

[13] Blueberry River First Nations, Canadian Association of Energy and Pipeline Landowners Associations, Saulteau First Nations and West Moberly First Nations

Letter of Comment and Aboriginal Intervenors had the opportunity to submit written evidence, ask written questions of NGTL and other Parties, respond to any written questions asked by the Board and NGTL and submit written final argument. The Board understands that Aboriginal peoples have an oral tradition for sharing information and knowledge from generation to generation. Since this information cannot always be shared adequately in writing, the Board held an oral hearing in Dawson Creek, British Columbia, a location near those interested in the Project, to provide Aboriginal groups the opportunity to present oral traditional evidence (OTE), and to allow for cross-examination of NGTL's and Aboriginal Intervenors' witness panels. Traditional ceremonies were incorporated into the Board's proceeding and the Board provided an audio broadcast, as well as transcripts of its proceedings, so that interested parties who were not in attendance could be aware of what was occurring during the hearing. The Board also offered remote participation for the oral hearing in an effort to make it as accessible as possible.

The Board finds OTE provided by Aboriginal groups valuable for the Board's consideration of a project. The opportunity to provide OTE was unique to Aboriginal participants. The Board thanks West Moberly First Nation for providing its local, traditional and cultural knowledge at the oral traditional evidence hearing, as it allows the Board to better understand the nature and extent of the interests and concerns of participating Aboriginal Intervenors and how the Project may affect their interests. In particular, the Board acknowledges West Moberly First Nation's Elder George Desjarlais, Elder Margaret Campbell, Elder Edna Brown and Elder Catherine Dokkie for providing this important context and information.

Although the Board made every effort to hear the oral traditional evidence in Kiskatinaw Provincial Park, as requested by West Moberly First Nation, the Board was not able to accommodate this request, as it could not meet its obligations to provide a safe and accessible hearing for Board staff and the public at this particular park. However, the Board is of the view that such invitations are welcome, that it values opportunities to continually improve its processes and remains open to future discussions with Aboriginal groups on the delivery of oral traditional evidence.

Several Aboriginal groups took the opportunity to participate in the Board's hearing process and make submissions directly to the Board. Many of those submissions are reflected throughout this Report. Such submissions by Aboriginal groups included, among other things, descriptions of the nature and extent of their interests in the Project area, views on the potential Project-related impacts, and discussion of appropriate mitigation measures, including their views on the potential conditions the NEB released for comment.

Government departments and the NEB hearing process

Given the comprehensiveness of the Board's process, the Board's technical expertise and its broad remedial powers that are generally not within the purview of other government departments, it was important that concerns related to the Project be brought to the Board's attention through consultation with the applicant and participation in the hearing process. To the extent that other government departments had information to provide to the Board, they had the opportunity to participate in the

Board's process and file relevant information on the Board's record. Several government departments participated in the Board's proceeding, including Natural Resources Canada, Government of Alberta – Alberta Department of Justice, the Ministry of Natural Gas Development (British Columbia), Environment and Climate Change Canada, Health Canada and the Northern Health Authority (British Columbia). Some of these government participants filed information on the Board's hearing record.

The Board recognizes that Aboriginal peoples have a broad range of matters and concerns that they wish to raise, discuss and resolve with the Government of Canada. While the Board recognizes the importance of these issues, the Board does not have the ability within its proceedings, to properly address issues that are unrelated to the application. Nevertheless, the Board carefully considered all of the submissions of Aboriginal groups so that it could have a greater understanding of the context for Aboriginal concerns with the Project.

Consideration of potential impacts and mitigation

Before making its decisions and recommendations on the Project, the Board considered all of the relevant information before it, including information regarding the consultation undertaken with Aboriginal groups, the views of Aboriginal groups, the potential impacts on Aboriginal interests, and proposed mitigation measures.

The Board looked at the claimed or established interest in the context of how it may be impacted, what measures can be employed to mitigate that impact and how any impact should be considered in light of other interests related to the Project. The Board then considered all of the benefits and burdens associated with the Project, balancing Aboriginal concerns with other interests and factors (such as the need for the Project), before determining whether, in its opinion, the Project is in the public interest.

In carrying out this part of its mandate, the Board's objective was to reconcile Aboriginal interests and concerns with other public interest considerations. The Board's process is designed to be thorough and accessible to Aboriginal groups so that they may make their concerns known to the Board and have those concerns considered and addressed as appropriate. Further, the open nature of the Board's process allowed all participants interested in the application to be fully aware of the evidence that the Board considered in making its recommendations and decisions on the Project, which is consistent with the principles of procedural fairness.

Consultation through the Project lifecycle

It is important to understand that there is a need for consultation to occur early in the planning stages of a project. However, information about a project is necessarily refined as project planning progresses, including in response to information provided by Aboriginal groups through consultation, and therefore, it is important that consultation is ongoing. The Board has set out broad expectations for all regulated companies that consultation will continue throughout the life of a project and the Board routinely imposes binding obligations on the applicant to ensure that such consultation is occurring

in an appropriate manner throughout the lifecycle of a pipeline. As the regulator of a project throughout its lifecycle, the Board also has a number of processes and tools at its disposal to execute its oversight of a project, including ensuring compliance with any conditions imposed by the Board.

If a certificate is issued for this Project, consultation will be ongoing throughout the life of the Project as conditions are met and additional permits are obtained. Notwithstanding this additional consultation, the Board is satisfied that the initial certificate process described above serves an important role in reconciling the various interests involved in such applications and ensuring that the *Constitution Act, 1982*, section 35(1) obligations associated with the Project are met.

NGTL's consultation

In assessing the consultation undertaken by NGTL with Aboriginal groups, the Board evaluated the design and implementation of NGTL's consultation activities. The Board considered the company's activities to engage Aboriginal groups and to learn about their concerns and interests. It also considered how Aboriginal groups responded to opportunities for consultation and how NGTL sought to understand, consider and address the concerns of potentially affected groups. The Board considered how this input influenced the Project's proposed design and operation. The Board also considered the concerns and views expressed by Aboriginal groups.

A company's early consultation with Aboriginal groups is a critical part of the development of a proposed project, and a key matter for consideration within the regulatory review process. Timely, accessible and inclusive consultation facilitates the effective exchange of information, and provides opportunities for the company to learn about the concerns of potentially affected Aboriginal groups, to discuss how those concerns can be addressed through project design and operational considerations, and to develop and discuss measures to reduce and mitigate the effects a project may have on the interests of Aboriginal groups. Timely and effective consultation can help establish productive relationships that can carry on throughout the life of the project. It also informs the Board of the concerns Aboriginal groups may have about a project's impacts.

With respect to NGTL's consultation with Aboriginal groups, the Board finds that NGTL met the expectations of the National Energy Board, including those set out in the Board's Filing Manual. The Board is satisfied with the design and implementation of NGTL's consultation activities to date given the scope and nature of the Project. NGTL began consulting with Aboriginal groups it identified as being potentially impacted by the Project in June 2014, and commenced consultation activities with additional groups identified by the Board and MPMO in August 2015. The Board finds that the criteria used by NGTL to identify potentially affected Aboriginal groups were appropriate.

The Board also finds that all potentially affected Aboriginal groups were provided with sufficient information about the Project. The Board notes NGTL provided Project information to Aboriginal groups, which included information about the project design, operations, environmental, social and economic effects, including potential economic development opportunities including training, contracting and employment. NGTL

continued to facilitate opportunities with potentially affected Aboriginal communities to contribute to Project planning and design and that it committed to working with interested communities to address any Project-specific concerns raised and to identify further opportunities for consultation throughout construction and operation of the Project.

The Board considered the concerns of Blueberry, Saulteau and West Moberly with respect to the adequacy of consultation. The Board notes that several Aboriginal groups, including Blueberry, Saulteau and West Moberly participated in biophysical field studies to support the ESA for the Project. However, certain groups chose to not share traditional ecological knowledge for the purposes of the Project. Having carefully considered the evidence, including the consultation logs filed by NGTL, the Board finds that NGTL made substantial efforts to provide Aboriginal groups that expressed an interest in the Project with opportunities to participate in Project planning and to share traditional knowledge and identify site-specific and general concerns about the Project. The Board finds that NGTL was responsive to the concerns and recommendations raised by Aboriginal groups and that it will continue to work with Aboriginal groups, such as Blueberry, Saulteau and West Moberly to address Project-related concerns and establish appropriate mitigation measures.

The Board finds that NGTL has designed and implemented an appropriate and effective consultation program that meets the requirements and expectations set out in the Board's Filing Manual. The Board finds that, with NGTL's commitments and the Board's recommended conditions, NGTL can effectively continue to consult with Aboriginal groups to learn more about their interests and concerns, and address issues raised by Aboriginal groups throughout the lifecycle of the Project lifecycle.

Project-related impacts

In assessing potential impacts on Aboriginal interests, the Board considered all of the evidence provided. The Board assessed how NGTL identified and evaluated the potential impacts on the interests, including the rights, of Aboriginal groups, the concerns raised by Aboriginal groups, and the measures NGTL has proposed to minimize or eliminate the Project's potential impacts on the interests of Aboriginal groups.

Through the review process, Aboriginal groups had the opportunity to make their views and concerns about the Project, including what effects it might have on their potential or established interests, known to both NGTL and the Board. Blueberry, Métis Nation British Columbia, Saulteau and West Moberly expressed their views and concerns about how the Project might affect their Aboriginal and treaty rights relating to hunting, trapping, fishing, harvesting of plant resources for sustenance and medicines, and the maintenance of cultural practices and livelihoods within their traditional territories. The Board acknowledges the importance that Aboriginal groups place on being able to exercise their Aboriginal and treaty rights, and continue their traditional activities, uses and practices within the entire area of their traditional territories, including access to resources and areas and sites of cultural importance and significance.

NGTL outlined its approach for assessing the potential impacts on the rights and interests of Aboriginal groups. Its approach relied on an assessment of effects on biophysical and human environments. NGTL's assessment also incorporated information obtained by TLU

studies and from Aboriginal groups directly through consultation activities, including the sharing of traditional knowledge by Aboriginal groups during map workshops, field study surveys, site visits and other activities.

The Board considered the evidence provided by NGTL, Blueberry, Saulteau and West Moberly and other participants about the nature and extent of the activities, uses, and practices that are carried out by Aboriginal groups in the Project area. The Board acknowledges the concerns raised by Blueberry, Métis Nation British Columbia, Saulteau and West Moberly that their traditional harvesting (hunting, fishing and plant harvesting for foods and medicines) has been and will likely continue to be disrupted by incremental industrial development in the region. Blueberry provided examples such as land privatization, agricultural development and fencing, government rules and regulations, the registered trapline system and oil and gas development, and West Moberly Elders provided context through their oral traditional evidence. The Board considered the potential impacts on those activities, uses and practices. The Board also considered all the measures committed to by NGTL to minimize such impacts.

As outlined in this Chapter, as well as Chapters 9 and 10 of this Report, NGTL has described its specific and broad mitigation measures that would be implemented to address potential effects on biophysical elements, including fish and fish habitat, wildlife, vegetation, and water quality and quantity, as well as measures to address specifically the potential effects on traditional use and socio-economic components, including cultural heritage resources. NGTL submitted that by carefully selecting a pipeline route that will largely parallel other linear features and that is predominantly on agricultural land, together with its suite of field-tested mitigation measures, it has effectively minimized environmental and socio-economic impacts associated with the Project.

Given the assessment provided above, as well as that provided in this Report as a whole, the Board finds that NGTL's proposed mitigation, including paralleling the existing or proposed linear disturbances for the majority (approximately 82 per cent) of the length of the Project, will minimize further landscape fragmentation resulting in limited potential environment effects and impacts on the use of lands and resources for traditional purposes.

The Board discusses in detail in other chapters of this Report, a variety of impacts and concerns that were raised. Specifically, the Board makes findings and provides views on technical concerns related to potential impacts on Aboriginal interests in Chapter 4, 6, 9 and 10. When Participants submitted specific conditions for Project approval, the Board discussed them in the appropriate technical chapter. For example, Saulteau and West Moberly's suggested conditions regarding additional HDD requirements are discussed in Chapter 4 and West Moberly's condition requiring a plan for revegetation of temporary work sites is discussed in Chapter 9.

The Board notes the importance raised by all Aboriginal Intervenors regarding the incorporation of TLU/traditional knowledge information into Project design and construction activities. The Board acknowledges NGTL's commitment to completing any outstanding TLU studies and considering any additional information that may be brought forward by Aboriginal groups regarding their use of the lands and resources in the Project

area. The Board would recommend **Certificate Condition 9** and impose **Section 58 Order Condition 5**, requiring NGTL to file a plan to address outstanding TLU investigations.

The Board also notes the value and unique perspective that Aboriginal groups can provide in determining mitigation measure effectiveness, partly based on their traditional knowledge. Therefore, the Board would recommend **Certificate Condition 8** impose **Section 58 Order Condition 7**, requiring NGTL to develop an Aboriginal Monitoring Plan during both construction and post-construction of the Project. The Board would also recommend **Certificate Condition 20**, requiring NGTL to summarize the participation of Aboriginal groups and report on construction related monitoring outcomes. Further discussion regarding Aboriginal monitoring is provided in Chapter 9.

In response to Blueberry's request for filings to be shared with potentially-affected Aboriginal groups, the Board recommends **Certificate Condition 6** and **Section 58 Order Condition 4,** which requires NGTL to notify all interested parties, which have expressed an interest, of condition compliance filings and Commitment Tracking Table updates.

The review and final design of a proposed project is, in the Board's view, an iterative process. Should the Project proceed, NGTL would be required to continue its consultation with potentially affected Aboriginal groups, and to finalize the development of its plans and measures to reduce and mitigate the potential effects and to protect the environment and the resources that are of importance to and utilized by Aboriginal groups. As noted above, the Board recommends a number of conditions requiring NGTL to report to the Board on its consultation with Aboriginal groups.

Viewing all of these factors together, and as the Board has concluded within Chapters 4, 6, 7, 9 and 11, the Board is satisfied that with NGTL's commitments, its proposed mitigation measures, and with the Board's proposed conditions, that the effects on the interests of potentially affected Aboriginal groups can be effectively minimized, and that there would not be significant adverse effects on the ability of Aboriginal people to continue to use lands, waters and resources for traditional purposes. Further discussion of potential cumulative effects is provided in Chapter 9.

Having considered all the evidence in this proceeding, the consultation undertaken with Aboriginal groups, the impacts on Aboriginal interests, the proposed mitigation measures, including conditions, to minimize adverse impacts on Aboriginal interests and the commitment to ongoing consultation, the Board is satisfied that its recommendations and decisions with respect to the Project are consistent with section 35 of the *Constitution Act*, *1982*.

Chapter 9

Environment and Socio-Economic Matters

As the Project is over 40 km in length, it is a designated project under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). Accordingly, the Board is required, as the Responsible Authority, to conduct an environmental assessment (EA) and prepare an EA report. The Board also considers environmental protection as part of its broader mandate. When making its recommendations, the Board is responsible for assessing the environmental and socio-economic effects of the Project. This chapter represents the Board's EA for the Project.

9.1 The CEAA 2012 Context

On 20 October 2015, the Board posted on the Canadian Environmental Assessment Registry Internet Site (CEARIS; reference number is 80106) a description of the factors to be taken into account in the EA and the scope of those factors as required by subsections 19(1) and 19(2) of the CEAA 2012. The environmental effects considered include those listed in subsection 5(1) of the CEAA 2012 as well as other effects pursuant to subsection 5(2) and as set out in the Board's Filing Manual. On 31 December 2015, the Board also posted a Notice of Commencement on the CEARIS that the EA commenced.

CEAA 2012 requires the Board to provide opportunities for public participation and provide participant funding, both of which are further described in Chapter 2.

9.2 The Board's Environmental Assessment Methodology

In assessing the environmental and socio-economic effects of the Project, the Board used an issue-based approach as set out in its Filing Manual.

This assessment begins with: a description of the Project (section 9.3), a description of the setting and the environmental and socio-economic elements within that setting (section 9.4), and a summary of those environmental and socio-economic concerns raised by Participants (section 9.5). Based on these, the Board identified Project-environment interactions expected to occur and any resulting potential adverse environmental effects (section 9.6; Table 9-2). If there were no expected Project-environment interactions or interactions resulted in positive or neutral effects then no further examination was deemed necessary.

The Board then assessed the potential adverse environmental and socio-economic effects, as well as the adequacy of NGTL's proposed environmental protection strategies and mitigation measures (section 9.6). Section 9.6.4 discusses the extent to which standard mitigation is relied on to mitigate potential adverse effects. In section 9.6.5, the Board provides detailed analysis for issues that are of public concern or of environmental consequence, and that may require additional mitigation. For each issue considered in detail, Views of the Board are provided and the Board assesses whether

further mitigation is recommended by way of condition on any potential project authorization, in order to ensure any potential environmental and socio-economic effects would not be significant. Where there are any residual effects remaining after proposed mitigation, cumulative effects are considered in the following section (9.7). Follow-up under the CEAA 2012 is then discussed in section (9.8). The Board's determination of significance is given in section 9.9.

9.3 Project Details

A general description of the Project is provided in Chapter 2. In addition, the following table provides further details on Project components and activities relevant to the EA.

