



Canada Energy
Regulator

Régie de l'énergie
du Canada

Canada Energy Regulator Reasons for Decision

Westcoast Energy Inc.,
doing business as Spectra Energy Transmission

GHW-002-2018

Canada Energy Regulator Reasons for Decision

In the Matter of

Westcoast Energy Inc., doing business as Spectra Energy Transmission

Applications dated

13 July 2018 for the CS-4A Compressor Station Upgrade Project
16 July 2018 for the CS-5 Compressor Station Upgrade Project
20 July 2018 for the CS-3 Compressor Station Upgrade Project; and
13 August 2018 for the T-South Expansion and Reliability Project
(Collectively referred to as T-South 2018 Compressor Station Applications)

GHW-002-2018

August 2019

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Reasons for Decision - Westcoast Energy Inc.
GHW-002-2018

Cat No. NE22-1/2019-1E
ISBN 978-0-660-31979-7

This report is published separately in both official languages. This publication is available upon request in multiple formats.

Copies are available on request from:

The Publications Office
Canada Energy Regulator
Suite 210, 517 Tenth Avenue SW
Calgary, Alberta, T2R 0A8
E-Mail: publications@cer-rec.gc.ca
Fax: 403-292-5503
Phone: 1-800-899-1265

For pick-up at the office:
Library
2nd floor

Printed in Canada

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représentée par le Régie de l'énergie du Canada

Motifs de décision - Westcoast Energy Inc.
GHW-002-2018

N° de cat. NE22-1/2019-1F
ISBN 978-0-660-31980-3

Ce rapport est publié séparément dans les deux langues officielles. On peut obtenir cette publication sur supports multiples, sur demande.

Demandes d'exemplaires:

Bureau des publications
Régie de l'énergie du Canada
517, Dixième Avenue S.-O., bureau 210
Calgary (Alberta) T2R 0A8
Courrier électronique : publications@cer-rec.gc.ca
Fax : 403-292-5503
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Des exemplaires sont également disponibles
à la bibliothèque
Deuxième étage

Imprimé au Canada

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Glossary of Terms and Abbreviations

Applicant or Westcoast Westcoast Energy Inc., doing business as Spectra Energy Transmission

Applications, or T-South 2018 Compressor Station Applications Westcoast's applications, pursuant to section 58 of the NEB Act and Part IV of the NEB Act for the:

- CS-4A Compressor Station Upgrade Project dated 13 July 2018
- CS-5 Compressor Station Upgrade Project dated 16 July 2018
- CS-3 Compressor Station Upgrade Project dated 20 July 2018
- T-South Expansion and Reliability Project dated 13 August 2018

ASME B31.3-16 American Society of Mechanical Engineers B31.3-16, Process Piping

ATP Application to Participate

BC British Columbia

Board or NEB National Energy Board

BP Canada BP Canada Energy Group ULC

Caretaker Area The ?Esdilagh caretaker area of the T?ilhqot'in Territory

CDCs Contract Demand Credits

CEAA 2012 *Canadian Environmental Assessment Act, 2012*, S.C. 1992, c. 37, Repealed, 2012, c. 19, s. 66

CFS Conditional Firm Service

CMT Culturally Modified Tree

commencing construction The start of construction activities for the Project, including the clearing of vegetation, ground-breaking and other forms of right-of-way 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
CS-3 Project	The CS-3 Compressor Station Upgrade Project; one of the four Projects included in the T-South 2018 Compressor Station Applications
CS-4A Project	The CS-4A Compressor Station Upgrade Project; one of the four Projects included in the T-South 2018 Compressor Station Applications
CS-5 Project	The CS-5 Compressor Station Upgrade Project; one of the four Projects included in the T-South 2018 Compressor Station Applications
CSA Z662-15	Canadian Standards Association Z662-15, Oil and Gas Pipeline Systems
CSA Z662-19	Canadian Standards Association Z662-19, Oil and Gas Pipeline Systems
CTAISB Act	Canadian Transportation Accident Investigation and Safety Board Act, S.C. 1989, c. 3
Decision (Reasons for Decision)	The document prepared by the Board that contains the Board's decisions on Westcoast's Applications and reasons for those decisions.
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EPP	Environmental Protection Plan
Expansion and Reliability Project	The T-South Expansion and Reliability Project; one of the four Projects included in the T-South 2018 Compressor Station Applications

for approval	When a condition requires a filing with the Board “for approval”, Westcoast must not commence the indicated action or activity until the Board issues its written approval of the filing.
GT&Cs	Westcoast General Terms & Conditions - Service
Hearing Order	Hearing Order GHW-002-2018
HDA	Huntingdon Delivery Area
IMP	Integrity Management Program
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.
IOO	Inspection Officer 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.
LTO	Leave to Open
Macquarie	Macquarie Energy Canada
MFLNORD	BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development
MOP	Maximum Operating Pressure
MOTI	BC Ministry of Transport and Infrastructure
MOU	Memorandum of Understanding
NDE	Non-Destructive Examination

NEB Act	National Energy Board Act, R.S.C., 1985, c. N-7
NGTL	NOVA Gas Transmission Limited
Notice	Notice of Hearing and Application to Participate
NPS	Nominal Pipe Size
O&M	Operations and Maintenance
OMS	Operations Management System
OPR	National Energy Board Onshore Pipeline Regulations, SOR/99-294
Orders	Orders authorizing the applied-for facilities: <ul style="list-style-type: none"> • XG-021-2019, • XG-022-2019, • XG-023-2019, and • XG-024-2019
Part IV Order	The Toll Order applied for by Westcoast 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, Intervenor and Commenters in the hearing.
Parties	Includes the Applicant and Intervenor; does not include Commenters
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.