Table 9-1: Project Components and Activities

Project Components and Activities

Pipeline Construction Phase – Timeframe: Construction activity period from start of construction to start of operations
• RoW preparation beginning late Q1 2017
  o NGTL identified 12 locations of RoW preparation (equaling < 40 km in length) and temporary facilities (stockpile sites, contractor yards and temporary access for HDD bore sites) to be included in its section 58 exemption request
• Construction of receipt meter stations beginning Q2 2017
  o NGTL requested meter station preparation and construction to be included in its section 58 exemption request

Construction activities include (but are not limited to):
• surveying, clearing, soil handling, trenching, stringing, welding, coating, backfilling, pressure testing, fencing
• construction of temporary access roads
• construction of road and watercourse crossings
  o isolated crossings at sites with watercourse flows less than $4m^3/s$, channel widths less than 100 m and water depths of less than 2 m
  o open cut crossings at crossing sites where isolation crossings are not possible
  o HDD crossings at the Pouce Coupé River (GBML Loop), Unnamed Creek – to be completed simultaneously with Highway 97 due to proximity (GBML Loop), Kiskatinaw River (TLS) and Unnamed Creek (TLS)
  o hydrostatic test water to be withdrawn from 29 different sources (no clearing is required to access source water)
  o RoW cleanup and reclamation

Project Components and Activities

Operations Phase – Timeframe: Service life of the Project (approximately 30 years or more)
• Targeted in-service date for pipeline components (GBML Loop and TLS) is Q4 2017
• Targeted in-service dates for meter stations
  o Dawson Creek East Receipt – Q3 2017
  o Tower Lake Receipt and Groundbirch East Receipt Expansion – Q4 2017
  o Dawson Creek North No. 2 Receipt – Q2 2018
  o Dawson Creek North Receipt – Q4 2018
• Operations and maintenance activities throughout the life of the Project
• RoW maintenance including vegetation control, erosion control, line integrity flyovers and third party activity near lines
• 70 m of permanent access is planned to support Project operations

Abandonment Phase – Timeframe: At the end of the service life of the Project
• Pursuant to the NEB Act, an application would be required to abandon the facility, at which time the environmental effects would be assessed by the Board.

9.4 Environmental Setting[14]

Land, Human Occupancy and Resource Use

- The Project will start at the existing Gordondale Meter Station (approximately 11 km east of Bay Tree, Alberta), and will terminate at the proposed Tower Lake Receipt Meter Station (approximately 26 km south of the City of Fort St. John, British Columbia).

- The Project requires approximately 87 km of new ROW and TWS. In total 89 per cent of the permanent Project footprint is located on freehold land, and the remaining 11 per cent is on provincial Crown land. The meter stations are all located on freehold land.

- The Project footprint, which consists of permanent pipeline ROW, temporary workspace and meter stations, is approximately 439 hectares (ha), where 360 ha (82 per cent of the Project footprint) is comprised of existing disturbance (e.g., agricultural land, pasture, revegetated industrial land, cutblocks, disturbed or developed land), with 79 ha (18 per cent of the Project footprint) crossing natural upland vegetation and wetlands.

- The Project is located within the County of Saddle Hills in Alberta and within the Peace River Regional District in British Columbia. Agriculture, oil and gas activities, and forestry are the dominant industrial activities in these regions.

- There is one Cultivation Permit, one Farm Development Lease, and two Grazing Leases located in the Alberta portion of the LSA. With the exception of an area around the Kiskatinaw River, the portion of the LSA located in British Columbia is entirely in Zone 2

[14] Note: Geographical terms Project Footprint, Local Study Area (LSA) and Regional Study Area (RSA) are defined in Table 9-3.

of the Agricultural Land Reserve, which is a provincial land use zone in which agriculture is recognized as its priority use.

- Outfitting, trapping and recreational activities are known to occur within the LSA along the proposed pipeline route. In Alberta, NGTL identified two registered trapping areas that will be traversed by the proposed route. In British Columbia, there are eight registered trapping areas that will be traversed by the proposed route.

Physical Environment

- In British Columbia, the Project area is located in the Alberta Plateau of the Interior Plains physiographic region.
- In Alberta, the Project is located in the Southern Alberta Uplands and Northern Alberta Lowlands regions of the Interior Plains physiographic subdivision.
- The landscape in the Project area is dominated by flat to moderately sloped undulating terrain and rolling uplands with deep soils. The Project area occurs within the deeply incised, broad valley of the Kiskatinaw and Pouce Coupé Rivers.
- The RSA contains 330.5 ha unstable terrain (1.8 per cent of RSA) along the unstable side slopes of the Kiskatinaw River, the Pouce Coupé River, and an Unnamed Creek on the TLS.

Soil and Soil Productivity

- The soil LSA and RSA contain agricultural lands as well as forested lands with agricultural capability.
- The majority of the soil LSA has low wind erosion risk, high water erosion risk and high to very high compaction and rutting risk.
- Clubroot has not been identified within the region.

Vegetation

- The majority of the terrestrial LSA is in the Moist Warm Boreal White and Black Spruce (BWBSmw) geo-climatic subzone. The remaining is in the Dry Mixedwood and Lower Foothills subregions.
- The most common trees found in these subregions are white spruce, trembling aspen, lodgepole pine, black spruce, jack pine, white birch, balsam fir, tamarack, and balsam poplar.
- During the 2014 and 2015 vegetation field surveys for the Project, populations of creeping thistle, perennial sow thistle and scentless chamomile were observed in and adjacent to the Project footprint. Seventeen unregulated nuisance weed species were also observed in and adjacent to the Project.

Water Quality and Quantity

- The Project is located in the Pouce Coupé River and Kiskatinaw River sub-basins within the Upper Peace sub-basin of the Peace River basin.
- There are 24 watercourses crossed by the Project, including the Kiskatinaw River, the Pouce Coupé River, Sergeant Creek, McQueen Creek, Coal Creek and 19 unnamed watercourses.
- The Project crosses a large buried valley, the Arras Valley, which roughly parallels the Kiskatinaw River. Two buried valleys have been mapped parallel to the Pouce Coupé River in the groundwater LSA.
- The Project is located over four aquifers.
- There are 21 water wells located in the groundwater LSA in British Columbia and no active water wells within the Alberta portion of the LSA.

Fish and Fish Habitat

- Twenty-four fish species, including 8 sport fish species, have potential to inhabit watercourses crossed by the Project.
- Ten fish species designated provincially as having special conservation status have potential to be present in the aquatic LSA, RSA and/ or Peace River.
- The fish species identified as primary concern for the effects assessment are Arctic grayling and bull trout, as these species represent species of management concern and are commercial, recreational or Aboriginal (CRA) fishery species within the aquatic RSA.
- None of the fish species documented in the aquatic RSA are currently federally designated under the *Species at Risk Act* (SARA) or by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Wetlands

- The Project footprint, not including the area of four trenchless crossings, transects 29 wetlands totalling 5 ha.
- Most are non-peaty (mineral) wetlands, mainly consisting of forested swamp, temporary wetlands and semi-permanent ponds and lakes.

Wildlife and Wildlife Habitat

- The terrestrial LSA is located in the Dry Mixedwood subregion of the Boreal Forest Natural Region of Alberta, the Lower Foothills subregion of the Foothills Natural Region of Alberta, and the Boreal White and Black Spruce Biogeoclimatic Zone of British Columbia.
- The Project is located within Bird Conservation Region 6
- The migratory bird nesting period is from late April to late August for the Project area.

- Key indicator species detected during the winter track count survey conducted for the Project included moose and fisher/marten whose distribution in the terrestrial LSA was widespread.

- A total of 42 species and 1013 individuals were recorded during the breeding bird surveys.

- The least flycatcher was the most abundant species observed and the yellow warbler was also recorded in high numbers.

- The terrestrial LSA overlaps two Management Units and eight traplines, in British Columbia.

- In Alberta, the terrestrial LSA and RSA also overlap both the Saddle Hills Wildlife Management Unit (WMU) 358 and Blueberry WMU 539.

- In Alberta, the terrestrial LSA overlaps two Registered Fur Management Areas (RFMA 1919 and RFMA 2691).

Species at Risk or Species of Special Status and Related Habitat

- Fourteen historical occurrences of provincially listed plant species were documented at 21 locations in the Project footprint, terrestrial LSA and terrestrial RSA. Three provincially listed plant species (golden saxifrage, spotted coralroot and striped coralroot) were observed at two locations during the 2014 and 2015 vegetation field surveys, with two of the species observed within the Project footprint. The Project footprint and terrestrial LSA do not support habitat for federally listed plant species.

- One ecological community (narrow-leaf willow shrubland) was documented in the Project footprint during the 2014 and 2015 vegetation field surveys.

- There are 13 federally listed wildlife species with the potential to occur in the terrestrial LSA and RSA: western toad, barn swallow, Canada warbler, common nighthawk, great blue heron, horned grebe, olive-sided flycatcher, rusty blackbird, short-eared owl, yellow rail, little brown myotis, northern myotis, and wolverine. Nine of these 13 species are listed on Schedule 1 of the SARA. The western toad, Canada warbler and barn swallow were observed during the wildlife surveys for the Project in 2014 and 2015.

- Fourteen provincially listed bird species have been historically recorded in the terrestrial RSA: bay breasted warbler; black backed woodpecker; black throated green warbler; common yellow throat; Connecticut warbler; Le Conte's sparrow; least flycatcher; Nelson's sparrow; pileated woodpecker; short-eared owl; trumpeter swan; western tanager; western wood peewee and yellow rail. All of these, except yellow rail; short-eared owl; black backed woodpecker; Nelson's sparrow and western tanager were observed during surveys in 2014 and 2015.

- Four amphibian species at risk or of special status potentially occur in the LSA: boreal chorus frog; wood frog; Columbia spotted frog; and western toad. Wood frog, boreal chorus frog and western toad (breeding evidence) were detected during the amphibian surveys conducted for the Project.

Atmospheric and Acoustic Environment

- Combustion of fossil fuels is the primary source of carbon monoxide, sulphur dioxide and nitrogen dioxide in the region; 22 industrial facilities in the LSA reported criteria air contaminant (CAC) emissions to the National Pollutant Release Inventory (NPRI) in 2013. Monitored concentrations of carbon monoxide, sulphur dioxide and nitrogen dioxide in the air emissions LSA were below the applicable regulatory objectives and standards over the 2009-2013 monitoring period.

- In general, increased levels of $PM_{2.5}$ have been observed in the Peace Airshed Zone between 2010 and 2012 due to wildfires in northern Alberta and British Columbia. These years also exceeded the criteria for annual average concentration of $PM_{2.5}$ at regional monitors.

- Exceedances of the 24-hour criteria for PM_{10} concentrations were recorded in all five years of monitoring (2009 to 2013). Elevated levels of PM_{10} are likely due to regional fire activity as similar patterns were observed in neighbouring airsheds.

- Current sources of anthropogenic noise emissions in the RSA include existing industrial facilities, intermittent sources such as vehicle traffic and agricultural operations.

- There are 221 existing and operating oil and gas facilities in the RSA which are considered to have the potential to influence baseline noise levels at receptors in the Project acoustic environment LSA. The operating facilities located in the RSA that are considered the major sound sources include batteries, compressor stations, injection plants, pumping oil/gas wells, and gas gathering/processing plants.

- There are 226 noise-sensitive receptors located in the acoustic environment LSA. Six of them are within 100 m and 13 are within 100 m to 200 m of the Project footprint.

Heritage Resources

- In Alberta, a Historic Resources Impact Assessment was completed along the proposed route. There are no archaeological sites located in the Project Footprint.

- In British Columbia, an Archaeological Impact Assessment was conducted along the entire proposed route. There are seven archaeological sites in the Project footprint.

- The Project will not traverse any previously-designated paleontological sites.

Traditional Land and Resource Use (TLRU)

- The proposed Project is located on privately-held and Crown lands within the Treaty No. 8 area.

- A total of 27 Aboriginal groups were identified by NGTL, the Board and the MPMO as being potentially affected or having an interest in the Project.

- Aboriginal groups indicated that they continue to make use of the land and resources for traditional purposes throughout the region including for fishing, hunting, trapping, navigation, habitation, gathering, and to conduct spiritual and cultural practices.

- Aboriginal groups listed a number of specific sites and areas located along the Project RoW in which they continue to practice their Aboriginal and treaty rights. Aboriginal groups also provided details on those sites and areas, such as the type of wildlife and plants that can be found, a description of the natural habitat, and specific traditional uses of those places.

- The majority of the Project footprint (89 per cent) is located on privately-held land, but there is Crown land located in the TLU LSA and RSA, including at the eastern edge of the GBML Loop and at the crossing of the Kiskatinaw River.

Navigation and Navigation Safety

- Three watercourse crossings will be crossed by the Project that are considered navigable: Pouce Coupe River, Kiskatinaw River, and an Unnamed Watercourse along the TLS.

9.5 Environmental and Socio-Economic Issues of Public Concern

The Board received a number of submissions from Participants that raised particular concerns related to environmental and socio-economic issues, including species at risk, nesting birds, wetlands, fish and fish habitat, reclamation, traditional land and resource use and cumulative effects. Sections 9.6.4, 9.6.5 and 9.7 of this Chapter, and Chapter 8 provide further details regarding these concerns.

9.6 Environmental Effects Analysis

9.6.1 Interactions and Potential Adverse Environmental Effects

The following table (9-2) identifies the expected interactions between the Project and the environment, and the potential adverse environmental effects resulting from those interactions.

Table 9-2: Project-Environnent Interactions

	Environmental Element	Description of Interaction	Potential Adverse Environmental Effect	Mitigation Discussed in Report Reference:
Bio-Physical	Physical Environment	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation) ▪ Operation	▪ Change in slope morphology ▪ Change in drainage characteristics in area with potentially unstable terrain ▪ Disturbance that exposes potentially acid generating bedrock	Section 9.6.4 and Chapter 4
	Soil and Soil Productivity	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation) ▪ RoW cleanup and reclamation	▪ Change in areal extent of productive soil ▪ Change in soil capability/soil quality due to topsoil-subsoil admixing; compaction and rutting or undesirable (saline) subsoil in the root zone	Sections 9.6.3 and 9.6.4
	Vegetation	▪ Clearing of vegetation, grading, trenching and backfilling during construction of pipeline and permanent facilities ▪ Human and equipment traffic during operations maintenance activities ▪ Introduction or proliferation of prohibited noxious or noxious weeds from equipment/activity ▪ Revegetation of the Project	▪ Loss or alteration of terrestrial vegetation important to wildlife and humans ▪ Change in vegetation community type ▪ Alteration of native species composition in the Project footprint ▪ Loss or alteration of listed plant species or listed ecological communities ▪ Loss of merchantable timber in the Project footprint	Section 9.6.4

	Environmental Element	Description of Interaction	Potential Adverse Environmental Effect	Mitigation Discussed in Report Reference:
		footprint		
	Water Quality and Quantity	▪ Construction activities (clearing, soil handling, grading, trenching, backfilling) ▪ Construction of isolated, trenched and trenchless (HDD) watercourse crossings ▪ Diversion of water during construction ▪ Construction and operation of meter stations (altered surface conditions and land use changes) ▪ Water withdrawal and release for hydrostatic testing during construction	▪ Redirection of runoff ▪ Scour or lateral migration of watercourses ▪ Localized scour or bank erosion until bank restoration and reclamation ▪ Change in natural flow rates ▪ Increase in sediment load and sediment deposition in and downstream of the RoW ▪ Change in water quality due to release of hydrostatic test water resulting in potential surface water contamination and/or transfer of biota between watersheds ▪ Change in groundwater quantity	Section 9.6.4
	Aquatic Species and Habitat	▪ Site clearing ▪ Excavation and backfilling for trenched watercourse crossings ▪ Construction of trenchless watercourse crossings ▪ Water withdrawal and release for hydrostatic testing during construction	▪ Change in habitat quality and/or quantity ▪ Alteration or removal of riparian vegetation ▪ Disturbance or alteration of instream fish habitat ▪ Increase in sediment load and sediment deposition in and downstream of the RoW ▪ Change in abundance and distribution of fish populations	Section 9.6.4

	Environmental Element	Description of Interaction	Potential Adverse Environmental Effect	Mitigation Discussed in Report Reference:
			▪ Reduced success of spawning and rearing of fish ▪ Direct harm to fish through entrainment, suffocation, release of deleterious substances, or mechanical damage.	
	Wetlands	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation)	▪ Alteration of wetland area ▪ Alteration of wetland habitat important to wildlife, vegetation and humans ▪ Introduction or proliferation of noxious invasive, non-native plant species resulting in loss or alteration of native wetland communities ▪ Alteration of wetland health and function (including hydrological and water quality)	Section 9.6.4
	Wildlife and Wildlife Habitat	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation) ▪ Operation of equipment and vehicles during construction and operation ▪ Vegetation clearing and ongoing maintenance activities during operation	▪ Alteration or loss of suitable habitat for all indicators, due to vegetation clearing, fragmentation, sensory disturbance ▪ Changes to wildlife movement patterns due to creation of barriers for moose, furbearers/carnivores, old growth forest birds and western toad ▪ Increased wildlife mortality of old-growth forest birds, olive-sided flycatcher, barn swallow, yellow rail and western toad, due to site clearing and construction activities	Sections 9.6.4 and 9.6.5

	Environmental Element	Description of Interaction	Potential Adverse Environmental Effect	Mitigation Discussed in Report Reference:
			▪ Changes in wildlife abundance of old-growth forest birds, olive-sided flycatcher, barn swallow, yellow rail and western toad, due to site clearing and construction ▪ Changes in wildlife abundance and increased wildlife mortality of moose furbearers/carnivores and old growth forest birds due to increased predation, hunting and/or trapping ▪ Changes in wildlife abundance and increased wildlife mortality for all indicators due to vehicle-wildlife collisions and sensory disturbance	
	Species at Risk or Species of Special Status and Related Habitat	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation) ▪ Operation of equipment and vehicles during construction and operation ▪ Vegetation clearing and ongoing maintenance activities during operation	▪ Alteration or loss of suitable habitat for the following indicators: furbearers/carnivores; old growth forest birds; olive-sided flycatcher; barn swallow; yellow rail; and western toad. ▪ Changes in wildlife movement patterns for the following indicators: furbearers/ carnivores; old growth forest birds; and western toad. ▪ Increased wildlife mortality for the following indicators: furbearers/ carnivores; old growth forest birds; olive-sided flycatcher; barn swallow; yellow rail; and western toad.	Section 9.6.4