Powerex	Powerex Corp.
Process Advisor	Board staff assigned to provide assistance to the public, landowners, Indigenous peoples, and Participants to help them understand the process, the different roles of the hearing participants, and how to participate in the hearing.
Program	A number of reliability projects as well as a reliability and expansion project, proposed by Westcoast, all scheduled for execution over the next 2-3 years.
Projects	The proposed works as described in the T-South 2018 Compressor Station Applications, consisting of the Section 58 Activities and the request pursuant to Part IV of the NEB Act.
RAM	Reliability and Maintainability
Reliability Projects	The CS-3 Project, the CS-4A Project and the CS-5 Project
RFP	Request for Proposal
SARA	Species at Risk Act, S.C. 2002, c. 29
SERC	Socio-Economic Requirements of Contractors
SLMS	Safety Loss Management System
TLU	Traditional Land Use
T-North	Westcoast Transmission North Pipeline System
TSB	Transportation Safety Board of Canada
T-South	Westcoast Transmission-South Pipeline System
TTFP	Tolls, Tariff, Facilities and Procedures Committee
TWS	Temporary Workspace

List of Units

Bbl/d	Barrels per day
Ft	Feet
Ha	Hectares
Km	Kilometre
Kb/d	Thousands barrels per day
kPa	Kilopascal (one thousand pascals)
L	Litre
M	Metre
m ³ /d	Cubic metres per day
M	Million
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 ³ m ³	Thousand cubic meters
10 ³ m 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;

IN THE MATTER OF applications by Westcoast Energy Inc., doing business as Spectra Energy Transmission for approvals pursuant to section 58 and Part IV of the *National Energy Board Act* to construct and operate the:

- CS-4A Compressor Station Upgrade Project, dated 13 July 2018, filed with the National Energy Board under File No. OF-Fac-Gas-W102-2018-04 01;
- CS-5 Compressor Station Upgrade Project, dated 16 July 2018, filed with the National Energy Board under File No. OF-Fac-Gas-W102-2018-05 01;
- CS-3 Compressor Station Upgrade Project, dated 20 July 2018, filed with the National Energy Board under File No. OF-Fac-Gas-W102-2018-06 01; and
- T-South Expansion and Reliability Project, dated 13 August 2018, filed with the National Energy Board under File No. OF-Fac-Gas-W102-2018-07 01.

Collectively referred to as the T-South 2018 Compressor Station Applications (Projects).

IN THE MATTER OF the National Energy Board Hearing Order GHW-002-2018 dated 13 December 2018;

HEARD in Quesnel, British Columbia on 22 May 2019 and in Calgary, Alberta on 18 June 2019;

BEFORE:

M. Lytle Presiding Member

R. R. George Member

D. Côté Member

Oral Indigenous Knowledge

Papaschase First Nation

C. Cunningham

Chief C. Bruneau

Soda Creek Indian Band

Chief S. Sellars

P. Phillips

E. Boston

A. Phillips

S. Scholefield

W. Sellars

J. Michel

S. Sellars

A. Vogler

B. Dixon

J. Phillips

Williams Lake Indian Band

W. Spearing

B. Cleminson

A. Louie

Elder V. Gilbert

Elder W. Alphonse Sr.

Elder J. William

Appearances

D. Audino

R. Bourne

K. Millar

Ms. Powell

Ms. Oleniuk

S. Duncanson

A. Ross

C. Thompson

M. Haug

J. Nicholson

Participants

Westcoast Energy Inc., doing
business as Spectra Energy
Transmission

BP Canada Energy Group
ULC

Macquarie Energy Canada
Ltd.

NOVA Gas Transmission Ltd.

Powerex Corp.

National Energy Board

Witnesses

D. Challoner

T. DeLong

G. Johnson

E. Klein

D. Macleod

C. Pennington

C. Rice

K. Speed

J. Vissers

C. Lind

M. MacDougall

M. Dalziel

Written Final Argument

BP Canada Energy Group ULC

NOVA Gas Transmission Ltd.

Papaschase Cree Nation

Powerex Corp.

Westcoast Energy Inc.

Disposition

The National Energy Board (Board or NEB) has considered the evidence and submissions made by all Participants in the GHW-002-2018 proceeding. Having considered and weighed all evidence before it, the Board has decided that the T-South 2018 Compressor Station Applications, as proposed by Westcoast Energy Inc., doing business as Spectra Energy Transmission (Westcoast) are in the public interest.

For the reasons contained in this Decision, the Board has decided to issue the requested Orders pursuant to section 58 of the *National Energy Board Act*, R.S.C., 1985, c. N-7 (NEB Act) exempting Westcoast from paragraph 30(1)(a) and section 31 of the NEB Act in respect of the applied-for facilities, subject to the conditions contained in the following authorizations:

- Order XG-021-2019 authorizing the construction and operation of the CS-4A Project,
- Order XG-022-2019 authorizing the construction and operation of the CS-5 Project,
- Order XG-023-2019 authorizing the construction and operation of the CS-3 Project, and
- Order XG-024-2019 authorizing the construction and operation of the Expansion Project.

As a result, a Certificate of Public Convenience and Necessity is not required in respect of the Projects and Westcoast is exempt from the requirement to file a plan, profile and book of reference for the Projects.

The Orders also exempt certain welds for the auxiliary and utility piping systems from Board Order MO-08-2000 and, subject to the condition that Westcoast must conduct NDE on a minimum of 15% of welds made each day, section 17 of the *National Energy Board Onshore Pipeline Regulations*, SOR/99-294 (OPR).

The Board affirms that the cost of the Projects will be included in the Transmission South (Zone 4) cost of service and tolled on a rolled-in basis, as applied for.

The Board's views and conclusions on individual matters which fall within the scope of the Orders are contained in the following chapters, and constitute the Board's Reasons for Decision in respect of these matters.

A handwritten signature in black ink, appearing to read 'M. Lytle'.

M. Lytle
Presiding Member

A handwritten signature in black ink, appearing to read 'R. R. George'.

R. R. George
Member

A handwritten signature in black ink, appearing to read 'D. Côté'.

D. Côté
Member

August 2019
Calgary, Alberta

1 Summary

This National Energy Board (NEB or Board) Reasons for Decision (Decision) constitutes the NEB's decisions and reasons in respect of Westcoast's applications to construct and operate the CS-4A Compressor Station Upgrade Project, the CS-5 Compressor Station Upgrade Project, the CS-3 Compressor Station Upgrade Project, and the T-South Expansion and Reliability Project, considered in the GHW-002-2018 proceeding.

This chapter summarizes the Board's decisions and highlights those issues that were addressed by Intervenor and Commenters at the Board's hearing. The Board's detailed consideration of all the issues addressed in its process is contained in the following chapters. If there is a discrepancy between the summary and the body of the Decision, the wording and determinations set out in the following chapters take precedence.

In considering any application under Part III of the 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 and requires that the Board balance the benefits and the burdens of a project, in considering all relevant evidence properly before the Board. All regulatory documents on file in the GHW-002-2018 proceeding, make up the record for this proceeding and are available on the Board's website.

1.1 What did Westcoast apply for?

Westcoast filed four applications with the Board regarding its T-South Reliability and Expansion Program, which is comprised of a number of reliability projects as well as an expansion and reliability project, all scheduled for execution over the next 2-3 years (the Program):

- CS-4A Compressor Station Upgrade Project dated 13 July 2018 (the CS-4A Project);
- CS-5 Compressor Station Upgrade Project dated 16 July 2018 (the CS-5 Project);
- CS-3 Compressor Station Upgrade Project dated 20 July 2018 (the CS-3 Project); and
- T-South Expansion and Reliability Project dated 13 August 2018 (the Expansion and Reliability Project).

Together, these are known as the T-South 2018 Compressor Station Applications (Applications).

The Projects will take place at eight existing compressor stations along the Westcoast Transmission-South Pipeline System (T-South System), between CS-2B and CS-8B in British Columbia (BC), and includes the installation of five new compressor units and associated equipment at three existing compressor stations, and the completion of equipment upgrades to three other existing compressor stations on the T-South pipeline.

The Projects and the construction footprints would be located entirely within Westcoast-owned fee simple lands, with the exception of CS-3. The CS-3 Project would require an additional 0.21 hectares (ha) of new lands on adjacent, privately-owned industrial land. A summary of the location and land requirements for each of the eight locations is provided in Table 1-1.

Table 1-1: Location and Land requirements of the Projects

Compressor Station	Location	Construction Activities	Total land requirements (ha)	New land requirements (ha)
CS-2B	Approx. 7.5 kilometres (km) north of Pine Pass, BC	Piping, equipment upgrades	0.8	0
CS-3	Approx. 1 km north of McLeod Lake, BC	Compressor unit, cooler, building, associated equipment	4.4	0.21
CS-4A	Approx. 1.2 km east of the community of Summit Lake, BC	Compressor unit, cooler, building, associated equipment	4.85	0
CS-4B	Approx. 9 km north of the Town of Hixon, BC	Compressor unit, cooler, building, associated equipment	4.0	0
CS-5	Approx. 11 km north of Alexandria, BC	Compressor unit, cooler, building, associated equipment	3.94	0
CS-6A	Approx. 8.7 km east of the City of Williams Lake, BC	Compressor unit, cooler, building, associated equipment	3.9	0
CS-7	Along the southern boundary of the community of Savona; approx. 34 km west of the City of Kamloops, BC	Cooler, equipment upgrades	3.1	0
CS-8B	Approx. 1.5 km east of the Town of Agassiz, BC	Equipment upgrades	0	0
Totals	-	-	24.99	0.21

The combined estimated cost of the Projects, as submitted by Westcoast, would be approximately \$740 million (M).

1.1.1 Relief Requested by Westcoast

Westcoast requested the following relief from the Board in respect of the Projects:

- orders from the Board under section 58 of the NEB Act exempting the applied-for facilities from paragraphs 30(1)(a) and (b), and sections 31 and 47 of the NEB Act;
- orders pursuant to subsection 48(2.1) of the NEB Act exempting certain welds for the auxiliary and utility piping systems from the 100% non-destructive examination (NDE) requirements in section 17 of the OPR and Order MO-08-2000;
- orders pursuant to Part IV of the NEB Act affirming that the costs of the Projects will be included in the Transmission South (T-South) (Zone 4) cost of service and tolled on a rolled-in basis; and
- such further and other relief that Westcoast may request or the Board may consider appropriate.

1.1.2 CEAA 2012 and Environmental Assessment

Individually and collectively, none of the Projects are 40 km or greater in length and are therefore not considered designated projects requiring environmental assessments (EAs) under the *Canadian Environmental Assessment Act 2012*¹ (CEAA 2012). However, the Board considers environmental protection as part of its broader mandate under the NEB Act, and the Board's EA for the Projects is provided in Chapter 8.

1.2 How did the Board process the Applications?

1.2.1 NEB Process and Hearing Order

After receiving the Applications (application dates given in section 1.1), Powerex Corp. (Powerex) objected to the Applications as filed and requested the NEB establish further process.

On 4 October 2018, the Board issued a letter requesting that any interested parties file a letter with the Board outlining how they are potentially affected by the Projects, and the nature of their views or concerns, including those related to process. To promote regulatory efficiency, the Board decided that the Applications would be assessed under one file for administrative purposes². The Board received letters of comment on the Projects from Vicki Best, BP Canada Energy Group ULC (BP Canada), Powerex, and Macquarie Energy Canada (Macquarie).