	Environmental Element	Description of Interaction	Potential Adverse Environmental Effect	Mitigation Discussed in Report Reference:
	Atmospheric Environment	▪ Vegetation burning ▪ On and off-road equipment use during construction ▪ CAC and GHG emissions from meter station operation, pipeline inspection and maintenance during operation	▪ Increased ambient concentration of CACs during construction and operation ▪ Increased emissions of GHGs during construction and operation ▪ Increased ambient concentration of CACs during operation	Section 9.6.4
	Acoustic Environment	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation) ▪ Operation of equipment and vehicles during construction and operation	▪ Increased noise levels during Project construction ▪ Periodic noise during operation maintenance activities	Section 9.6.4
Socio-Economic	Human Occupancy/Resource Use (including Fisheries)	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation) ▪ Operation of equipment and vehicles during construction and operation	▪ Disruption of agricultural activities ▪ Disruption of hunting, fishing, guide outfitting and trapping activities ▪ Change in access for land and resource users	Section 9.6.4
	Heritage Resources	▪ Construction activities (clearing, stripping, topsoil salvage,	▪ Disturbance to, or loss of, previously recorded or undiscovered heritage sites	Sections 9.6.4 and

	Environmental Element	Description of Interaction	Potential Adverse Environmental Effect	Mitigation Discussed in Report Reference:
		grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation)		9.6.5.3
	Current Traditional Land and Resource Use	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction, infrastructure installation) ▪ Equipment and vehicle traffic during construction and operation	▪ Disturbance to use of trails and travelways during construction and operation ▪ Alteration of plant gathering sites during construction and operation ▪ Disturbance of hunting, fishing and trapping activities during construction and operation ▪ Disruption of gathering places and sacred sites during construction and operation	Section 9.6.5.4
	Navigation and Navigation Safety	▪ Excavation and backfilling for trenched watercourse crossings ▪ Construction of trenchless watercourse crossings	▪ Disruption of watercourse users during construction ▪ Decrease in access to navigable waters for waterway users, including Aboriginal communities	Section 9.6.4
	Social and Cultural Well-being	▪ Construction-related influx of temporary workers	▪ Disruption of community life by temporary workers	Section 9.6.4 and Chapter 10
	Human Health/Aesthetics	▪ Construction activities (clearing, stripping, topsoil salvage, grading, trenching, backfilling, watercourse crossing, pad/foundation construction,	▪ Potential health effects from changes to the acoustic environment for residents nearest to pipeline construction ▪ Sensory disturbance of nearby residents	Section 9.6.4

	Environmental Element	Description of Interaction	Potential Adverse Environmental Effect	Mitigation Discussed in Report Reference:
		infrastructure installation) ▪ Operation of equipment and vehicles during construction and operation	▪ Alteration of viewsheds	
Other	Accidents/Malfunctions	▪ Pipeline break or leak ▪ Pipeline repair or replacement ▪ Equipment traffic ▪ Spills of hazardous material (e.g., hydraulic fluid, motor oil, gasoline, antifreeze) ▪ Fire ▪ Release of drilling mud during HDD	▪ Spill or accidental release of hazardous materials during construction and operation ▪ Release of natural gas as a result of pipeline rupture ▪ Damage to other facilities during pipeline construction	Section 9.6.4 and Chapter 4
	Effects of the Environment on the Project	▪ Geohazards (e.g., erosion) and hydrologic hazards ▪ Flooding ▪ Wildfire ▪ Extreme weather	▪ Exposure of pipeline or loss of depth of cover due to slope instabilities, or flooding and erosion at watercourses ▪ Damage from wildfire ▪ Delay to scheduled construction and operation schedules, with potential for further environmental effects ▪ Worker injury	Section 9.6.4 and Chapter 4

9.6.2 Mitigation of Potential Adverse Environmental Effects

In its Application, NGTL has identified routine design and standard mitigation and certain best practices to mitigate most of the potential adverse environmental effects identified in Table 9-2. NGTL's Application, supporting documentation and subsequent related submissions include its draft Environmental Protection Plan (EPP), and details on all of NGTL's proposed mitigation.

Where there are outstanding issues regarding key environmental elements, or NGTL's proposed mitigation may not be sufficient and additional mitigation may be necessary, then a detailed analysis is presented in subsection 9.6.5.

9.6.3 Project Routing and Scheduling

Views of NGTL

NGTL evaluated alternative means to the Project and determined that the proposed buried pipeline meets the Project need and purpose, while being technically and economically feasible to implement, and there are no realistic (functionally different) alternatives to consider. NGTL submitted that route selection is one of the primary mitigation options for avoiding conflict between the Project and biophysical, socio-economic and cultural resources. In addition to the consideration of primary control points for the Project (e.g., customer tie-in locations, meter stations and block valves), NGTL's main routing strategy was to install the pipeline parallel to existing or proposed linear disturbances to the extent feasible, minimizing the length of new construction and minimizing the number of watercourse crossings and environmental effects. Further discussion of routing is provided in Chapter 6.

NGTL submitted that general pipeline construction activities for the Project are expected to begin in Q2 2017 with RoW preparation activities beginning in late Q1 2017. NGTL stated that although activities are anticipated to be carried out in both frozen and unfrozen conditions, construction will be conducted primarily under non-frozen conditions, which facilitates topsoil handling on agricultural land. NGTL stated that the infrastructure, pipeline and facility construction schedule will be optimized so that activities for all components overlap as much as possible to reduce the overall construction schedule.

NGTL stated that consultation with other regulators is ongoing and that additional mitigation to accommodate construction during environmentally sensitive periods will be developed for the Project, as required.

Views of Participants

Further details regarding routing are provided in Chapter 6.

Blueberry River First Nations

In regards to the potential for construction activities undertaken within the breeding and nesting period for migratory birds, Blueberry recommended that the avian biologist conducting breeding bird surveys work with Aboriginal Monitors and that mitigation, including monitoring, be developed in consultation with affected Aboriginal groups in order to protect any culturally important species.

Saulteau First Nations

In order to protect nesting bird species, Saulteau recommended that additional protection measures for nesting bird species be implemented if clearing activities take place outside of the Q1 of 2017. In their final argument, Saulteau outlined seven additional measures for NGTL's and the Board's consideration.

Views of the Board

The Board notes NGTL's consideration of alternative means and accepts the routing and construction scheduling as proposed.

To track construction activities, the Board recommends **Certificate Condition 10** and imposes **Section 58 Order Condition 8**, requiring NGTL to provide detailed construction schedule(s) identifying major construction activities.

Additionally, the Board notes that clearing and construction activities for the Project are scheduled within the nesting period for migratory birds and short-eared owl, and within the breeding period for western toad. The Board also notes that of the watercourses to be crossed by the Project in British Columbia, two have Windows of Least Risk from 15 July to 15 August and three have Windows of Least Risk from 15 July to 31 March. One watercourse to be crossed by the Project in Alberta has a restricted activity period (RAP) from 16 April to 15 July. The Board directs NGTL to schedule construction activities outside of environmentally sensitive periods to the extent possible. As set out in **Certificate Condition 13** and **Section 58 Order Condition 10**, NGTL must provide information to the Board about its construction progress, any issues encountered during construction and how each issue was or will be resolved.

The Board notes the concerns of BFN and Saulteau and therefore, recommends **Certificate Condition 8** and imposes **Section 58 Order Condition 7**. The Board also recommends **Certificate Condition 12** and imposes **Section 58 Order Condition 9** requiring NGTL to carry out pre-construction surveys for birds and active nests where construction activities will overlap with the breeding and nesting period for birds. The Board is of the view that through these conditions, NGTL will be able to accommodate many or all of the requests of Blueberry and Saulteau. Additionally, the Board also recommends **Certificate Condition 20** in order to support continual improvement in Aboriginal monitoring plans and activities.

9.6.4 Standard Mitigation

The Board recognizes that many adverse environmental effects are resolved through standard mitigation. Standard mitigation refers to a specification or practice that has been developed by industry, or prescribed by a government authority, that has been previously employed successfully and is now considered sufficiently common or routine that it is integrated into the company's management systems and meets the expectations of the Board.

Among the mitigation strategies to avoid or minimize the effects of the Project, NGTL is relying in part on avoidance through route selection. In addition, standard mitigation is proposed to avoid or minimize potential adverse environmental effects on the physical environment, soils,

native vegetation including rare plant populations and ecological communities, atmospheric and acoustic environments and human receptors. NGTL is also implementing a number of known best practices to mitigate potential adverse environmental effects on western toad and to mitigate potential adverse environmental effects associated with introduction and spread of noxious weeds and the spread of light pollution.

Views of NGTL

NGTL stated that it accepts the findings of the ESA and will adhere to the recommendations and mitigation measures identified in the ESA. NGTL also committed to follow all mitigation measures recommended and identified in the Project EPP, contingency plans and other Project-specific documents, and protection measures indicated on the Environmental Alignment Sheets for the Project.

NGTL will retain the services of an Environmental Inspector(s) during all critical phases of Project construction. To ensure that mitigation measures are followed, NGTL will also have an environmental monitor onsite during construction to ensure that NGTL implements its planned mitigation and that any chance finds related to wildlife, traditional land use or heritage resources are appropriately addressed, and will develop an environmental orientation for Project personnel. NGTL confirmed that its environmental orientation program for the Project will include communication about the migratory bird nesting season and the vulnerability of birds, western toad and other wildlife to vehicle and equipment collisions.

Standard mitigation related to fish and fish habitat

In order to mitigate the effects of the Project on water quality and quantity, and on fish and fish habitat, NGTL stated that it will follow the standard mitigation outlined in its Application and its EPP, and will follow provincial Codes of Practice, and applicable Department of Fisheries and Oceans Canada's Measures to Avoid Causing Harm to Fish and Fish Habitat. NGTL confirmed that all instream work will occur outside of the RAP or within the Window of Least Risk for the three watercourse crossings with timing restrictions. NGTL submitted that there is no potential for serious harm to fisheries if the planned mitigation is implemented.

Standard mitigation related to riparian habitat

NGTL explained that it will be preparing a Riparian Reserve Zone Mitigation Plan in accordance with provincial requirements, as well as applying for approval under section 11 of the provincial *Water Sustainability Act*, which covers riparian habitat management within the province of British Columbia. For the portion of the Project in Alberta, NGTL explained that the provincially required Environmental Field Reports as well as the provincial Codes of Practice cover the expectations, requirements, standards and conditions surrounding riparian habitat management. NGTL stated that it expects the detailed mitigation measures set out in its EPP or the Project will meet the provincial requirements.

Standard mitigation related to migratory bird species

NGTL also committed to develop a Breeding Bird and Nest Management Plan that applies to federal and provincial species of concern, including migratory birds. To mitigate effects of construction during the nesting period for migratory birds, including short-eared owl, NGTL

committed to conducting non-invasive surveys for breeding birds and nests, as per a Project-specific Breeding Bird and Nest Management Plan, which will be included in the EPP. NGTL also confirmed that the Breeding Bird and Nest Management Plan has been developed outlining all reasonable steps to comply with the *Migratory Birds Convention Act*.

Standard mitigation related to wetlands

NGTL stated that it is committed to implementing measures on the Project to achieve the no net loss of wetland functions objective of the *Federal Policy on Wetland Conservation* by applying the mitigation hierarchy of avoidance, minimization and compensation. Additionally, NGTL stated that provincial wetland policies, such as the *Alberta Water Act Code of Practice* requirements and the British Columbia *Environmental Protection and Management Regulation* were considered for mitigation strategies and adherence to the goals and objectives for wetlands in each province.

NGTL stated that pre-construction planning has been used to reduce the potential environmental effects to wetlands through continual Project refinements as a result of supplemental surveys, regulatory discussions and stakeholder input. NGTL submitted that this has led to opportunities to avoid impacts to the extent practical. NGTL confirmed that wetland function assessment data for outstanding wetlands will be collected in 2016 and that any additional mitigation required based on the assessment will be included in the EPP and Environmental Alignment Sheets to be provided to the Board prior to construction. Where avoidance is not possible due to topography and where the Project parallels existing disturbances, NGTL stated that it will use appropriate construction techniques and reclamation mitigation as outlined in the EPP to minimize any potential adverse effects on wetland function.

Views of Participants

Health Canada

Consistent with its mandate, Health Canada commented on the potential impacts to human receptors from Project effects on air quality and noise.

Environment and Climate Change Canada

ECCC provided comments in respect of the Project regarding migratory birds, wetlands, greenhouse gas emissions, pipeline accidents and malfunctions and species at risk. In particular, ECCC recommended that measures be taken to avoid or lessen adverse effects to listed wildlife species and monitor those effects, consistent with any applicable recovery strategy and action plan. ECCC recommended that, if western toad terrestrial habitat exists outside of the terrestrial protection zones, travel corridors be maintained to connect these zones with other terrestrial habitat. ECCC noted that the British Columbia provincial management plan for western toad recommends maintaining as much forest habitat as possible adjacent to breeding sites to allow for hibernation, foraging and other essential life functions.

Horse Lake First Nation

It is indicated in NGTL's engagement logs that HLFN expressed concerns regarding potential impacts to water quality, fish, fish habitat, diamond willow fungus, bird nests and mineral licks, and recommended that NGTL implement certain mitigation measures.

Saulteau First Nations

Saulteau argued that the approach taken by NGTL to assess potential effects on wildlife and wildlife habitat is simplistic and fails to adequately characterize the level of residual effects, and results in adverse effects being over - or under - stated. As a result, Saulteau argued that NGTL's proposed mitigation measures are based on an incomplete understanding of the potential residual effects. For example, Saulteau criticized the ESA with respect to the indicator species selected, incomplete habitat modelling, narrow scope and qualitative nature of the cumulative effects assessment. Saulteau recommended that NGTL collaborate with Saulteau to document environmentally sensitive wildlife features in the LSA in order to incorporate traditional ecological knowledge into Project plans. Saulteau recommended that the EPP outline specific mitigation measures to protect mineral licks, in the event they are identified in the Project area.

Reply of NGTL

NGTL stated that habitat suitability was determined for each key indicator species based on habitat associations documented in peer reviewed literature and species status reports. NGTL further stated that similar approaches to assessment have been accepted by the Board as meeting the guidance in the Filing Manual for projects of similar scope. NGTL argued that modeling is not required to determine available habitat suitability.

NGTL stated that no mineral licks were found in the vicinity of the Project. However if any are found, NGTL will implement mitigation measures as set out in the EPP. NGTL also stated that there were no trees important to wildlife identified during the surveys. If an undiscovered tree is identified during construction NGTL will implement the Wildlife Species of Concern Discovery Contingency Plan. NGTL further stated that any wildlife trails or other locations appropriate for wildlife life identified in TLU studies will be included on the Environmental Alignment Sheets.

NGTL also stated that it will consider any additional information resulting from ongoing engagement with potentially affected Aboriginal communities and organization for inclusion in Project planning including the final EPP and Environmental Alignment Sheets.

Views of the Board

Following the Filing Manual, NGTL submitted an ESA which analyzed and characterized the level of significance of potential adverse environmental effects as a result of the Project. The Board notes that the significance of potential adverse environmental effects is considered after the application of appropriate mitigation measures. The Board acknowledges the variety of concerns raised by Participants and notes that NGTL followed both the Filing Manual and the guidance provided by the Canadian Environmental Assessment Agency when designing and undertaking its ESA for the Project. The Board is of the view that NGTL's ESA methodology is acceptable.

The Board is also of the view that the potential effects associated with wildlife and wildlife habitat, fish and fish habitat, riparian habitat, migratory bird species and wetlands among others, can all be effectively addressed through the use of the standard mitigation (practices and techniques) discussed above. The Board directs NGTL to follow applicable best practices identified in relevant SARA recovery strategies and management plans throughout the lifecycle of the Project to ensure that management, conservation and recovery strategy objectives are followed.

The Board also notes that many aspects of NGTL's engineering design for the Project address environmental risks, in particular with respect to accidents and malfunctions, and the effects of the environment on the Project. These are described in Chapter 4, as are the related engineering conditions which the Board recommends or imposes.

To be satisfied that all general and site-specific mitigation measures are appropriate and will be implemented according to their intent, the Board recommends certain conditions. The Board notes that NGTL and some of the Participants commented on the Board's possible conditions for the Project that were made available for review, and in some instances proposed additional conditions. The Board considered all comments received before setting out the terms and conditions to be imposed if the Project is approved.

The Board values the knowledge and perspectives that Participants can bring, and as also explained in Chapter 8 and elsewhere here in Chapter 9, recommends **Certificate Condition 8** and imposes **Section 58 Order Condition 7**, requiring NGTL to develop an Aboriginal Monitoring Plan to be in place during both construction and post-construction of the Project, as well as **Certificate Condition 20**, requiring NGTL to summarize the participation by Aboriginal groups in monitoring.

The Board notes that NGTL has committed to having and implementing an EPP on-site and has filed a Project-specific EPP during the proceeding. The Board further notes NGTL's commitment to ongoing engagement with Aboriginal groups and directs NGTL to incorporate any additional mitigation, including contingency plans, into the final EPP and Environmental Alignment Sheets, prior to construction. The Board directs NGTL to file an updated EPP, which includes updated Environmental Alignment Sheets, prior to construction of the Project, as set out in **Certificate Condition 7** and **Section 58 Order Condition 5**. The EPP filed with the Board pursuant to **Certificate Condition 6 and Section 58 Order Condition 4** must be available and transparent to all interested parties.

Additionally, prior to commencing construction, the Board requires NGTL to update its watercourse crossing inventory and provide it to the Board, as set out in **Certificate Condition 14**. The Board requires NGTL to notify the Board of any changes to the watercourse crossing methods, as set out in **Certificate Condition 15**. Pursuant to **Certificate Condition 16**, the Board expects NGTL to confirm with the Board whether any authorizations under the *Fisheries Act* were required and to notify the Board prior to commencing any activities that will require an authorization.

9.6.5 Detailed Analysis of Key Environmental Issues

There are four key issues explored in detail in the following subsections. Table 9-3 specifies the definitions for criteria used in evaluating the significance of residual effects.

Table 9-3 Criteria, Ratings and Definitions Used in Evaluating the Likelihood of Significant Effects

Criteria	Rating	Definition
All criteria	Uncertain	When no other criteria rating descriptor is applicable due to either lack of information or inability to predict.
Temporal Extent	Short-term	An effect, either resulting from a single project interaction or from infrequent multiple ones, whose total duration is usually relatively short-term and limited to or less than the duration of construction, or one that usually recovers immediately after construction. An effect usually lasting in the order of weeks or months.
	Medium-term	An effect, either resulting from a single or infrequent project interaction or from multiple project interactions each of short duration and whose total duration may not be long-term but for which the resulting effect may last in the order of months or years.
	Long-term	An effect, either resulting from a single project interaction of long lasting effect; or from multiple project interactions each of short duration but whose total results in a long lasting effect; or from continuous interaction throughout the life of the project. An effect usually lasting in the order of years or decades.
Reversibility	Reversible	An effect expected to, at a minimum, return to baseline conditions within the lifecycle of the Project.
	Permanent	An effect that would persist beyond the lifecycle of the project, or last in the order of decades or generations. Some social or cultural effects that persist beyond a single generation may become permanent.
Geographic Extent	Project footprint	Effect would be limited to the area directly disturbed by the Project development, including the width of the RoW and the TWS.

Criteria	Rating	Definition
	Local Study Area	Effect would generally be limited to the area in relation to the Project where direct interaction with the biophysical and human environment could occur as a result of construction or reclamation activities. This area varies relative to the receptor being considered (e.g. the terrestrial LSA encompasses a 1000 m wide corridor for vegetation and wildlife).
	Regional Study Area	Effect would be recognized in the area beyond the Local Study Area that might be affected on the landscape level. This area also varies relative to the receptor being considered (e.g. the aquatic RSA includes the Kiskatinaw River, McQueen Creek, Pouce Coupé River, Sergeant Creek and Henderson Creek watersheds, and all contributing watersheds on the south bank of the Peace River from 1000 m upstream of the Kiskatinaw River confluence to 3000 m downstream of the Pouce Coupé River confluence).
Magnitude	Low	Effect is negligible, if any; restricted to a few individuals/species or only slightly affects the resource or parties involved; and would impact quality of life for some, but individuals commonly adapt or become habituated, and the effect is widely accepted by society.
	Moderate	Effect would impact many individuals/species or noticeably affect the resource or parties involved; is detectable but below environmental, regulatory or social standards or tolerance; and would impact quality of life but the effect is normally accepted by society.
	High	Effect would affect numerous individuals or affect the resource or parties involved in a substantial manner; is beyond environmental, regulatory or social standards or tolerance; and would impact quality of life, result in lasting stress and is generally not accepted by society.
Evaluation of Significance	Likely to be significant	Effects that are either: (1) of high magnitude; or (2) long-term, permanent, and of beyond regional geographic extent.
	Not likely to be significant	Any adverse effect that does not meet the above criteria for “significant”.

9.6.5.1 Revegetation

Views of NGTL

NGTL stated that natural recovery is more appropriate for the Project than active revegetation. NGTL submitted that implementation of planned mitigation is expected to reduce the level of disturbance and promote revegetation on the Project footprint in Crown held forested areas, and will allow plant communities that resemble conditions present at baseline to mature over a period of approximately 80 years following reclamation after decommissioning and abandonment. Through the process of natural recovery in forested areas, the Project footprint (except the 10 to 20 m width over the pipeline) is expected to revegetate similar to baseline conditions over a period of 25 to 35 years. Although the 10 to 20 m width over the pipeline is expected to regenerate vegetation eventually after the operational life of the project, this area will be kept clear of woody debris during operation for maintenance purposes.

In addition to the Project footprint, NGTL submitted that the total amount of vegetation to be cleared for temporary work space is 147 ha.

NGTL asserted that, in its experience, natural recovery methods are better suited to regeneration of temporary work spaces. NGTL justified this rationale by stating that high edge-to-area ratios reduce the distance that plant species must disperse and submitted evidence to suggest that the long term benefits of natural recovery, that is, closer resemblance to native vegetation communities with higher species richness and fewer invasive species, outweigh the short-term cover limitations when compared to active re-establishment. NGTL also stated that its practice of salvaging strippings containing forest floor material further promotes natural recovery by preserving the native seedbank.

NGTL stated that for forested ecosystems, early seral stages of the successional process are expected to occur within a few years and these areas will subsequently transition to a mature forest over decades in a manner similar to regeneration after a forest fire. Within each successional stage of forest development, there will be a fully functioning ecosystem.

NGTL stated that, within Crown lands, the construction footprint will generally be allowed to naturally regenerate. However, NGTL stated that active reclamation may be used in some environmentally sensitive areas; such as riparian areas and areas prone to erosion. NGTL agreed that the Twin Sisters Nursery is an important initiative and has provided financial contributions to it. NGTL committed to monitoring vegetation establishment following construction of the Project. NGTL stated that a vegetation assessment will be undertaken where vegetation within the RoW is different than a comparable control site. NGTL stated that it will use quantifiable targets to evaluate vegetation recovery including per cent cover, plant growth, species composition and per cent of undesirable species. NGTL said that if its targets for vegetation recovery were not being met in an area then it will use supplementary methods such as seeding or planting.

During the post-construction period, NGTL committed to provide potentially affected Aboriginal communities with notification of scheduled field programs and provide notification and posting information when Post-Construction Monitoring reports are filed with the Board. NGTL stated

that it will consider issues raised by Aboriginal communities during the operations period, discuss additional engagement activities and implement mitigation measures, as warranted.

NGTL also submitted that no specific trapping locations were noted on the Project footprint during engagement activities with Aboriginal groups for the Project. NGTL stated that with the implementation of appropriate mitigation, the Project is not expected to result in a substantial reduction in the opportunity for traditional plant harvesting. Therefore, NGTL submitted that land users can continue to use the Project footprint for traditional practices following construction.

Views of Participants

Views of Canadian Association of Energy and Pipeline Landowner Associations/South Peace Landowner Association

CAEPLA/SPLA recommended that TWS be restored and stated that the ultimate goal of post-construction restoration is to restore the disrupted land to full pre-construction productivity and fertility.

Views of Saulteau First Nations

Saulteau stated that NGTL should be required to reclaim natural vegetation that it has disturbed by using seedlings from the Twin Sisters Nursery. Saulteau further recommended that NGTL should avoid clearing natural vegetation or do as little clearing as practically possible in areas that provide shelter and sustenance for wildlife. Saulteau also recommended that NGTL be required to have a Saulteau site monitor present throughout the reclamation process.

Views of Fort St. John Métis Society

FSJMS reviewed the proposed Project and requested that indigenous seeds from the Twin Sisters Nursery be used for reseeding areas outside private agricultural lands.

Views of West Moberly First Nations

West Moberly recommended that NGTL be required to develop and implement a plan regarding revegetation of temporary work sites and any other areas not required to be kept clear during operations. West Moberly set out that the plan shall: i) require a pre-construction vegetation survey to be carried out in conjunction with First Nations; ii) use active revegetation with native plant species in a similar composition and density to those present prior to construction; and iii) provide for ongoing monitoring and adaptive management in consultation with First Nations to ensure suitability for traditional land use. West Moberly submitted that active revegetation would ensure a prompt return to productivity and stipulated that active revegetation must use native species of the types present prior to construction.

West Moberly stated in that in part, its concern lies with TWS being placed in areas of native upland forest and wetland vegetation types. These vegetation types are important to West Moberly land users because they are the only locations within the Project footprint where disturbance is potentially temporary, such that they may be available again for gathering of traditional use plant species for consumption, medicinal, or spiritual purposes following construction.

West Moberly stated that its members rely on vegetation for medicinal uses, for food, and as wildlife habitat. If a particular species is lost, traditional use patterns are affected. West Moberly argued that NGTL's approach to assessing the success of natural revegetation fails to account for the species-specific needs of West Moberly land users, and is reflective of the problematic reliance on the concept of "equivalent land capability" in assessing the adequacy of recovery. West Moberly asserted that despite NGTL's assurance that areas used for traditional medicine or berry picking could be protected, West Moberly is of the view that NGTL's planned approach does not support such a commitment.

In its oral evidence, West Moberly stated that revegetation using a seed mix can be detrimental and that the local seeds should be collected, germinated and then used to reclaim areas which have been disturbed by industrial development.

Elder Desjarlais went on to clarify that the use of herbicides/pesticides in RoW management also kills berry patches and medicines, and that the invasive species that need to be controlled have come from the seed mixtures which have been sprayed by the companies:

> *That's how come the Twin Sisters was formed, so that it's going to be natural grasses, the natural woody and herbaceous plants that will be grown in an area that needs to be reclaimed, including the shrubs, the brush or the trees and things like that, so that the portion of the forest we can return to its natural state instead of being taken over by invasive species that can literally destroy an area, at least some of them can.*

Reply of NGTL

NGTL explained that where seeding occurs, as per Section 8.8 of the Project's EPP, and where directed by the appropriate land manager, Certified No. 1 seed will be used, unless it is not available for select reclamation seed species (i.e., native species). NGTL stated that if active revegetation is subsequently determined to be required as part of adaptive management, NGTL will commit to determining whether the Twin Sisters Nursery has the desired materials for revegetation and, if it does, NGTL commits to using the Twin Sisters Nursery to source these materials on commercially reasonable terms.

Views of the Board

The Board acknowledges the concerns expressed by the Participants in regards to the use and limitations of natural revegetation methods on Crown Land, specifically in regards to TWS. The Board notes West Moberly's argument that a more time sensitive approach would be appropriate to further reduce the long-term impact on TLU activities in the TWS, as well as Saulteau's request for an Aboriginal monitor to be involved in the reclamation process.

The Board is of the view that natural regeneration is appropriate, in general, for the TWS and RoW reclamation. The Board also notes NGTL's commitment to use active reclamation, where necessary, in environmentally sensitive areas and for any areas that are not found to be adequately recovering post-construction.

The Board directs NGTL to report on the status of the natural or active revegetation methods used in its Post-Construction Environmental Monitoring Reports (**Certificate Condition 23**) including NGTL's consultation with potentially affected Aboriginal groups (including West

Moberly and Saulteau), landowners and other stakeholders on these matters. The Board encourages NGTL to use the resources available to it to supply locally based planting stock should specific areas be identified during the post-construction monitoring which require active reclamation techniques.

The Board also notes that the majority of the RoW is on agricultural lands and reminds NGTL that pursuant to section 21 of the *National Energy Board Onshore Pipeline Regulations*, NGTL is required to restore the right-of-way and temporary work areas to a condition similar to the surrounding environment and consistent with the current land use and land capability.

Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Medium term	Reversible	Project Footprint	Moderate
	Adverse Effect			
	Not likely to be significant			

9.6.5.2 Old growth forest bird habitat

Views of NGTL

NGTL submitted that overall, old growth forest bird populations in the RSA may no longer be within their resilience limits and adaptive capacity. NGTL submitted that all old growth forest bird species are sensitive to habitat fragmentation and the loss of old forest stands from timber harvesting and anthropogenic developments. For example, NGTL submitted that an increase in disturbance and fragmentation of breeding habitat is likely the greatest threat to persistence of the black-throated green warbler. NGTL also submitted that Canada warbler has lost habitat on its breeding range due to the draining of swamp forest for agriculture and urban development in the northeastern part of its range and the clearing of boreal mixedwood forests for agriculture and industrial development associated with the pulp and paper and oil and gas sectors in the western part of its range.

NGTL stated that wildlife habitat in the terrestrial LSA is predicted to recover after reclamation. However, suitable habitat for some key indicators such as old growth forest birds, may take longer to recover than that for other key indicators such as moose. NGTL stated that species such as Canada warbler are commonly subjected to brood parasitism by brown-headed cowbirds and that as a result, the removal of suitable habitat in the Project area may result in increased predation of old growth forest birds because nest predation is significantly higher adjacent to wide RoW when compared to narrow RoW, and fragmented habitats experience higher rates of nest predation and parasitism.

As a result of the Project, NGTL predicted a loss of approximately 9.4 ha of medium to high quality habitat for old growth forest birds along the Project footprint, accounting for a 1.0 per cent reduction in the estimated 938 ha of high quality habitat present in the terrestrial LSA. NGTL predicted that the Project will have an adverse effect on old growth forest bird habitat as a

result of vegetation clearing and forest fragmentation and sensory disturbance. NGTL also predicted adverse effects on old growth forest bird abundance as a result of clearing and construction during the breeding season, vehicle collisions, and nest parasitism by cowbirds.

NGTL stated that old growth forest birds are also predicted to experience changes in wildlife movement patterns due to their resistance to cross forest openings greater than 50 m. NGTL submitted that the new RoW, as a result of the Project, will be adjacent to existing RoW within suitable habitat for old growth forest birds for approximately 4.3 km (non-contiguous), of which 2.5 km would have a width greater than 50 m.

NGTL submitted that it considered a suite of mitigation options for reducing the effects associated with the proposed route on wildlife, including old growth forest birds. NGTL stated that considering the specifics of this Project and the proposed construction during non-frozen conditions, the primary mitigation option for this Project is reducing the width of permanent RoW to be maintained during operations. NGTL confirmed that a 5 m setback from each side of centreline will be applied as a maximum distance in environmentally sensitive areas (e.g., wetlands, riparian areas, old growth forest habitats). NGTL stated that active reclamation may be used in some environmentally sensitive areas but that within Crown lands, the remainder of the construction footprint will generally be allowed to naturally regenerate. NGTL stated that mitigation measures set out in the EPP and setback distances from nests of old growth forest birds will be implemented to avoid incidental take from clearing and construction, and minimize sensory disturbances during construction, operation and maintenance as much as possible.

NGTL did not propose any additional or stand-alone monitoring regarding the reclamation of old growth forest bird habitat. However, once reclaimed, NGTL did commit to keeping a reduced RoW width during the operational life of the Project. NGTL explained that the non-standard RoW width will be communicated, along with all other ongoing environmental commitments, in its Project Turnover Document, created to share information between construction and operations phases of the Project.

Views of Environment and Climate Change Canada

ECCC recommended that measures be taken to avoid or lessen adverse effects to listed wildlife species and monitor those effects, consistent with any applicable recovery strategy and action plan.

Views of the Board

The Board acknowledges that the Project has the potential to impact a variety of species at risk, including Canada warbler. The Board notes that the Recovery Strategy for Canada warbler identifies that high shrub density is a critical habitat feature for breeding habitat and that the Recovery Strategy recommends the preservation of the shrub layer and old-growth forest with a dense shrub layer next to riparian corridors.

> In order to mitigate potential effects, the Board recommends **Certificate Condition 4**, requiring NGTL to develop a plan to enhance the regeneration of vegetation on the construction RoW within or adjacent to old growth forest birds such that the width of the operating RoW is reduced as much as possible and that habitat functionality of disturbed areas is returned as soon as possible.

The Board requires that all applicable Recovery Strategies, released by ECCC for SARA species in the region be reflected in **Certificate Condition 4** and that NGTL consider RoW width and habitat restoration techniques as opposed to traditional reclamation, in developing the measurable goals and targets for its Right-of-way Regeneration Plan in Old Growth Forest Bird Habitat.

Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Medium to Long term	Reversible	Local Study Area	Low
	Adverse Effect			
	Not likely to be significant			

9.6.5.3 Heritage Resources

Views of NGTL

NGTL stated that direct effects on heritage resources are not anticipated during construction for the Project because site-specific mitigation will be finalized and implemented for any archaeological sites located in the Project footprint. It further stated that this mitigation could include narrowing and/or moving the RoW and/or the TWS locations to avoid disturbance within site boundaries. NGTL noted that if unanticipated heritage resources are discovered during construction, its Heritage Resources Discovery Contingency Plan will be implemented. NGTL stated its commitment to have an environmental monitor on-site during construction to ensure that it implements its planned mitigation, and that any concerns that may arise regarding heritage resources are appropriately addressed.

NGTL stated that an environmental orientation is required for all construction activity inspection staff and contractor staff to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and Project-specific sensitivities. The environmental orientation highlights a number of potential historical resources and sites, discusses the protection and cultural significance of uncovering these resources, and outlines appropriate steps to be taken by construction activity inspection staff and contractor staff should a heritage resource site be identified during construction.

Views of Participants

Blueberry River First Nations

Blueberry provided comment on the Board's draft condition for Heritage Resources to include "Aboriginal Culture and Heritage Values" as part of the heritage resources and that the Board direct NGTL to provide evidence of efforts toward and, where applicable, completion of archaeological protocols with potentially-affected Aboriginal groups.

Saulteau First Nations

Saulteau argued the EPP is inadequate regarding discovery of heritage resources and culturally important sites. Saulteau stated that the EPP excludes First Nations entirely in the identification

and decision making process for newly discovered heritage resources and culturally important sites. Saulteau recommended that traditional ecological knowledge should be incorporated into Project plans.

Saulteau expressed concern with NGTL's ability to identity and manage First Nation culturally important sites and heritage resources. It noted that the identification of First Nation heritage resources and culturally important sites requires specialized cultural knowledge, experience, and training and that NGTL has not demonstrated adequate expertise. Saulteau argued that having a Saulteau monitor present during construction activities would facilitate the proper identification of heritage resources and culturally important sites, including those discovered during construction.