The Board determined that, given the scope of the Projects and comments received, a hearing process would assist in better understanding the potential benefits and burdens of the proposed Projects. Therefore, on 13 December 2018, the Board issued a Notice of Hearing and Application to Participate (Notice), and Hearing Order GHW-002-2018 (Hearing Order), convening a public hearing to assess Westcoast's Applications. The Hearing Order determined that the Applications were

¹ The *Canadian Environmental Assessment Act 2012*¹, S.C. 1992, c. 37, *Repealed, 2012, c. 19, s. 66* has been repealed but will be used to consider these Projects because CEAA 2012 was in force at the time of the Applications.

² Documents are filed under Filing ID OF-Fac-Gas-W102-2018-07 01

complete enough to proceed to assessment and included the List of Issues that the Board would consider during its assessment of the Applications (provided in Appendix I).

As set out in the Hearing Order and subsequent Procedural Updates, the Board's proceeding included written and oral components. (Appendix II lists the Board's rulings and procedural updates).

1.2.2 Participation

Those who wished to participate in the hearing process for the Projects were required to submit Applications to Participate (ATPs) to the Board by 11 January 2019. The Board had granted pre-determined standing in the hearing to all of the persons who provided comments in response to the Board's letter of 4 October 2018. In total, 15 persons or groups requested or registered for Intervenor status and were granted Intervenor status, three requested or registered for Commenter status and were granted Commenter status, and one requested Commenter status and was denied standing on a without prejudice basis. The group that was denied standing submitted additional information and was subsequently granted Intervenor status.

1.2.3 Written Processes

Evidence was presented in writing and testing of that evidence was carried out through written questions, known as Information Requests (IRs). Intervenor submitted questions to Westcoast over one round of IRs. Westcoast was offered the opportunity to pose IRs to Intervenor but it did not do so.

1.2.4 Oral Indigenous Knowledge

The Board recognizes that Indigenous peoples share their knowledge and lessons through an oral tradition from generation to generation and that this information cannot always be shared adequately in writing. The Board heard oral Indigenous knowledge in Quesnel, BC on 22 May 2019, from Papaschase First Nation, Soda Creek Indian Band (also known as the Xat'sūll) and Williams Lake Indian Band. This knowledge and information was valuable for the Panel's consideration of the Applications.

Further discussion regarding Indigenous matters, including information heard during the oral Indigenous knowledge sessions is provided in Chapter 7.

1.2.5 Cross-Examination and Final Argument

The Board heard oral cross-examination on 18 June 2019 in Calgary, Alberta. Westcoast and Powerex both supplied witness panels for cross-examination. Westcoast, Powerex, NGTL, BP Canada and Papaschase Cree Nation submitted written final argument following the oral portion of the hearing, and Westcoast provided written reply argument.

1.2.6 Participant Funding

On 13 December 2018, the Participant Funding Program, administered independently of the hearing, announced that it would provide \$40,000 to assist groups and \$6,000 to assist individuals with their participation in the T-South 2018 Compressor Station Applications hearing. The Participant Funding Program received nine applications and recommended awarding \$326,000. The NEB *Executive Vice President, Regulatory* approved the recommendation. A report outlining further details of the awards as well as more information on the program and funding awards can be found on the Board's website at www.neb-one.gc.ca/pfp.

1.2.7 Conditions

For exemption orders issued under section 58 of the NEB Act, the Board sets out terms and conditions that it considers proper. 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 ultimately abandoned in a safe manner that protects the public and the environment.

On 7 June 2019, the Board made draft potential conditions for the Projects available for review and comment. The Board invited the Applicant and Intervenor to provide any written comments in their written final argument. The Board considered all comments it received from Participants before finalizing and setting out the terms and conditions it will impose on the Projects. Appendix V provides a summary of the comments the Board received from Intervenor and a summary of the Board's response to these comments.

1.2.8 T-South Pipeline Rupture and the Applications

On 9 October 2018, the 36" line of the T-South System ruptured between compressor stations 4A and 4B, about 13 km northeast of Prince George, British Columbia. There were no injuries, and in response to the incident, the NEB issued Inspection Officer Order NB-001-2018 (IOO) to restrict the operating pressure of the T-South System. The Transportation Safety Board of Canada (TSB) started an investigation to identify causes and contributing factors of the rupture.

The TSB has jurisdiction over this case and is responsible for leading the rupture investigation in accordance with the *Canadian Transportation Accident Investigation and Safety Board Act* (CTAISB Act). Under the CTAISB Act, while the TSB is investigating a transportation occurrence, the NEB is able to continue at its discretion with its own activities. In this situation, this includes the NEB issuing an IOO and evaluating the activities completed by Westcoast to meet the specified measures of the IOO.

The NEB and TSB have a memorandum of understanding (MOU). Section 5.2 of the MOU states that the NEB and TSB will keep each other informed of any significant progress in their respective activities and must provide each other with any relevant information. It is through this collaboration that both the NEB and TSB stay current with respect to the investigation.

As the TSB report on its investigation into the rupture has not been released, there is no information about the causes and contributing factors on the public record to assist the Board in its Decision. The Board recognizes that the rupture and the Applications share the T-South System, but this Decision is about and pertains only to the T-South 2018 Compressor Station Applications. As described in Chapter 4, the Board is implementing conditions to address potential interaction between the rupture and the Applications, but the rupture is being addressed by separate processes as outlined above.