Reply of NGTL

NGTL proposed to apply its Aboriginal Construction Participation Program (ACPP) to the Project. NGTL indicated that, in addition to providing participants an opportunity to learn and understand pipeline construction, inspection, environmental monitoring, as well as Project-specific mitigation, it would also allow an opportunity for participants to discuss any potential issues that arise with the construction manager during the regular course of construction.

Views of the Board

The Board recommends **Certificate Condition 11** requiring NGTL to file confirmation that all archaeological and heritage resource permits and clearances have been obtained from the relevant provincial ministries prior to commencing construction. The Board notes NGTL's commitments for training environmental inspectors and on-site construction personnel about heritage resources potential and the Heritage Resources Discovery Contingency Plan. The Board directs that any Aboriginal monitors also be offered an opportunity to receive this training.

In order to facilitate the potential participation of Aboriginal groups interested in participating in construction monitoring, the Board recommends **Certificate Condition 8** and imposes **Section 58 Condition 7**, requiring NGTL to file a plan to address the potential participation of Aboriginal communities in construction monitoring, as well as **Certificate Condition 20**, requiring NGTL to summarize the participation of Aboriginal groups in monitoring.

Further discussion of potential employment is provided in Chapter 10.

Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Short term	Reversible	Project Footprint	Moderate
	Adverse Effect			
	Not likely to be significant			

9.6.5.4 Traditional Land and Resource Use

Views of NGTL

NGTL stated that the potential effects of the Project on TLRU were determined qualitatively, based on readily available information from the literature review and information shared by Aboriginal groups during participation in the cultural and biophysical field surveys, community mapping workshops, and other Project engagement activities.

NGTL stated that it has engaged with all potentially affected Aboriginal communities regarding this Project since June 2014, and that it has been working with Aboriginal communities in this region over the last eight years on previous projects, including the Groundbirch Mainline project, the Saturn Extension and the North Montney Project. Through this long-term engagement, NGTL stated that it has developed an understanding of the communities' issues and concerns relating to linear infrastructure developments.

For this Project, NGTL submitted that it made efforts to provide Aboriginal groups with opportunities to engage in meaningful dialogue and communities were given opportunities to conduct a TLU study facilitated by NGTL's environmental consultant Golder Associates Ltd. In addition, NGTL provided opportunities to conduct community-led and NGTL-funded studies for the Project, on request. NGTL submitted that Aboriginal communities were provided opportunities to participate in biophysical field studies to identify potential issues and concerns. NGTL also stated that it would consider any additional information resulting from ongoing engagement with potentially affected Aboriginal communities and organization for inclusion in Project planning, including the final EPP and Environmental Alignment Sheets.

In its assessment of potential effects on TLU, NGTL stated that it considered the potential for the Project to disrupt specific TLU sites such as trails, gathering places, habitation sites and sacred sites, as well as the potential for the Project to disrupt subsistence activities, alter subsistence resources and create additional access for non-Aboriginal land users in the Project area, which could indirectly affect TLU activities.

NGTL submitted that a total of 11 Aboriginal communities or organizations have indicated that they are interested in conducting, or in the process of conducting, TLU studies for the Project. HLFN and MNBC have completed their Project-specific TLU studies and provided final reports to NGTL. Detailed information on the status of TLU studies with interested Aboriginal communities can be found in Chapter 8 of this Report. NGTL stated that BCMF information is being collected through Project site visits conducted with DCMF and FSJMS. The results of the site visit were reported in the ESA for the Project. NGTL submitted that, to date, no specific TLU sites have been identified by any Aboriginal intervenor along the Project route.

NGTL stated that the planned mitigation to address potential effects on traditional land and resource use includes measures identified for other valued components to address effects on the resources used by Aboriginal groups (e.g., wildlife and wildlife habitat, fish and fish habitat, vegetation, wetlands, acoustic environment) and measures identified below to limit potential adverse effects on the traditional use of the resources.

TLU Sites Identified Prior to Construction

NGTL stated that in the event that TLU sites are identified during future studies for the Project, the sites will be assessed and appropriate mitigative measures will be determined. NGTL submitted that the mitigative measures that may be implemented will be dependent on the type of site identified.

TLU Sites Identified During Construction

NGTL stated that in the event that a TLU site is discovered during construction, the following measures will be undertaken:

1. suspend work immediately in the vicinity of any newly discovered sacred sites until the measures below are undertaken;

2. notify the Environmental Inspector(s), who will notify the Construction Manager and the Company's Heritage Resource Specialist; and

3. the Company's Heritage Resource Specialist will assess the site and develop an appropriate mitigation plan.

NGTL has committed to work with the affected Aboriginal group, together with the applicable regulatory agencies, to determine how best to avoid or mitigate impacts on any identified TLU site. NGTL also stated that it will consider any additional information resulting from ongoing engagement with potentially affected Aboriginal communities and organization for inclusion in Project planning including the final EPP and Environmental Alignment Sheets.

The ESA prepared by NGTL stated that while temporary disruptions may occur over the course of Project construction, NGTL has proposed mitigation measures to reduce the effects of the Project on the environment and, in turn, on the use of those lands by Aboriginal communities. NGTL stated that the potential effects on traditional land and resource use have been reduced through routing the Project adjacent to other linear disturbances where feasible, as well as through primarily agricultural lands. Based on NGTL's proposed mitigation measures, NGTL stated that the Project is not expected to inhibit opportunities for traditional land use activities such as hunting, fishing and trapping.

NGTL stated that it would implement a post-construction monitoring program (PCMP) as described in the EPP and ESA. NGTL stated that the PCMP will evaluate the recovery of areas disturbed during construction, identify environmental issues that might have arisen post-construction, identify and coordinate the implementation of any remedial measures that are warranted, and identify additional special measures to address any outstanding or new environmental issues.

NGTL also stated that it will provide potentially affected Aboriginal communities with notification of scheduled field programs and provide notification and posting information when PCMP reports are filed with the NEB. NGTL stated that TWS will be included in the PCMP.

Views of Participants

Views of Blueberry River First Nations

Blueberry stated that it has been unable to undertake a Project-specific TLU study, or gather information specific to the Project area from Blueberry members, but based on incidental TLU data, Blueberry relies on parts of the areas affected by the Project to:

- gather traditional resources including saskatoons and blueberries;
- establish traditional camps in the summer and winter;
- hunt for wildlife, including for moose; and
- host traditional gatherings, including at a place where people once "sat together".

Blueberry argued that the Board's Potential Condition 8 with respect to TLU, requires that it be filed 60 days before construction commencing, making it virtually impossible for any information gathered about impacts on TLU or sites to inform project planning.

Blueberry stated that some of the southern portions of Blueberry's territory have also become more important to Blueberry in recent years as portions of the area north of the Peace have become too developed to access harvestable resources.

Views of Métis Nation of British Columbia

MNBC stated that the construction and operation of the proposed Project could put local Métis Aboriginal rights and traditional land-uses at risk. MNBC also stated that Métis harvesters who rely on the direct and surrounding area for sustenance, social and ceremonial purposes could see negative impacts from the construction and operation of the proposed project. MNBC stated that as there is current traditional harvesting (hunting, fishing, and plant harvesting for foods and medicines) occurring in the proposed Project area, there are Métis traditional knowledge and land-use information activities that could be negatively impacted.

Views of Saulteau First Nations

Saulteau argued that the need for caution in respect of TLU sites that have already been degraded due to development. Saulteau submitted that the need to protect what little remains of their cultural sites remains pressing, and stated that appropriate mitigation measures are therefore needed.

Saulteau stated that several of the 25 TLU sites it identified in its written evidence are rich with natural vegetation, and thus are important sources of shelter and sustenance for wildlife. Saulteau stated that all of these sites fall within a 2.5 km radius of the Project footprint, which is not a large distance in the context of the movement patterns of wildlife. Saulteau stated that clearing, soil stripping, grading and building of access roads will have an impact on the presence and livelihood of wildlife in and around the Project.

Saulteau argued that those responsible for the evaluation and mitigation of identified and potential TLU sites do not have adequate expertise to identify and deal with First Nation heritage resources and culturally important sites. Saulteau stated that NGTL's mitigation measures exclude First Nations entirely in the identification and decision making process for newly discovered heritage resources and culturally important sites.

Views of West Moberly First Nations

West Moberly stated that it is an adherent to Treaty 8and continues to use, occupy, and rely on the lands, waters and resources of Treaty 8 territory in British Columbia for sustenance, livelihood, and the maintenance of its culture. During West Moberly's oral traditional evidence, Elder Desjarlais stated the following:

> *[W]e've lived in this Peace River Watershed for as far as I know, like what my grandfather said. We use the area in its entirety on what is known as a seasonal round, basically moving around the countryside from one place to another. It was our form of management of the resources that was available to us, both wildlife and for gathering purposes.*

West Moberly stated that as the land base available to West Moberly for the exercise of its rights continues to diminish, the quality and meaningfulness of those rights declines, and every new incursion becomes even more significant. West Moberly states that much of the Groundbirch and Tower Lake area has been taken up so that West Moberly's treaty rights in the area have been all but extinguished. West Moberly stated that it is critical that all reasonable measures be implemented to prevent the loss of the few remaining fragments of wildlife and fish habitat in the Project area.

Views of British Columbia Métis Federation

BCMF stated that BCMF and the proponent were working together in a productive manner, along with interested member communities, the Board, the BCMF Consultation Office and the Métis Economic Development Corporation, to ensure that the well-being of BCMF grassroots members is supported meaningfully.

Views of the Board

The Board notes that the majority of the pipeline route parallels existing or proposed linear disturbances. This approach allows the Project footprint to be reduced by utilizing TWS on the adjacent dispositions and minimizes the creation of new access and fragmentation of the landscape. Further, the Project is located in an area that is predominantly agricultural. The Board is of the view that this reduces the potential effects of the Project on Aboriginal TLRU.

The Board notes that NGTL used multiple approaches to identify potential effects on the current use of lands and resources for traditional purposes by Aboriginal groups. The Board is of the view that the approaches provided reasonable opportunities for potentially affected Aboriginal groups to provide Project-specific information to assist in developing appropriate mitigation to reduce any potential adverse effects.

The Board notes that NGTL continues to work with Aboriginal groups with respect to obtaining site-specific TLU information for the Project areas. The Board recommends **Certificate Condition 9** and imposes **Section 58 Order Condition 6**, requiring NGTL to file a report outlining NGTL's plan for any outstanding TLU investigations for the Project. The Board further notes that should additional cultural, heritage or TLRU sites be identified prior to or during construction, any potential effects on these sites would be

addressed through NGTL's TLU Sites Discovery Contingency Plan and Heritage Resource Discovery Contingency Plan.

The Board heard requests from several Intervenors for NGTL to employ Aboriginal monitors during construction activities to ensure environmental stewardship and protection of cultural and heritage resources. The Board notes NGTL's commitment to share information and NGTL's concerns that environmental monitoring by interested Aboriginal communities would duplicate work that is already being done. The Board further notes NGTL's belief that its ACPP will meet the communities' expressed needs and interests as they relate to construction monitoring. However, there were limited details provided about the ACPP. Therefore, the Board recommends **Certificate Condition 8, Certificate Condition 20** and imposes **Section 58 Order Condition 7**, requiring NGTL to file an Aboriginal Monitoring Plan describing the participation of Aboriginal groups in monitoring construction activities, and a report of the monitoring outcomes once construction is complete. The Board requires the Aboriginal Monitoring Plan to cover construction and post-construction activities.

Further discussion about the cumulative effects on the current use of lands and resources for traditional purposes is provided in Section 9.7.

Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Medium term	Reversible	Regional Study Area	Low to Moderate
	Adverse Effect			
	Not likely to be significant			

9.7 Cumulative Effects Assessment

The assessment of cumulative effects considers the impact of the residual effects associated with the Project in combination with the residual effects from other projects and activities that have been or will be carried out, within the appropriate temporal and spatial boundaries and ecological context.

Potential residual effects of the Project associated with the following environmental elements were identified:

- physical elements - terrain, soil and soil productivity, water quality, air and GHG emissions, and acoustic environment;
- biological elements - vegetation, fish and fish habitat, wetlands, wildlife and wildlife habitat, and species at risk or species of special concern and related habitat; and

- socio-economic elements - human occupancy and resource use, traditional land and resource use, social and cultural well-being, human health and aesthetics, infrastructure and services, and employment and economy.

A portion of the residual adverse effects identified as a result of the Project are localized, occurring within the LSA for some valued components (e.g., air emissions and land and resource use). Residual effects are predominantly identified within a larger geographic extent for the following valued components: terrain; soil and soil productivity; vegetation; surface water; fish and fish habitat; wetlands; wildlife and wildlife habitat; acoustic environment; human occupancy and resource use; traditional land and resource use; social and cultural well-being; human health and aesthetics; infrastructure and services; and employment and economy.

Existing and foreseeable future developments that have the potential for spatial and temporal interaction of effects, and therefore potential for cumulative effects, include: agriculture, transportation corridors, transmission lines, exploration corridors, forestry, oil and gas developments, recreation and tourism, settlement and rural and urban developments.

Views of NGTL

NGTL's cumulative effects assessment undertaken for the Project followed the Canadian Environmental Assessment Agency's *Technical Guidance for Assessing Cumulative Effects under the CEAA 2012* and the Filing Manual.

NGTL explained that the terrestrial RSA includes 175,487.3 ha of land, and NGTL estimated the total disturbance resulting from existing and potential future development to be 115,433 ha, or 65.8 per cent of the terrestrial RSA by 2025 (assuming no reclamation of disturbed land or overlap of future developments). The Project will add approximately 87 km of linear development in the RSA at a density of 0.05km/km^2. NGTL estimated a total existing and future 6856 km of linear development in the RSA, including the Project, at a density of 3.9 km/ km^2 in the RSA.

NGTL estimated that approximately 1560 km of existing linear developments in the Tower Lake Area may be related to oil and gas development. These developments cover approximately 35.2 km^2. NGTL estimated that by 2025 an additional 197 km of linear development, covering approximately 5 km^2 will be required to accommodate oil and gas development. NGTL anticipated that gas in the area will be produced irrespective of whether this Project is built. In the absence of the Project, NGTL stated that it believed alternative projects would proceed to connect the Tower Lake Area supply to existing infrastructure. NGTL stated, to the extent that the alternative projects are not as direct or as efficient as the Project, these alternative connections would lead to an overall increase in the environmental footprint.

NGTL submitted the Project will have minimal contribution to cumulative effects and will not likely result in significant cumulative effects on any environmental or socio-economic element. NGTL acknowledged that cumulative effects in Northeast British Columbia at a regional scale are a concern of Blueberry, Saulteau and West Moberly. NGTL stated that effective management of cumulative effects in Alberta and British Columbia does not rely on a single process, but is aided by various processes and planning mechanisms. NGTL further noted that the regulatory regimes in Alberta and British Columbia both include requirements for cumulative effects

assessments for major projects, and the British Columbia Oil and Gas Commission (BC OGC) now requires additional information as part of the application process for all oil and gas permit applications in Northeast British Columbia as part of its Area Based Analysis initiative. NGTL stated that, in addition to the cumulative effects assessment that was prepared for the Project Application to the Board, cumulative effects will be appropriately assessed and managed by the provincial authorities who are directly responsible for managing public resources.

NGTL submitted that it considered the intent and strategic direction of regional initiatives during Project planning, and that the Project complies with the development strategy for the area. NGTL stated the cumulative residual effects of the Project in combination with the effects of other activities will be reduced through the use of standard mitigation and management practices as outlined in the EPP. NGTL submitted that no additional mitigation is required to address cumulative effects.

Views of Participants

Blueberry River First Nations

Blueberry stated that the cumulative effects of the thousands of wells, roads, pipelines, gas plants, clear cuts, dams, transmission lines, and other developments authorized by the Crown are destroying Blueberry's land and threatening their traditional way of life. Blueberry stated that there are very few places left for Blueberry members to exercise their rights under Treaty No. 8, including rights to hunt, fish and trap. Blueberry further stated that this makes the places that remain capable of supporting Blueberry's treaty rights practices of heightened and critical importance, and also results in the desire to remediate lands that have already been subject to extensive development.

Blueberry stated that, contrary to NGTL's evidence, there are no Crown initiatives in place that are effectively managing regional cumulative effects in Blueberry's territory. Blueberry stated that the BC OGC Area Based Analysis has a number of serious deficiencies that make it incapable of meaningfully assessing or managing the crisis Blueberry faces or the cumulative effects of the proposed Project. Blueberry submitted that the Board cannot take comfort in Area Based Analysis to assess and manage cumulative effects of the proposed Project. Blueberry stated that meaningful steps must be taken to address cumulative effects in Blueberry's territory, including the proposed Project's role in the same, before a decision is made with respect to the proposed Project. Blueberry stated that in the past, the Board findings with respect to cumulative effects in Blueberry's territory have not resulted in any concrete steps to address the problem, and asserts that the same cannot occur with respect to this Project.

If the Board recommends approval of the proposed Project, Blueberry proposed two conditions on the Project:

1. NGTL, with Blueberry, undertake a process to assess Project impacts, including cumulative impacts, on Blueberry's treaty rights and that this assessment be submitted to the NEB for approval at least eight months prior to Project construction; and

2. NGTL, with Blueberry, develop a Cumulative Effects Management Plan to manage and monitor cumulative effects of the Project on Blueberry's treaty rights to be filed with the

> NEB for approval at least four months prior to Project construction. The Cumulative Effect Management Plan would be designed and implemented with Blueberry.