1.3 What did the Board decide?

The Board considered the evidence and submissions made by all the Participants in the GHW-002-2018 proceeding. Having considered and weighed all of the evidence placed before it, the Board has decided that the proposed Projects, with the Board's imposed conditions, are in the public interest, for the reasons described throughout this Decision.

When considering the balance between the benefits (e.g. additional Canadian gas supply to meet market demand and improved system reliability and maintainability) and the burdens (e.g. cost of the Projects, the extent of development in the region) associated with the Projects, the Board is of the

view that the Projects are in the public interest and are consistent with the requirements of the NEB Act. The Board's terms and conditions of its approvals are provided in Appendix IV.

The Board's views and conclusions on individual matters which fall within the scope of the NEB Act are summarized below, and are further described in the chapters of this Decision. The Board notes the importance of the whole Decision and cautions readers against reading individual chapters in isolation as some concerns raised by participants cover multiple topics and are cross-referenced across chapters.

1.3.1 Decisions made by the Board

The Board is of the view that adequate markets and supply exists to support the Projects. The Board finds that there is sufficient commercial support and Westcoast is sufficiently able to finance the Projects. Discussion and conclusions regarding economic feasibility and tolling are provided in Chapters 2 and 3, respectively.

The Board is satisfied that the designs of the Projects are appropriate for the intended use. The Board is also satisfied that the Projects will be constructed and operated in accordance with all applicable legislation and standards. Detailed discussion related to engineering design, construction, operation and emergency response is provided in Chapter 4. This discussion includes the issue of integrity and the October 2018 T-South pipeline rupture that was raised by participants in the proceeding.

The Board finds that Westcoast's anticipated requirements and process for acquisition of land rights is acceptable, and is discussed in Chapter 5. The Board is also of the view that, with the implementation of Westcoast's environmental protection procedures and mitigation and the Board's imposed conditions, the Projects will not cause significant, adverse environmental or socio-economic effects. Detailed discussion relating to Project-related interactions, mitigation measures and analysis of residual effects is provided in the Board's environmental and socio-economic assessment (Chapter 8). This discussion includes the issue of impacts on wetlands, species at risk, and habitat loss due to wildfire that was raised by participants in the proceeding.

The Board is of the view that Westcoast's design and implementation of its Project-specific engagement with the public and Indigenous peoples is appropriate for the scope and scale of the Projects. The Board is also of the view that all Indigenous peoples potentially affected by the Projects were provided with sufficient information and opportunities to make their views about the Projects known to Westcoast and to the Board. Public consultation is further discussed in Chapter 6 and consultation with Indigenous peoples is discussed in Chapter 7. This discussion includes the issues of the Projects effects on traditional land use by Indigenous peoples, economic opportunities for Indigenous communities, and sensory and aesthetic disturbance from construction, that were raised by participants in the proceeding.

As final decision maker on these Projects, the Board is of the view that consultation has been meaningful, responsive and significant. The Board therefore finds that there has been adequate consultation and accommodation for the purpose of the Board's decision on these Projects. The Board is also of the view that, with the Board's conditions, its regulatory requirements, along with company's mitigation and commitments, potential impacts of the Projects on the rights and interests of affected Indigenous peoples are not considered significant and have been effectively addressed.

With respect to its decisions on the Projects, the Board has included 20 conditions in each of the four Orders that are necessary for the Projects to be in the public interest. The conditions common to each Order are provided in Appendix IV. The Board will monitor and enforce compliance with these terms and conditions throughout the lifecycle of the Projects using audits, inspections and other

compliance and enforcement tools. As with the conclusions presented above, the chapters in this Decision explain the context and expectations of the conditions which the Board has set out for each of the Projects. Documents filed by Westcoast in relation to condition compliance and related Board correspondence will be available to the public on the Board's website.

1.3.2 Obiter Dicta by Member Lytle: Cost Estimation

The issue of cost estimation accuracy was brought up in evidence and argument in this hearing, the details of which are more extensively dealt with in subsequent chapters of this decision. However, it is useful at this point to provide some context in order to more fully understand that discussion.

It is routine and appropriate for regulated infrastructure project applications to commence with only sufficient, preliminary engineering to support what is commonly known as a Class IV cost estimate. The adjudicative process then tracks in a parallel fashion the additional engineering required to more adequately define the design and construction elements and improve the accuracy of the project cost estimate to a Class III level of cost estimate. The result is that the project is well enough defined for construction at about the time that the regulator is prepared to make a decision on the project approval or denial. This process is both efficient and sufficient for the proponent and the regulator.

There are two relevant points to be made about this process:

1. The first is that the Class IV cost estimate, because it is based only on preliminary engineering, may have a range of +35 per cent to -20 per cent of the estimate. That is to say, if the Class IV cost estimate is \$100, the final constructed cost would be expected to be from \$80 to \$135. As more engineering is done to more precisely define the project and provide a basis for more accurate material and cost estimating, the range of the cost estimate will normally decrease to something in the order of +/- 15%. The Class III cost estimate for the hypothetical project may now be \$110 +/- 15% or from \$93.50 to \$126.50. The range of the final constructed cost is much narrower. From the point of view of those financing the proposed project, the cost risk has been reduced.
2. The second point to be made is that the time taken from the start of a regulatory process for a new infrastructure project until regulatory project approval or denial is not necessarily due entirely to regulatory delay. The time to improve the engineering from a Class IV level to a Class III level can be from 6 months to 1 year depending upon the size and complexity of the project. This is an appropriate and normal engineering delay and not a regulatory delay. There are ways to measure and thus reduce regulatory delay but they would involve making the engineering and hearing processes sequential rather than parallel and proponent/applicants would incur added project risk.