Blueberry submitted that, by some estimates, over two-thirds of Blueberry's territory is subject to land fragmentation, edge effects, and other adverse impacts of development. In addition, and as a result of this fragmentation, Blueberry stated that multiple wildlife species, including moose, caribou and grizzly bear, among others, have been subject to long-term declines. Blueberry submitted that in the core of Blueberry territory, as of 2011, 66 per cent of the land in this area was either directly disturbed by industrial activities, or was within 250 m of an industrial feature; linear disturbance density was 1.58 km/km^2, a disturbance density so significant traditional wildlife species could cease to be viable; and each year an average of 136 km^2 is effectively removed from the area as a result of industrial activity and development. Blueberry also submitted that a more recent study found 73 per cent of the area within Blueberry's territory is now within 250 m of an industrial disturbance, and that less than 14 per cent of Blueberry's territory contains intact forest landscape.

Blueberry also argued that the cumulative impacts of development are seen in Blueberry's declining socioeconomic wellbeing. Blueberry submitted that there have been drops in key indicators between 2001 and 2011, including drops in language retention and education, which correspond with the increasing levels of industrial disturbance in Blueberry's territory and the greater burden than benefit of these developments.

Blueberry stated the following in their evidence:

> Unless cumulative impacts are meaningfully dealt with in our territory, the time will soon come when our culture and way of life have been destroyed and we no longer exist as a unique people and nation. Indeed, our elders fear for our youth and wonder if they will be able to learn what it means to be Blueberry and live off the land. This is a grave situation. The Crown has breached its solemn promises under Treaty No. 8.

Horse Lake First Nation

HLFN expressed concern with cumulative effects from industrial developments within HLFN traditional territory.

Saulteau First Nations

Saulteau expressed concern that the Project is considered separately, and in isolation from other plans and proposals for natural gas infrastructure in the region. Saulteau argued that this means First Nations in the region are not included in regional planning initiatives, and are not informed about how the Project will contribute to the infringement of treaty rights in the region. Saulteau stated that the Project would have adverse impacts on wildlife and Saulteau's ability to exercise hunting and trapping rights. Saulteau stated that NGTL has not considered local pressures on moose in the Project area and that the available quantitative data about local conditions in the Project area (density of linear disturbance) and across the province suggests that the resilience of the system in the Project area may already be seriously compromised. Saulteau submitted that linear feature densities ranging between 0.25 km/km^2 and 1.9 km/km^2 have been identified as

thresholds above which natural populations of certain large vertebrates decline; therefore, Saulteau concluded that the linear feature density of 3.9 km/km^2 estimated for the RSA by NGTL shows there is currently development pressures on the system that affects its ability to be resilient.

Saulteau stated that the potential occurrence of a high number of species at risk in the Project area, as reported by NGTL, is an indicator that the ecological integrity of the area has been impacted. Saulteau argued that these species are likely more vulnerable to cumulative effects as they would have a greater potential for exposure to both spatial and temporal overlap of impacts from numerous land use activities. Saulteau asserted that NGTL's assessment does not adequately address this concern.

Saulteau also stated that the Project would have adverse impacts on the Kiskatinaw River system, and that the river banks are already unstable as a result of development in this area.

West Moberly First Nations

West Moberly stated that the vocations and modes of life available to West Moberly members have changed drastically over the past century as land throughout West Moberly territory has been taken up for mining, oil and gas extraction, agriculture, forestry, and other purposes. West Moberly submitted that so much of the Groundbirch and Tower Lake area has been taken up that West Moberly's treaty rights in the area have been all but extinguished and therefore, it is crucial that all reasonable measures be implemented to prevent the loss of the few remaining fragments of wildlife and fish habitat in the Project area.

West Moberly expressed concern about existing and future cumulative effects of development in the Project area, including as a result of upstream development associated with the Project. West Moberly objected to NGTL's conclusion that there are no significant cumulative effects, citing that over 65 per cent of the regional study area is already disturbed and no longer available for the exercise of West Moberly treaty rights. As such, West Moberly argued that the Project's additional contribution to already significant cumulative effects on West Moberly remains significant and must be mitigated. West Moberly also stated that the Project may have a significant adverse effect on vegetation used or relied on by West Moberly. West Moberly stated that NGTL's assessment of the potential for rare medicinal plants and other key vegetation species in the Project area was inadequate and that NGTL's revegetation plan is not sufficient to address potential adverse effects on West Moberly TLU.

West Moberly stated that there is no evidence that new cumulative effects assessment methodologies have been applied, that spatial scope of the cumulative effects assessment must be extended to the whole watersheds, and there is a need to implement long-term and whole watershed monitoring for indicators of development effects (TSS, metals, nutrients).

West Moberly stated the following in their oral traditional evidence:

> *I guess the biggest thing and the main thing here has to do with cumulative impacts that is happening on the land these days. In our opinion it's being viewed too narrowly. Industry and/or government never look at the big picture. They only look at this little part of it.*

Views of the Board

The Board recognizes that the Project will largely take place in an agricultural setting and mostly adjacent to an existing pipeline corridor. The Board is of the view that this minimizes potential overall environmental effects by largely avoiding undisturbed areas and focusing potential Project effects to areas previously disturbed by other activities.

The Board is of the view that NGTL's planned mitigation is considered effective to limit the potential Project effects in the Project footprint. The Board recognizes that due to the current land use and activity in the region, valued components such as vegetation, wetlands, wildlife and wildlife habitat, traditional land and resource use, and species at risk are experiencing and will likely continue to experience adverse cumulative effects.

The Board notes the concerns expressed by a number of Aboriginal Participants regarding the extent of development in the region and the overall effects that previous and continuing development is having on the ability of Aboriginal groups to continue to use the lands and resources for traditional purposes. In order to ensure that specific Project-related cumulative effects on traditional use are minimized or avoided to the extent possible, the Board recommends **Certificate Condition 8, Certificate Condition 20** and imposes **Section 58 Order Condition 7**, requiring NGTL to file an Aboriginal Monitoring Plan describing the participation of Aboriginal groups in monitoring construction activities, and a report of the monitoring outcomes once construction is complete.

The Board has considered the potential for Project-related residual effects, once all mitigation measures (committed to or as a result of the Board recommendation or conditions) have been applied, to act cumulatively in the region, and is of the view that the residual effects would be minor and of limited duration. Therefore, it is unlikely that there would be significant cumulative environmental effects resulting from this Project.

The Board notes that on 20 June 2016, the Government of Canada announced that it is launching a review of environmental and regulatory processes, which will examine the environmental assessment process associated with the *Canadian Environmental Assessment Act, 2012* (CEAA, 2012). The draft terms of reference for the Government of Canada review includes a focus on how to restore robust oversight and thorough environmental assessments of areas under federal jurisdiction, while working with the provinces and territories. The Board notes that the Government of Canada's review will support continual improvement in the assessment and management of cumulative effects.

9.8 Follow-Up Program

The CEAA 2012 requires a follow-up program. In the context of CEAA 2012, a follow-up program must both verify the accuracy of the environmental assessment of the Project and determine the effectiveness of the mitigation measures implemented.

Views of NGTL

NGTL submitted that components of its PCMP constitute follow-up under CEAA 2012, as it will include an assessment of reclamation, revegetation, erosion control and any weed problem areas along the pipeline RoW, including temporary workspace, and at the meter station footprints. The

PCMP will also consider recommendations made and any unresolved issues identified in the initial PCM Report.

NGTL explained that its PCMP is developed around the goal of reclaiming lands to equivalent land capability. NGTL explained that it uses a tiered approach for its assessment, whereby the entire length of the RoW is visually inspected, and assessments are completed where potential issues with landscape, vegetation or soils are observed. NGTL stated that sites with potential issues are evaluated based on differences between the RoW and control sites off the RoW. NGTL identified quantifiable parameters for landscape, soils and vegetation assessment in its post-construction monitoring program plans. NGTL stated that these parameters will be used to infer whether equivalent land capability has been achieved and wildlife habitat is available. NGTL stated that the effectiveness of the planned mitigation will be determined based on the success of reclamation measures implemented following construction, and where necessary, successful implementation of remedial actions in returning the disturbed area within the Project footprint to equivalent land capability reflective of pre-construction site conditions.

NGTL committed to conducting its PCMP during the first, third and fifth complete growing seasons on forested Crown land and the first two complete growing seasons on agricultural land following construction. Routine monitoring by NGTL personnel will be continuous for the life of the Project.

Views of Participants

Blueberry River First Nations

Blueberry recommended that the PCM reports include a description of the implementation of the Aboriginal monitoring program as part of the post-construction monitoring program methodology and that issues pertaining to traditional use and cultural values, and access and access management also be included in the post-construction monitoring.

Environment and Climate Change Canada

ECCC recommended that western toad be included in a Wildlife Management and Monitoring Program to assess the recovery of western toad and their habitat post-construction and the effectiveness of any mitigation measures (e.g., remote cameras, roadkill surveys, mark-recapture, and monitoring water quality), and to implement adaptive management where necessary.

Reply of NGTL

NGTL stated that with regards to traditional use and cultural values, through the Project PCM program, NGTL will monitor the success of measures implemented on land and resources that the Project crosses. Where an area of traditional use or cultural value has been identified and requires mitigation, including avoidance, the success of these measures will be tracked in PCM.

Views of the Board

The Board notes that NGTL has proposed post-construction monitoring which in this case can fulfill the requirements of a follow-up program under CEAA 2012.

The Board also notes that Participants in the hearing recommended that NGTL conduct post-construction monitoring to assess the status of environmental issues encountered on the Project including wetland function, agricultural capability, weeds, reclamation success and impacts to wildlife, including western toad. The Board requires NGTL to report on its environmental monitoring, including on the effectiveness of mitigation implemented, the status of environmental issues, and the accuracy of the assumptions and conclusions presented in the environmental assessment submitted for the Project, as set out in **Certificate Condition 23**. The Board recommends that **Certificate Condition 23** be implemented as a follow-up program.

The Board also values the experience that the Participants can bring to the assessment of the effectiveness of the implemented measures. The Board is of the view that Participants will continue to be engaged by NGTL, through the combination of:

- **Certificate Condition 8** and **Section 58 Order Condition 7**, requiring NGTL to describe the participation of Aboriginal groups both in the construction as the post-construction phases of the Project,
- **Certificate Condition 20**, requiring NGTL to report on construction related monitoring outcomes; and,
- **Certificate Condition 23**, requiring NGTL to report on post-construction monitoring outcomes and consultation with appropriate government authorities, potentially affected Aboriginal groups, landowners and stakeholders.

As with all condition filings, the post-construction environmental monitoring reports, filed with the Board pursuant to **Certificate Condition 23**, will be available and transparent to all interested parties.

9.9 Board EA Conclusion and Recommendation to GiC

The Board has conducted an EA of the Project and is of the view that overall, with the implementation of NGTL's environmental protection procedures and mitigation and the Board's recommended and imposed conditions, the Project is not likely to cause significant adverse environmental effects.

Therefore, pursuant to the CEAA 2012, the Board recommends that the GiC decide that the designated project is not likely to cause significant adverse environmental effects.

Chapter 10

Infrastructure, Employment and Economy

The Board's expectations for an applicant regarding direct socio-economic impacts caused by the existence of the project are set out in the Board's Filing Manual. Applicants are expected to identify and consider the impacts a project may have on infrastructure, services, employment and economy. Applicants are expected to provide mitigation of negative impacts and consideration of positive impacts of the project. Direct socio-economic effects caused by the existence of the Project itself are discussed below.

Potential socio-economic effects that are caused by changes to the environment are included in Chapter 9, Environment and Socio-Economic Matters. Other economic effects are addressed in Chapter 3, Economic Feasibility.

10.1 Infrastructure and Services

Views of NGTL

NGTL stated that the ESA concluded that there will be no significant socio-economic effects (positive or negative) on infrastructure services for Aboriginal or local communities more than 50 km away from the Project.

Traffic

NGTL stated that it predicts increased traffic on highways and local roads used to access the Project during Project construction. NGTL stated that implementation of mitigation measures, including the implementation of a Traffic Control Management Plan, coordinating road use with industrial road users, and notification of landowners, regulatory agencies and other stakeholders of the construction schedule, will help reduce the volume of traffic on highways and local roads used to access the Project. NGTL did not predict residual effects for increased traffic on highways during Project operation as operational personnel requirements are expected to be filled by NGTL's existing capacity in the region.

Workforce

NGTL stated that during peak construction periods, the pipeline sections that make up the Project could require an aggregate construction workforce of approximately 700 to 750 workers. NGTL stated that it anticipates that pipeline construction personnel will be housed in hotel/rental accommodations in nearby towns and cities. NGTL also stated that as peak workforce will be over the summer months, it expects recreational vehicle sites and/or campsites/grounds may also be used. NGTL confirmed that no new project-specific accommodations (i.e., construction camps) will be constructed as part of the Project.

Additionally, to mitigate potential impacts on the social and cultural well-being of local communities, NGTL will require the construction contractor to have protocols in place for workers concerning drug and alcohol policies and after-hour use of recreational vehicles, and will require adherence to TransCanada's Alcohol and Drug Policy.

Recreation

Although no parks will be crossed by the proposed Project footprint, NGTL stated that the potential exists for recreational land use to be disrupted during Project construction by the presence of workers, equipment and access restrictions. Given that the pipeline will be buried, the Project footprint occurs on primarily private land and because it is parallel to existing or proposed linear disturbances for 82 per cent of its length, the potential for the Project to have an adverse effect on recreational use during operations is limited. Disruption of recreational land use at the meter stations is not expected as they are located on private land.

Emergency and Protective Services

NGTL stated that the Project is expected to have a brief but negative effect on emergency and protective services during construction because of the increased demand on a limited service. NGTL also stated that the effect is regional in extent because emergency and protective services operate at a regional level in the Socio-economic Study Area (SSA). NGTL submitted that the predicted residual effect is infrequent as it is expected to occur only rarely, if at all.

NGTL stated that during Project construction, several strategies will be in place to reduce the likelihood of an incident occurring and to avoid the requirement for community emergency services. NGTL submitted the details for these strategies are contained in the fire prevention mitigation measures in the EPP and in the Spill Contingency and Fire Suppression Contingency Plan. In addition, NGTL stated that Project contractors are required to have emergency plans, such as a health and safety plan, in place and provide their own medical staff to address minor medical issues and first aid incidents. NGTL stated that all workers and visitors to the Project site will participate in a safety orientation prior to being allowed on-site.

Non-Emergency Medical Services

NGTL stated that its assessment of no residual incremental Project effects on non-emergency medical services is based on the short-term duration of Project construction, the limited duration of any stay of temporary workers in Dawson Creek given shift schedules, and the fact that the Project is not expected to require a sizable operations workforce or generate a permanent population change. The assessment found that workers would likely maintain their existing relationships with service providers in their home communities rather than seek out new non-emergency medical services (e.g., general practitioners, psychiatrists, dentists or optometrists).

Waste

NGTL stated that construction waste will be generated by the Project and that NGTL plans for waste to be disposed of in regional landfills, thereby increasing waste flow to regional disposal sites in the SSA. However, NGTL stated that construction waste generated by the Project is not anticipated to place a demand beyond the capacity of regional disposal sites.

Water

Water withdrawal will be required for some aspects of Project construction (e.g., hydrostatic testing, hydrovac, dust control, fire suppression). NGTL stated that the potential exists for the Project to affect the quantity of water in the potential source waterbody and thereby reduce the quantity of water currently available to other users in the land and resource use LSA. NGTL stated that the potential does not exist for effects on water use during operation of the Project as water withdrawal is not expected to occur.

NGTL stated that all surface water withdrawal for construction will meet applicable federal and provincial regulations and guidelines. NGTL also stated that the Project will not require withdrawal of groundwater and that potable water needs will be met from existing sources. NGTL confirmed that it will inform all appropriate federal and provincial resource agencies and interested municipal officials of the Project developments, including those related to Project water use, as warranted. NGTL submitted that by meeting requirements and conditions of any water license obtained for water withdrawal, an increased demand on existing sources during Project construction is not expected to result in a noticeable change in water quantity and availability.

Views of Participants

Northern Health Authority

Northern Health submitted that insufficient justification has been provided to support the claim that residual effects to emergency health services can be expected to be "negligible" and asked that the Application acknowledge that some level of "adverse" residual effect on emergency health services is to be expected (despite the proposed mitigations) as a result of the temporary workforce (e.g. trauma care, traffic-related accidents, etc.), especially considering the potential cumulative effects with other existing or planned projects. Northern Health submits that the fragility of the health care system in the region should be recognized, and any impacts to health services should be carefully managed.

Blueberry River First Nations

Blueberry noted concern with potential loss/reduced access and use due to road closures, access controls and increased traffic.

Saulteau First Nations

Saulteau anticipated that the Project will result in increased access to, and traffic in, Treaty 8 lands.

Views of the Board

The Board recognizes the possibility of increased traffic, recreational land use disruption and adverse effects on emergency and protective services during the construction phase of the Project. However, considering these impacts will be low in magnitude and temporary in nature, the Board finds them acceptable, particularly in view of the Project benefits described in Section 10.2.

The Board notes NGTL's commitments to address impacts on infrastructure and services, including continuing to work with local governments, communities and service providers. The Board also notes NGTL's submission of mitigation and management plans to address the Project's socio-economic impacts, including a Traffic Control Management Plan. The Board notes that no new Project-specific accommodations (i.e., construction camps) will be constructed. In this case, the Board is of the view that, should the Project be approved, the measures planned by NGTL would adequately address the potential impacts of the Project on community infrastructure and services.

10.2 Employment and Economy

View of NGTL

Construction Phase

NGTL stated that during construction, the proposed Project is expected to generate an estimated $285 million in labour income, an estimated $439 million in gross domestic product in Canada and an estimated $75.5 million in federal and provincial tax revenue. NGTL stated that the Alberta and British Columbia governments would collect $7 million and $18 million, respectively, of this total tax revenue.