2 Need for the Project and Economic Feasibility

For the reasons laid out in the sections below, the Board is of the view that Westcoast has demonstrated a need for the Projects. Further the Board finds that there is adequate supply, sufficient market demand, and robust contracts underpinnings for the Projects. Therefore, the Board is of the view that the applied-for facilities are likely to be used and useful at a reasonable level over their economic life and are economically feasible.

2.1 Need for the Project

2.1.1 Rationale for the Project

Westcoast stated that the Projects satisfy two needs: i) sustaining adequate levels of reliability and maintainability on the T-South System; and ii) providing incremental firm capacity.

Westcoast stated that the CS-3 Project, the CS-4A Project and the CS-5 Project (collectively, the Reliability Projects) were applied for because each station requires new compression for reliability purposes. Westcoast said that at each of these stations it would proceed with the proposed scope of work even if no other system work proceeded, including work associated with the other two Reliability Projects, and even absent the 190 MMcf/d of additional firm transportation service.

Westcoast said that the Projects would enable it to replace aging, unreliable compression units with new, larger horsepower units that will, in conjunction with modifications at various locations, allow for improved system reliability and maintainability and enable Westcoast to provide 5,382 $10^3\text{m}^3/\text{d}$ (190 MMcf/d) of additional year round firm service. Westcoast stated that it held an open season in 2017 and received bids totaling 619 MMcf/d. Westcoast said that it does not consider the total bids received to be indicative of the volumetric demand for additional T-South capacity, but rather an indication of the significant value associated with the estimated level of capacity available in the open season. Westcoast stated that it entered into expansion service agreements with shippers for 190 MMcf/d of additional year round firm service.

Westcoast said that it started its project design by having numerous discussions with the market stakeholders as to their needs in terms of expansion capacity. Based on those discussions, Westcoast stated that the amount of needed expansion capacity was 190 MMcf/d. Westcoast stated that it had internal discussions on setting project scope with personnel in operations and integrity, project development and engineering, gas control, and system planning. Westcoast stated that all these internal stakeholders had a say within Westcoast as far as what the best design was to meet the customer demands for the volume and timing of the expansion capacity.

Westcoast indicated that the year-round design capacity of the T-South System from CS-2 to the HDA is 1,437 MMcf/d. Westcoast noted that T-South experienced a fundamental load shift starting in 2013, moving from a winter peaking pipeline system to year-round load at or close to system capacity, and a significant increase in firm service contracts during the latter part of 2014. In connection with this Westcoast's aging compressor units are running far more frequently than in the past, and unit breakdowns are increasing. Westcoast said that due to the compressor reliability issues, Westcoast has limited the amount of year-round firm service available for contracting from CS-2 to the HDA to 1,345 MMcf/d, a reduction of roughly 90 MMcf/d. Westcoast stated that with the Projects, it would feel very comfortable to be able to offer this 90 MMcf/d on a firm service basis again.

Further, Westcoast stated that the Projects would replace existing compressor units with larger horsepower units which, in conjunction with the modifications at various other locations as part of the

Project, will provide an increase in the T-South System design capacity of 100 MMcf/d, for a total additional 190 MMcf/d of T-South year-round contractible firm service.

Westcoast said another key advantage of the Projects is that the units to be installed are the same type of units that were installed with the reliability and maintainability (RAM) projects. Westcoast stated that this would afford Westcoast a significant benefit in maintainability, with better access to parts and consistency across its resources and personnel on the system.

Westcoast stated that it regularly considers potential future expansions and regularly meets with current or prospective shippers regarding potential future expansions. However, Westcoast said that it has no plans for additional T-South capacity expansions at this time and has had no advanced discussions or negotiations regarding additional T-South capacity expansions. Westcoast stated that it does not have a long-term forecast of capital investments on the T-South System.

Views of Participants

NGTL, Powerex, and BP Canada were all unclear about the existing capacity or design capabilities of the T-South System. NGTL also questioned the amount of additional capacity that would be added by the Projects.

Powerex noted Westcoast's assertion that there is a total 90 MMcf/d of year-round T-South capacity that cannot currently be contracted on a firm basis because of reliability concerns with obsolete compression equipment on the T-South System. Powerex stated that Westcoast has not demonstrated that it has the ability to deliver this asserted 90 MMcf/d of existing capacity.

Further, Powerex said that Westcoast has consistently overstated T-South System capacity to the detriment of existing firm shippers. Powerex said that this was because the T-South System is contracted on a volumetric basis, but Westcoast reports authorized nominations using energy units. Powerex stated that Westcoast's conversion between authorized volumes and authorized nominations is performed using Westcoast's "Estimated Yearly Heating Value" of 40 GJ/10³m³, rather than the actual measured heating value of 40.99 GJ/10³m³. Powerex said that by doing this Westcoast is able to fulfill its contractual volumetric commitments by flowing 2.5% less volume than is actually contracted.

Powerex argued that to the extent that Westcoast authorizes all firm nominations on a particular path and nothing else, this would indicate that the T-South System was capable of flowing only 97.5% of firm contracts. Powerex submitted that due to this heat value issue, the prospect of additional future expansions, should the Projects be approved with the increased horsepower units and the persistent confusion amongst parties regarding the true System capacity, it is clear that a new metric needs to be identified to provide transparency about the true state of the T-South System.

NGTL argued that Westcoast had not provided certain information needed by NGTL to understand how the applied-for facilities will affect capacity and if they are required to meet the needs of the T-South shippers.

NGTL argued that Westcoast acknowledged that the possibility of future system expansions influenced the design of the proposed facilities. NGTL further argued that Westcoast was able to meet 100% of its firm contracts during peak conditions in the winter of 2017/2018 even when multiple compressor units were down at the same time. NGTL suggested that Westcoast already has sufficient reliability built into its T-South System design and that higher flow compressor units are not necessary to enable Westcoast to reliably meet its firm service requirements.

BP Canada argued that the Applications are an example of the detrimental impacts of lack of planning for renewal or replacements on the T-South System, as the Applications relate in large part to the renewal and replacement of unreliable compressor units that have resulted in 90 MMcf/d of design capacity not being able to be contracted as firm capacity. BP Canada submitted that this is because of Westcoast's apparent failure to renew or replace compression units in a timely manner and in the face of the load factor changing significantly post-2013.

Reply of Westcoast

Westcoast said that the T-South System is currently fully contracted at the level of service that Westcoast is able to provide on a reliable basis. Providing the expansion capacity as firm service will result in the available capacity of the system continuing to be fully contracted post-expansion. Westcoast stated that for the 11 full months prior to the rupture, November 2017 through September 2018, it failed to meet the target reliability level on 76 of 334 days. Further, Westcoast stated that if the additional 90 MMcf/d of existing capacity had been offered and contracted along with existing firm service and that shippers had requested and confirmed supply and demand for their full firm contract volumes, Westcoast would not have been able to meet its target reliability level on 254 out of 334 days.

Westcoast stated that the T-South gas flow data it provided demonstrates that the T-South System has the capacity to deliver volumes in excess of the firm capacity that has been contracted by Westcoast when the compressor units are able to operate. Westcoast argued that it put abundant evidence on the record regarding current and future T-South capacities and contract levels.

Views of the Board

The Board finds that Westcoast has demonstrated the need for the improved reliability provided by the Projects. The Board was not persuaded by NGTL that the higher flow compressor units are not necessary to enable Westcoast to reliably meet its firm service requirements. The Board is of the view that contracting the additional capacity in the absence of the facilities proposed by the Projects would impact Westcoast's ability to meet the target reliability levels agreed to with shippers through the Toll Settlement.

The Board was persuaded by Westcoast's evidence that it would be incapable of reliably providing the expansion capacity without the increased horsepower of the proposed compressors and the Expansion Project. Further, the Board is satisfied that the expanded capacity meets a need that was identified in the open season. While the evidence provided by Westcoast was unclear as to what the contractible capacity would be under different scenarios, the Board is of the view that there is sufficient evidence to reasonably conclude that the contracted expansion capacity reduces the toll impact on shippers compared to an alternative where only the Reliability Projects are approved, or an alternative approach of a like-for-like replacement of the existing compressor stations.

The Board notes that NGTL and Powerex had differing views of the existing T-South System's ability to meet the current and the incremental firm service contracts proposed by Westcoast. While the volumetric data provided by Westcoast is adequate in this case for the Board's assessment, given the strong demand for additional capacity, the Board is of the view that there is a need for increased transparency regarding the capacity of the T-South System on a go-forward basis. The transparency issue is addressed by the Board in Chapter 3 of the Decision.

The Board was persuaded by Westcoast's evidence that the facilities will be used and useful. Further, the Board is of the view that it will be used and useful in the absence of a future

expansion. The Board notes that, while excessive overbuilding is inefficient and burdensome on stakeholders, building long-lived assets to meet current needs in a manner that also supports possible future growth reduces disturbances and burdens on stakeholders and regulators.

The Board is of the view that Powerex did not provide a persuasive explanation of how the underestimation of the heat value of the gas negatively impacts Powerex. The Board notes that Powerex's requested relief related to the heat value of the gas was increased transparency into Westcoast's T-South System capacity, which is addressed in Chapter 3. The Board also notes that Westcoast has applied for the facilities and tolling methodology under the current circumstances and Toll Settlement, which includes the estimated heat value. The Board was not persuaded by Powerex that the T-South System is only capable of flowing 97.5 per cent of firm contracts.

The Board is not persuaded by BP Canada that Westcoast failed to renew or replace compression units in a timely manner. The Board agrees with Westcoast that the entirety of Westcoast's System's capacity was not demanded by shippers prior to the shift in load it experienced in 2013. Further, the Board is of the view that it can be inefficient or burdensome on shippers for a pipeline company to maintain its facilities to a level, that is not required for the safe operation of its system, that would provide consistently available capacity that is not demanded by shippers.

2.1.2 Alternatives to the Project

Views of Westcoast

Westcoast stated that it examined alternatives to the Projects that varied which, and how many, compression units would be replaced/upgraded, the size of the new units, and the length and location of new pipeline loop, if any, to provide the 190 MMcf/d of incremental capacity and the required reliability and maintainability. Westcoast said that it ultimately narrowed the alternatives to two primary options that would meet the expansion and most pressing reliability and maintainability needs: i) three compression units and 39.5 km of pipeline looping (Compression and Pipeline Looping Option) and ii) the five compression units specified in the Applications (All Compression Option).

Between these two options, Westcoast determined that the All Compression Option had two clear advantages. First, it would provide improved reliability and maintainability over the Compression and Pipeline Looping Option because it would address two more T-South compression units that are a high priority for replacement. Second, the estimated capital cost of the All Compression Option would be less than that of the Compression and Pipeline Looping Option, by over \$150 million.

Westcoast stated that multiple alternative designs were also considered, including:

- installing two smaller compressor units versus one larger compressor unit;
- customized facility designs at each station;
- independent stations that would not be integrated with existing facilities, but be located on existing Westcoast fee simple lands; and
- new greenfield compressor stations that would require new lands.

Westcoast said that these designs were ultimately not chosen as they were less cost effective.

Westcoast stated that it could have modestly reduced capital costs by installing smaller compression units. However, Westcoast said that the larger units have a number of benefits that justify the cost difference, thus making the choice of units the most cost effective. Westcoast stated that the operational flexibility afforded by the increased horsepower would allow the Westcoast System to recover more quickly from a low line pack situation and would allow optimization of required horsepower across the system.