NGTL stated that the demand for personnel and equipment will provide contracting and employment opportunities for qualified local and Aboriginal businesses and individuals. Construction will require personnel with various skills, ranging from entry-level labourers to highly skilled trades, and include inspection and project management staff. During peak construction periods, the pipeline sections that make up the Project could require an aggregate construction workforce of approximately 700 to 750 workers.

Operational Phase

With the exception of property tax revenue, NGTL stated that the potential effects of the Project on employment and economy during the operation phase are viewed as nominal because existing NGTL staff and contractors who handle maintenance and operations duties for the existing NGTL System are anticipated to assume responsibility for the operation and maintenance of the proposed Project. NGTL estimated that incremental direct employment of no more than two person-years (operators) on an annual basis of the Project during its operation phase. NGTL stated that the Project is estimated to contribute $1.29 million per year in property taxes to the Peace River Regional District of British Columbia, and $210,000 per year to Saddle Hills County, Alberta during operations.

10.2.1 Aboriginal Employment and Economic Benefits

Views of NGTL

NGTL stated that it recognizes the importance of encouraging and enabling community participation in the Project. NGTL committed to providing support and resources to communities to increase their ability to participate in Project activities as well as support community long-term goals for skills development and training. In collaboration with local Aboriginal

communities and organizations, NGTL stated that it has been and will continue working with communities to identify opportunities for capacity development. NGTL submitted that the goals for its Aboriginal Engagement Program include creating employment and business opportunities as well as building capacity in Aboriginal communities (see Chapter 8).

Training and capacity development programs which TransCanada and NGTL have supported and sponsored in the past include: all-terrain vehicle training; first-aid; Workplace Hazardous Materials Information System (WHMIS); pipeline construction safety certification workshops; and, Building Environmental Aboriginal Human Resources (BEAHR) environmental monitoring training modules.

NGTL submitted that it has been contributing to community investment initiatives with local Aboriginal communities and organizations in the Project area since 2008. Specifically, NGTL has provided funding to, or participated in, the following initiatives in the Project area:

- Nenan Dane zaa Deh Zona Family Services Society (Sun Run, Pink Mountain Cultural Camp);
- DRFN language retention initiative;
- WMFN and SFN youth and Elder cultural camps;
- youth and community sports;
- Annual Treaty 8 Health and Wellness Gathering;
- Community Education and Employment Coordinator training workshops;
- Treaty 8 Education Strategy;
- BRFN education and literacy training;
- Northeast British Columbia Stay in School Program;
- Spirit of the Peace Competition Powwow;
- proposed Chetwynd Wellness Community Centre;
- BCMF Industry Forum; and,
- sponsored community events in SFN, DRFN, WMFN, MLIB and HRFN.

NGTL stated that it will continue to identify social and economic opportunities in the region; and outlined that the initial steps in its Aboriginal Contracting and Employment Program are as follows:

- meet with Aboriginal communities and organizations in proximity to the Project to share TransCanada's Contracting and Employment Program practices; and

- provide a detailed overview of the Project, which includes an accurate scope of work that can be used to determine areas for economic opportunities to support the construction and in-service milestones of the Project.

NGTL committed to the following enhancement measures to maximize employment, education and training for Aboriginal communities:

- Identify, in co-operation with Aboriginal communities, training requirements for the Project and work with Aboriginal community leadership to support training opportunities, where feasible, with a focus on high-demand and transferable skills.

- Work with local Aboriginal community human resource coordinators and economic development and education officers to implement the training requirements identified for Aboriginal communities.

- Offer to arrange and participate in meetings with Aboriginal communities and the prime contractors to discuss Aboriginal participation in the Project.

- Encourage and assist all prime contractors to maximize local Aboriginal participation through direct employment and subcontracting opportunities during development and construction of the Project.

- Require the prime contractors to submit an Aboriginal participation plan.

- Monitor Aboriginal direct employment on the Project and meet with Aboriginal communities to review their participation in the Project.

As detailed in NGTL's consultation logs, 18 Aboriginal groups[15] and communities expressed interest in potential employment, contracting and procurement opportunities with respect to the Project. Fourteen[16] groups discussed and/or arranged and met with NGTL's Supply Chain and Aboriginal Contracting team to obtain additional information on potential contracting and employment opportunities with NGTL projects in general and the Towerbirch Project in particular.

NGTL anticipates achieving an 8 to 12 per cent rate for Aboriginal contracting and an 8 to 10 per cent Aboriginal employment rate on the Project consistent with NGTL's historic average. NGTL stated that the extent of Aboriginal participation will be determined once the construction phase commences and further engagement with the local communities is undertaken to understand their available workforce and contracting capacity.

Views of Participants

Blueberry River First Nations

Blueberry stated that it scores below average compared with other First Nations on a variety of socio-economic indicators. Consequently, Blueberry believes it is highly vulnerable to Project impacts and is likely less able to take advantage of potential opportunities the Project could offer. Blueberry submitted that the result is that Blueberry is likely to suffer a greater proportion of the negative Project impacts than non-Aboriginal communities without realizing their fair share of Project benefits.

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[15] BC Métis Federation, Blueberry River First Nations, Dawson Creek Métis Federation, Duncan's First Nation, Duncan River First Nations, Fort St John Métis Society, Horse Lake First Nations, Kelly Lake Cree Nation, Kelly Lake First Nation, Kelly Lake Métis Settlement Society, Moccasin Flats Métis Federation, Métis Nation of Alberta – Region 6, Métis Nation BC, Northeast Métis Association, Prophet River First Nations, Red River Métis Society, Saulteau First Nations, and West Moberly First Nations.

[16] BC Métis Federation, Blueberry River First Nations, Dawson Creek Métis Federation, Doig River First Nations, Fort St John Métis Society, Horse Lake First Nations, Kelly Lake Cree Nation, Kelly Lake First Nation, Kelly Lake Métis Settlement Society, Métis Nation of Alberta – Region 6, Métis Nation BC, Northeast Métis Association, Prophet River First Nations, and Saulteau First Nations.

West Moberly First Nations

West Moberly asked an IR of NGTL in regards to what specific financial benefits it intends to provide West Moberly and other affected First Nations.

Reply of NGTL

NGTL stated it disagrees that Blueberry's socio-economic challenges will prevent Blueberry from receiving benefits from the Project. Specific to Blueberry, NGTL said it has supported numerous community initiatives, including a community liaison position, post-secondary education, and industry training programs. NGTL has also supported the Blueberry Adult Learning Centre, the Elder Sewing Circle, Blueberry community bus, built several log cabins at Pink Mountain and funded Blueberry's rodeo ground improvements. In addition, a Blueberry youth participated in a Youth Mentorship Program which was sponsored by TransCanada and its Affiliates.

In response to West Moberly's IR, NGTL reiterated that it has worked, and will continue to work, with Aboriginal communities and organizations to share in the benefits and opportunities provided by the Project, through employment, contracting and the supply of services in the planning, construction and operational phases of the Project. It also reiterated that it anticipates achieving an 8 to 12 per cent rate for Aboriginal contracting and an 8 to 10 per cent Aboriginal employment rate on the Project consistent with NGTL's historic average.

Views of the Board

The Board is of the view that the Project would provide benefits to Aboriginal, local, regional and provincial economies. The Board notes NGTL's evidence with respect to job creation and of federal, provincial and municipal revenues from the direct and indirect economic effects associated with the construction and operation of this Project.

The Board notes that NGTL anticipates achieving an 8 to 12 per cent rate for Aboriginal contracting and notes NGTL's commitment to provide opportunities for the employment of local and Aboriginal workers.

The Board is of the view that it is useful to collect data with respect to economic benefits. Accordingly, the Board would require NGTL to report on the outcomes of its employment, contracting, and procurement outcomes, including those related to its Aboriginal Contracting and Employment Program, as well as for those related to non-Aboriginal businesses and individuals on the Project. Therefore, the Board recommends **Certificate Condition 21** (Appendix II), requiring NGTL to submit an Employment, Contracting and Procurement Report.

Appendix I

List of Issues

The Board identified the following issues for consideration in GH-003-2015 with respect to the construction and operation of the proposed Project:

1. The need for the Project.
2. The economic feasibility of the Project.
3. The potential commercial impacts of the Project.
4. The method of toll and tariff regulation.
5. The potential environmental and socio-economic effects of the Project, including those to be considered under the *Canadian Environmental Assessment Act, 2012*.
6. The appropriateness of the general route and land requirements for the Project.
7. Potential impacts of the Project on Aboriginal interests.
8. Potential impacts of the Project on landowners and land use.
9. The suitability of the design of the Project.
10. Contingency planning for spills, accidents or malfunctions, during construction and operation of the Project.
11. Safety and security during construction of the Project and operation of the Project, including emergency response planning and third-party damage prevention.
12. The terms and conditions to be included in any recommendation or approval the Board may issue.

Appendix II

Certificate Conditions

The terms used in this appendix have been defined in the Glossary at the beginning of this Report.

Conditions for the Certificate, if Granted

General

1. Condition Compliance

NGTL shall comply with all of the conditions contained in this Certificate unless the Board otherwise directs.

2. Design, Construction and Operation

NGTL shall cause the Section 52 Facilities to be designed, located, constructed, installed and operated in accordance with the specifications, standards, commitments made and other information referred to in its application, subsequent filings or as otherwise agreed to during the hearing process.

3. Implementation of Environmental Protection

NGTL shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendations, procedures and its commitments for the protection of the environment included in or referred to in its application, subsequent filings or as otherwise agreed to during the hearing process.

Prior to Construction

4. Right-of-Way Regeneration Plan in Old Growth Forest Bird Habitat

NGTL shall file with the Board, **at least 60 days prior to commencing construction of the Section 52 Facilities**, a Plan to enhance the regeneration of vegetation on the construction right-of-way within or adjacent to old growth forest bird habitat such that the width of the operating right-of-way is reduced as much as possible and that habitat functionality of disturbed areas is returned as soon as possible.

The Plan shall include:

a. a description of the goals of the Plan, including the condition to which NGTL intends to return all or part of the construction right-of-way;

b. a description of the strategies for regeneration of the right-of-way (method, measures, tree and shrub planting plans, and application criteria);

c. the procedures for right-of-way width reduction and vegetation management on the right-of-way during operation of the Project (e.g., minimize brushing), including a decision-making framework for selecting the appropriate maintenance measures, and how environmental sensitivities and land use will be considered;

d. a discussion of how the regeneration strategies are anticipated to return the construction right-of-way to pre-construction functionality, in particular for old growth forest birds, using the goals and targets provided in a);

e. a summary of NGTL's consultation concerning a) to d) with appropriate federal and provincial authorities, landowners and any potentially affected Aboriginal groups, including any issues or concerns raised and how NGTL has addressed or responded to them; and,

f. confirmation that the status of regeneration, including right-of-way width, will be reported in the Post-Construction Environmental Monitoring Reports required by Condition 23.

5. Quality Management Plan

NGTL shall file with the Board, **at least 60 days prior to the start of construction,** a description of its corporate Quality Management Plan for pipe and components greater than NPS 16, including:

a. material/vendor qualification requirements;

b. quality control and assurance programs for all pipe and components greater than NPS 16, that ensure all materials meet NGTL's specifications (i.e. processes , procedures, specifications, testing, inspection and test report(s));

c. mandatory documentation of the process conditions during manufacture and verification of the conformance of manufacturer material test reports with NGTL's requirements;

d. mandatory inspection requirements, inspection competency training, and qualifications; and

e. non-conformance reporting and correction procedures.

6. Commitments Tracking Table

NGTL shall:

a. file with the Board and post on its Project website, **at least 30 days prior to commencing construction of the Section 52 Facilities**, a table listing all commitments made by NGTL in the Project application, subsequent filings or as otherwise agreed to during the hearing process, and the conditions included in this Certificate (Commitments Tracking Table), including reference to:

i. the documentation in which reference to the commitment is made (e.g., the Project application, responses to information requests, hearing transcripts, authorization or approval requirements, condition filings, or other); and

ii. the timelines associated with the fulfillment of each commitment;

b. file with the Board and post on the Project website an update on the status of the commitments in a) **monthly until the last Order is issued for leave to open**;

c. maintain at its construction office(s):

i. the Commitments Tracking Table listing all commitments and conditions described in a) and their completion status;

ii. copies of any permits, approvals or authorizations for the Project issued by federal, provincial or other permitting authorities, which include environmental conditions or site-specific mitigation or monitoring measures; and

iii. any subsequent variances to any permits, approvals or authorizations referred to in c) ii); and

d. notify all interested parties that have expressed an interest in receiving such notifications of filings and Commitments Tracking Table updates that NGTL has been required by the Board to file pursuant to this Certificate.

7. Environmental Protection Plan (EPP)

NGTL shall file with the Board for approval, **at least 60 days prior to commencing construction of the Section 52 Facilities**, an updated project specific Environmental Protection Plan (EPP), which NGTL shall implement. The EPP shall describe all environmental protection procedures, and mitigation and monitoring commitments, as set out in NGTL's application, subsequent filings or as otherwise agreed to during the hearing process. The EPP shall also include updated Environmental Alignment Sheets.

8. Aboriginal Monitoring Plan

NGTL shall file with the Board, and serve a copy on those Aboriginal groups identified in a), **at least 60 days prior to commencing construction of the Section 52 Facilities**, a plan describing participation by Aboriginal groups in monitoring during construction and post-construction of the Project. The plan shall include:

a. a list of the Aboriginal groups consulted concerning participation in monitoring during construction and/or post-construction;

b. a list of those Aboriginal groups, if any, who have reached agreement with NGTL to participate as monitors during construction and/or post-construction; and

c. a description of the scope, methodology, and measures for monitoring activities to be undertaken by each participating Aboriginal group identified in b), including:

    i. a summary of consultations undertaken with participating Aboriginal groups to determine the proposed scope, methodology, and measures for monitoring;

    ii. those elements of construction and geographic locations that will involve Aboriginal monitoring;

    iii. a description of how information gathered through the participation of Aboriginal monitors will be used by NGTL; and

    iv. a description of how information gathered through the participation of Aboriginal monitors will be provided to participating Aboriginal groups.

9. Outstanding Traditional Land Use Investigations

NGTL shall, **at least 60 days prior to commencing construction of the Section 52 Facilities**, file with the Board for approval, and serve a copy on all participating Aboriginal groups, a plan to address outstanding traditional land use (TLU) investigations for the Section 52 Facilities. The plan must include, but not be limited to:

a. a summary of the status of TLU investigations undertaken for the Section 52 Facilities, including Aboriginal group-specific TLU studies or planned supplemental surveys;

b. a description of any outstanding concerns raised by potentially-affected Aboriginal groups regarding potential effects of the Section 52 Facilities on the current use of lands and resources for traditional purposes, including a description of how these concerns have been or will be addressed by NGTL;

c. a summary of any outstanding TLU investigations or supplemental surveys, and follow-up activities that will not be completed prior to commencing construction, including an explanation for why these will not be completed prior to commencing construction, an estimated completion date, if applicable, and a description of how any additional information provided by Aboriginal groups has been considered and addressed to the extent possible in the EPP or other mitigation measures for the Section 52 Facilities; and

d. a description of how NGTL has incorporated any revisions into the final EPP and Environmental Alignment Sheets.

10. Construction Schedule

NGTL shall file with the Board, **at least 30 days prior to commencing construction of the Section 52 Facilities**, a detailed construction schedule(s) identifying major construction activities, and shall notify the Board of any modifications to the schedule(s) as they occur.

11. Heritage Resources

NGTL shall file with the Board, **at least 30 days prior to commencing construction of the Section 52 Facilities**:

a. confirmation, signed by an Officer of the company, that it has obtained all of the required archaeological and heritage resource clearances and authorizations from the Alberta Department of Culture and the British Columbia Ministry of Forests, Lands and Natural Resource Operations;

b. a description of how NGTL will meet conditions and respond to comments and recommendations contained in the clearances and authorizations referred to in a); and

c. a description of how NGTL has incorporated additional mitigation measures as applicable, into its Environmental Protection Plans as a result of conditions or recommendations referred to in b).

During Construction

12. Breeding Bird Surveys and Protection Plans

In the event of construction activities within the breeding and nesting period for migratory birds or restricted activity periods for non-migratory birds protected under provincial jurisdiction, NGTL shall retain a qualified avian biologist to carry out a pre-construction non-intrusive survey to identify any birds and active nests in areas immediately surrounding the construction activities and shall file the following with the Board **as part of the Construction Progress Reports required by Condition 13 b)**:

a. the results of the survey;

b. mitigation, including monitoring, developed in consultation with Environment and Climate Change Canada and the appropriate provincial government authorities, to protect any identified migratory and non-migratory birds and their nests;

c. mitigation, including monitoring, developed in consultation with Environment and Climate Change Canada to protect any identified *Species at Risk Act* listed birds and their nests; and

d. evidence to confirm that the appropriate provincial and federal government authorities were consulted, on the proposed methodology for the survey, the results from the survey and the mitigation and monitoring to be used, and a description of any outstanding concerns they may have.

13. Construction Progress Reports

NGTL shall file progress reports with the Board **on the 1st and 16th of each month during construction** of the Section 52 Facilities. Each report shall include:

a. information on the activities carried out during the reporting period;

b. an update on the extent to which construction activities overlap with environmentally sensitive periods (e.g., the migratory bird nesting period, Western Toad breeding period, restricted activity periods for watercourses) and any mitigation measures required and implemented to reduce the risk of adverse impacts during the environmentally sensitive periods;

c. any environmental, socio-economic, safety and security issues and issues of non-compliance; and

d. the measures undertaken for the resolution of each issue and non-compliance for environmental, socio-economic and safety issues, and confirmation that identified security issues have been addressed.

14. Watercourse Crossing Inventory

NGTL shall file with the Board, **at least 60 days prior to commencing construction of any watercourse crossing**, the following:

a. an updated inventory of all watercourses to be crossed, including, for each crossing:

    i. the name of the watercourse being crossed and an identifier for the crossing;

    ii. the location of the crossing;

    iii. the primary and contingency crossing methods;

    iv. information on the presence of fish and fish habitat;

    v. a description of the composition of the riparian habitat at the crossing location and an indication if the riparian habitat has a limiting effect on the productive capacity of the watercourse, and if its removal or disturbance represents a potential influence on fish communities;

    vi. the provincial instream work window or timing restrictions (i.e., window of least risk or restricted activity period);

    vii. planned construction timing; and

    viii. an indication of whether any of the applicable Fisheries and Oceans Canada's "Measures to Avoid Causing Harm to Fish and Fish Habitat" cannot be implemented;

b. detailed generic design drawings of trenchless, dry open-cut, frozen open-cut, and isolation crossings of various watercourse types;

c. site-specific information for each watercourse crossing where any of the applicable Fisheries and Oceans Canada's "Measures to Avoid Causing Harm to Fish and Fish Habitat" cannot be implemented for the primary watercourse construction method, including:

   i. crossing-specific engineered design drawings;

   ii. photographs up-stream, down-stream, and at the crossing location;

   iii. a description of the fish species and habitat that is present at the crossing location, and if fish spawning is likely to occur within the immediate area;

   iv. the site-specific mitigation and habitat enhancement measures to be used to minimize impacts;

   v. any potential residual effects;

   vi. proposed reclamation measures;

   vii. a discussion of the potential impacts to commercial, recreational and Aboriginal fishery resources within the immediate area as a result of the crossing's construction; and

   viii. a self-assessment of the risk of serious harm;

d. a summary of consultations with appropriate government authorities, potentially affected Aboriginal groups and affected landowners/tenants. In its summary, NGTL shall provide a description and justification for how NGTL has incorporated the results of its consultation, including any recommendations from those consulted.

15. Contingency Watercourse Crossings

a. For any watercourse crossing where NGTL will employ a contingency crossing method instead of its proposed primary method, and where any of the applicable Fisheries and Oceans Canada's "Measures to Avoid Causing Harm to Fish and Fish Habitat" cannot be implemented, NGTL shall file with the Board **at least 30 days prior to commencing construction of the contingency watercourse crossing**:

   i. confirmation of the contingency watercourse crossing method that will be employed, the rationale for employing that method, and a summary of the differences between the primary and contingency watercourse crossing methods; and

   ii. the following site-specific information:

      a) detailed crossing-specific engineered design drawings;

b) photographs up-stream, down-stream, and at the crossing location;

c) a description of the fish species and habitat that is present at the crossing location, and if fish spawning is likely to occur within the immediate area;

d) a description of the composition of the riparian habitat at the crossing location and an indication if the riparian habitat has a limiting effect on the productive capacity of the watercourse, and if its removal or disturbance represents a potential influence on fish communities;

e) the site-specific mitigation and habitat enhancement measures to be used to minimize impacts;

f) any potential residual effects;

g) proposed reclamation measures; and

h) a discussion of the potential impacts to commercial, recreational and Aboriginal fishery resources within the immediate area as a result of the crossing's construction.

b. For all other instances where a contingency crossing method will be employed and all of the applicable Fisheries and Oceans Canada's "Measures to Avoid Causing Harm to Fish and Fish Habitat" will be implemented, NGTL shall file with the Board, **at least 15 days prior to commencing construction of the contingency watercourse crossing**, a notification that the contingency method will be employed. With this notification, NGTL must explain why the contingency method is being employed and provide a summary of the differences between the primary and contingency watercourse crossing methods.

c. NGTL shall provide, **within 30 days after the date that the last Order is issued for leave to open**, confirmation that any contingency watercourse crossing(s) identified to the Board pursuant to a) and b) were the only contingency watercourse crossing(s) implemented for the construction of the Project; or that contingency watercourse crossing methods were not required for the Project.

16. Authorizations under paragraph 35(2)(b) of the Fisheries Act and Species at Risk permits

a. For any instream activities that will require an authorization under paragraph 35(2)(b) of the *Fisheries Act*, NGTL shall file with the Board, **at least 10 days prior to commencing the respective instream activities**, a copy of the authorization under paragraph 35(2)(b) of the *Fisheries Act*;

b. For any instream activities that will require a permit under the *Species at Risk Act*, NGTL shall file with the Board, **at least 10 days prior to commencing the respective instream activities**, a copy of the permit issued under the *Species at Risk Act*; and

c. NGTL shall confirm, **within 30 days after the date that the last Order is issued for leave to open**, that:

i. any required *Fisheries Act* authorizations were obtained from Fisheries and Oceans Canada and filed with the Board pursuant to a), or notify the Board that no authorizations were required; and

ii. any required *Species at Risk Act* permits for instream activities were obtained from the competent minister under the *Species at Risk Act*, and filed with the Board pursuant to b), or notify the Board that no permits were required.

17. Pipeline Pressure Control and Overpressure Protection

NGTL shall file with the Board, **at the time the leave to open application for any Project segment containing a meter station is filed**, a statement by a professional engineer that the pressure control and overpressure protection provided at the receipt meter stations comply with the requirements of CSA Z662-15, including Clause 4.18, and Clause 10.9.5. The statement shall also confirm that overpressure protection meets the intent and purpose of NEB Safety Advisory SA 2012-01.

18. Horizontal Drilling Execution Plan

NGTL shall file with the Board, **at least 45 days prior to performing HDD crossings**, detailed site-specific drilling execution plans in accordance with Clause 6.2.11 of CSA Z662-15, including the site-specific mitigative measures taken to minimize the risk of potential frac-outs and other drilling failures.

Post-construction and Operations

19. Condition Compliance by the Accountable Officer

Within 30 days of the date that the last order is issued for leave to open, NGTL shall file with the Board a confirmation that the approved Project was completed and constructed in compliance with all applicable conditions in this Certificate. If compliance with any of these conditions cannot be confirmed, NGTL shall file with the Board details as to why compliance cannot be confirmed. The filing required by this condition shall include a statement confirming that the signatory to the filing is the Accountable Officer of NGTL, appointed as Accountable Officer pursuant to section 6.2 of the *National Energy Board Onshore Pipeline Regulations.*

20. Aboriginal Monitoring Report

Within 90 days of the date that the last order is issued for leave to open, NGTL shall file with the Board, and serve a copy on those Aboriginal groups identified in a), a report summarizing the participation by Aboriginal groups in monitoring during construction of the Project, as required by **Certificate Condition 7** and **Section 58 Order Condition 7**. The report shall include:

a. a list of the Aboriginal groups who participated in monitoring during construction;

b. a description of monitoring activities undertaken by each participating Aboriginal group during construction;
c. a summary of consultations undertaken with participating Aboriginal groups to ascertain the success of participation in monitoring during construction of the Project;
d. a summary of the lessons learned, including any issues that were addressed and opportunities for improvement; and
e. any changes, modifications or updates to the Aboriginal Monitoring Plan required by **Certificate Condition 8** for the post-construction phase of the Project.

21. Employment, Contracting and Procurement Report

NGTL shall file with the Board, **within 6 months of the date that the last order is issued for leave to open**, a report on employment, contracting and procurement for the Project during the construction phase, including:

a. A summary of Aboriginal and non-aboriginal employment by the categories of:
   i. Local/regional;
   ii. Provincial; and
   iii. National
b. As summary of Aboriginal and non-aboriginal procurement by the categories of:
   i. Local/regional
   ii. Provincial,
   iii. National and
   iv. Out of country

The following tables are included to add clarity to the request. NGTL can provide the information in this format or in any format of its choosing.

EMPLOYMENT (person hours or number of employees)

	Local/regional	**Provincial**	**National**	**Total**
Aboriginal				
Non-Aboriginal				
Total				

ABORIGINAL PROCUREMENT ($)

	Local/regional	**Provincial**	**National**	**Out of country**	**Total**
Labour					
Non-Labour					
Total					

NON-ABORIGINAL PROCUREMENT ($)

	Local/regional	**Provincial**	**National**	**Out of country**	**Total**
Labour					
Non-Labour					
Total					

22. Pipeline Geographic Information System (GIS) Data

NGTL shall provide the Board, **within one year of the date NGTL files with the Board the confirmation letter required pursuant to Condition 19**, as-built GIS data in the form of Esri® shapefiles. This shall include:

a. a file that contains pipeline segment centre lines identified by pipeline name, where each segment has a unique outside diameter, wall thickness, maximum operating pressure, external coating, field-applied girth weld coating, pipe manufacturing specification and depth of cover. If the above values of the pipeline change at any point along the length of the pipeline, the pipeline should be segmented at that point. This file shall include details on the degree of accuracy of the GIS data; and,

b. a file that depicts point locations and names of compressor stations, terminals, custody transfer meters, and block valves, as applicable.

The datum shall be NAD83 and projection shall be geographic (latitudes and longitudes). The filing required by this condition shall include a statement confirming that the signatory to the filing is the Accountable Officer of NGTL.

23. Post-Construction Environmental Monitoring Report

On or before the 31 of January following each of the first, third and fifth complete growing seasons after completing final clean-up, NGTL shall file with the Board a post-construction environmental monitoring report. Each post-construction environmental monitoring report shall address issues, progress and success of the measures implemented, including those pertaining to soils, weeds, agricultural productivity, watercourse crossings, riparian habitat, wetlands, rare plants, vegetation re-establishment, wildlife and wildlife habitat (including Western Toad), fish and fish habitat, species at risk and any identified traditional use sites or areas of cultural value for all areas of the Project footprint, including temporary work areas. Each post-construction environmental monitoring report shall:

a. include environmental as-built information, and identification of any subsequent specialized mitigation measures employed, that are not already identified in the EPP or that may be deviations from those planned;

b. identify on a map or diagram any environmental issues to be monitored, including but not limited to unexpected issues that arose during construction;

c. describe the methodology used for monitoring, the accuracy of the data collected, the criteria established for evaluating success and the results found;

d. provide an assessment of the effectiveness of the mitigation measures (planned or corrective) applied against the criteria for success;

e. provide an assessment to verify the accuracy of the environmental assessment of the Project;

f. describe the current status of the issues identified (resolved or unresolved);

g. include details of Aboriginal monitoring outcomes and consultation undertaken with appropriate government authorities, and any potentially affected Aboriginal groups, landowners and stakeholders, including any issues or concerns raised and how NGTL has addressed or responded to them; and,

h. provide proposed measures and the schedule that NGTL will implement to address any ongoing issues or concerns.

24. Sunset Clause

Unless the Board otherwise directs, this Certificate shall expire on ***[three years from the date the Certificate is granted]*** unless construction in respect of the Section 52 Facilities has commenced by that date.

Appendix III

Order Conditions

The terms used in this appendix have been defined in the Glossary at the beginning of this Report.

Conditions for the Section 58 Order

General

1. Condition Compliance

NGTL shall comply with all of the conditions contained in this Order unless the Board otherwise directs.

2. Design, Construction and Operation

NGTL shall cause the Section 58 Activities to be designed, located, constructed, installed and operated in accordance with the specifications, standards, commitments made and other information referred to in its application, subsequent filings or as otherwise agreed to during the hearing process.

3. Implementation of Environmental Protection

NGTL shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendations, procedures and its commitments for the protection of the environment included in or referred to in its application, subsequent filings or as otherwise agreed to during the hearing process.

Prior to Construction

4. Aboriginal Monitoring Plan

NGTL shall file with the Board, and serve a copy on those Aboriginal groups identified in a), at least 60 days prior to commencing construction, a plan describing participation by Aboriginal groups in monitoring during construction and post-construction of the Project. The plan shall include:

a. a list of the Aboriginal groups consulted concerning participation in monitoring during construction and/or post-construction;

b. a list of those Aboriginal groups, if any, who have reached agreement with NGTL to participate as monitors during construction and/or post-construction; and

c. a description of the scope, methodology, and measures for monitoring activities to be undertaken by each participating Aboriginal group identified in b), including:

i. a summary of consultations undertaken with participating Aboriginal groups to determine the proposed scope, methodology, and measures for monitoring;

ii. those elements of construction and geographic locations that will involve Aboriginal monitoring;

iii. a description of how information gathered through the participation of Aboriginal monitors will be used by NGTL; and

iv. a description of how information gathered through the participation of Aboriginal monitors will be provided to participating Aboriginal groups

5. Outstanding Traditional Land use Investigations

NGTL shall, **at least 60 days prior to commencing construction of the Section 58 Activities**, file with the Board for approval, and serve on all participating Aboriginal groups, a plan to address outstanding traditional land use (TLU) investigations for the Section 58 Activities. The plan must include, but not be limited to:

a. a summary of the status of TLU investigations undertaken for the Section 58 Activities, including Aboriginal group-specific TLU studies or planned supplemental surveys;

b. a description of any outstanding concerns raised by potentially-affected Aboriginal groups regarding potential effects of the Section 58 Activities on the current use of lands and resources for traditional purposes, including a description of how these concerns have been or will be addressed by NGTL;

c. a summary of any outstanding TLU investigations or supplemental surveys, and follow-up activities that will not be completed prior to commencing construction, including an explanation for why these will not be completed prior to commencing construction, an estimated completion date, if applicable, and a description of how any additional information provided by Aboriginal groups has been considered and addressed to the extent possible in the EPP or other mitigation measures for the Section 58 Activities; and

d. a description of how NGTL has incorporated

6. Environmental Protection Plan (EPP)

NGTL shall file with the Board for approval, **at least 45 days prior to commencing construction of the Section 58 Activities**, an updated project specific Environmental Protection Plan (EPP), which NGTL shall implement. The EPP shall describe all environmental protection procedures, and mitigation and monitoring commitments, as set out in NGTL's application, subsequent filings or as otherwise agreed to during the hearing process. The EPP shall also include updated Environmental Alignment Sheets.

7. Commitments Tracking Table

NGTL shall:

a. file with the Board and post on its Project website, **at least 30 days prior to commencing construction of the Section 58 Activities**, a table listing all commitments made by NGTL in the Project application, subsequent filings or as otherwise agreed to during the hearing process, and the conditions included in this Order (Commitments Tracking Table), including reference to:

   i. the documentation in which reference to the commitment is made (e.g., the Project application, responses to information requests, hearing transcripts, authorization or approval requirements, condition filings, or other); and

   ii. the timelines associated with the fulfillment of each commitment;

b. file with the Board and post on the Project website an update on the status of the commitments in a) **monthly until the last Order is issued for leave to open**; and

c. maintain at its construction office(s):

   i. the Commitments Tracking Table listing all commitments and conditions described in a) and their completion status;

   ii. copies of any permits, approvals or authorizations for the Project issued by federal, provincial or other permitting authorities, which include environmental conditions or site-specific mitigation or monitoring measures; and

   iii. any subsequent variances to any permits, approvals or authorizations referred to in c) ii).

d. notify all interested parties that have expressed an interest in receiving such notifications of filings and Commitments Tracking Table updates that NGTL has been required by the Board to file pursuant to this Order; and

e. any revisions into the final EPP and Environmental Alignment Sheets.

8. Construction Schedule

NGTL shall file with the Board, **at least 30 days prior to commencing construction of the Section 58 Activities**, a detailed construction schedule(s) identifying major construction activities, and shall notify the Board of any modifications to the schedule(s) as they occur.

<u>During Construction</u>

9. Breeding Bird Survey and Protection Plan

In the event of construction activities within the breeding and nesting period for migratory birds or restricted activity periods for non-migratory birds protected under provincial jurisdiction, NGTL shall retain a qualified avian biologist to carry out a pre-construction non-intrusive survey to identify any birds and active nests in areas immediately surrounding the construction activities and shall file the following with the Board **as part of the Construction Progress Reports required by Condition 10b)**:

a. the results of the survey;

b. mitigation, including monitoring, developed in consultation with Environment and Climate Change Canada and the appropriate provincial government authorities, to protect any identified migratory and non-migratory birds and their nests;

c. mitigation, including monitoring, developed in consultation with Environment and Climate Change Canada to protect any identified *Species at Risk Act* listed birds and their nests; and

d. evidence to confirm that the appropriate provincial and federal government authorities were consulted, on the proposed methodology for the survey, the results from the survey and the mitigation and monitoring to be used, and a description of any outstanding concerns they may have.

10. Construction Progress Reports

NGTL shall file progress reports with the Board **on the 1st and 16th of each month during construction** of the Section 58 Activities. Each report shall include the following:

a. information on the activities carried out during the reporting period;

b. an update on the extent to which construction activities overlap with environmentally sensitive periods (e.g., the migratory bird nesting period, Western Toad breeding period, restricted activity periods for watercourses) and any mitigation measures required and implemented to reduce the risk of adverse impacts during the environmentally sensitive periods;

c. any environmental, socio-economic, safety and security issues and issues of non-compliance; and

d. the measures undertaken for the resolution of each issue and non-compliance for environmental, socio-economic and safety issues, and confirmation that identified security issues have been addressed.

Post-construction and Operations

11. Condition Compliance by the Accountable Officer

Within 30 days of the date that the construction of the Section 58 Activities is completed, NGTL shall file with the Board a confirmation that the Project was completed and constructed in compliance with all applicable conditions in this Order. If compliance with any of these conditions cannot be confirmed, NGTL shall file with the Board details as to why compliance cannot be confirmed. The filing required by this condition shall include a statement confirming that the signatory to the filing is the accountable officer of NGTL, appointed as Accountable Officer pursuant to section 6.2 of the *National Energy Board Onshore Pipeline Regulations*.

12. Sunset Clause

Unless the Board otherwise directs, this Order shall expire on ***[three years from the date the Order is granted]*** unless construction in respect of the Section 58 Activities has commenced by that date.