Westcoast noted that if it were to add less capacity with like-for-like compressor units, it would not be able to satisfy the 190 MMcf/d of expansion contracts that are in place for the Projects. Westcoast said that it did look at the like-for-like approach, but rejected that approach in favour of the Projects due to the host of operational and other benefits resulting from installing larger horsepower units now for a modestly increased capital cost. Westcoast stated that the estimated capital costs for the like-for-like alternative would be \$130 million lower than that of the Projects.

Westcoast said that it had not undertaken the detailed assessment required to establish the level of contactable capacity or to estimate the fuel usage of its compressors that would result from the like-for-like alternative.

Views of Participants

Powerex argued that Westcoast failed to consider viable and more economic project alternatives. Powerex submitted that the T-South compressor fleet for the Projects should be upgraded with like-for-like compressor stations in the range of \$610 million to avoid significant capital investment of approximately \$740 million and expensive regular maintenance and integrity costs for a pipeline with uncertain future expansion capabilities.

NGTL argued that Westcoast has not adequately addressed alternatives or described the need for the Projects along with the rationale for selecting the applied-for Projects over possible options. NGTL argued that while Westcoast claimed to have considered alternatives, they were dismissed mainly due to their higher initial costs and that this decision was made without calculating the cumulative present value of lifecycle costs of the alternatives. NGTL argued that Westcoast did not provide any evidence about lifecycle costs of the alternatives to allow third parties or the Board to verify that the proposed facilities are the lowest cost solution.

NGTL also argued that Westcoast's desire to avoid filing an application under section 52 of the NEB Act, on the basis that such an application would take longer to get approved and its customers would prefer incremental capacity sooner, is not a valid reason to exclude alternatives with a pipeline loop more than 40 km long from consideration.

Powerex stated that Westcoast did not consider phase-in alternative compressor upgrades. Powerex said that Westcoast has also not considered the like-for-like approach to compressor upgrades with lesser additional capacity.

Soda Creek Indian Band stated that because the T-South System goes through Deep Creek and Xat'sull traditional territory, their community should be able to access the natural gas from the system to heat their own homes.

Reply of Westcoast

Westcoast stated that it did not consider the phase-in approach proposed by Powerex because it would leave some critical T-South System reliability and maintainability issues unaddressed and would not support the reliability and 190 MMcf/d expansion needs addressed by the Projects within a reasonable timeframe.

Westcoast stated that if it were to proceed with the reliability portion of the Program and not the 190 MMcf/d expansion of the T-South System, the estimated toll impact to shippers would be 10.9 cents/mcf as opposed to the estimated 7.1 cents/mcf toll impact for the Program.

In response to Soda Creek Indian Band's desire to access gas from the T-South System, Westcoast stated that its System is a natural gas transmission system and not a natural gas distribution system. Westcoast said that it contacted Soda Creek Indian Band directly to provide contact information for the natural gas distribution company's community and Indigenous relations manager should they wish to follow up to discuss natural gas distribution for their community.

Views of the Board

The Board was not persuaded by Powerex, NGTL, and BP Canada that Westcoast failed to adequately consider viable alternatives. The Board is satisfied that Westcoast demonstrated that it adequately considered alternatives, both to the Projects and in the design of the chosen alternative. The Board notes that the economics of the Projects would have been less ambiguous if Westcoast had assessed life cycle costs in comparing alternatives; however the Board is of the view that Westcoast adequately considered the long-term effects of the alternative on its System and on shippers by taking into account the substantial difference in capital costs as well as non-monetary factors, such as the ease of the operation of the system and reliability benefits.

The Board is of the view that any additional operating and maintenance costs due to the larger compressors would be offset by the operational benefits demonstrated in Westcoast's evidence. Further, the Board was not persuaded that the Projects would have expensive regular maintenance and integrity expenses when compared to a like-for-like alternative.

The Board agrees with NGTL that alternatives, such as pipeline looping over 40 km, should not be excluded from consideration on the basis that expansion shippers would prefer incremental capacity sooner. However, in the Board's view Westcoast demonstrated that it was able to meet the additional capacity demanded by the market and provide needed reliability improvements for the System through an option with significantly lower capital costs. Therefore, the Board is of the view that in this case the speed with which Westcoast could provide expanded capacity was not a limiting factor to the consideration of a viable alternative.

Further, the Board is satisfied that there was sufficient evidence on the record to assess the rationale for choosing the defined Projects from the alternatives evaluated; however, the Board agrees with some Intervenors that Westcoast must improve the level of transparency it provides to stakeholders. This issue is addressed by the Board in Chapter 3 of the Decision.

The Board heard Soda Creek Indian Band's desire to access gas from the pipeline and notes that such a request would need to be the subject of a separate application to the Board since it is outside of the scope of this proceeding. Under the NEB Act, the Board has authority to direct a company to construct a connecting facility on its pipeline and also a branch line to a community immediately adjacent to its pipeline, in order to extend the company's

transmission facilities to the facilities of a person or municipality engaged in local distribution of gas to the public, if there will be no undue burden on the company. As Westcoast indicated, receiving gas from the Westcoast Pipeline system would require connecting distribution facilities.

2.2 Economic Feasibility

2.2.1 Supply, Markets, and Contracts

Views of Westcoast

Westcoast indicated that there is or there will be adequate supply to support the use of the applied-for facilities and that adequate markets exist for the volumes that would be available as a result of the applied-for facilities.

Westcoast stated that it conducted a binding open season from 25 April to 2 June 2017. Westcoast said it received bids from, and subsequently entered into expansion service agreements with shippers for 190 MMcf/d of incremental firm service, with a 60 year weighted average term.

Views of Participants

No participant expressed concerns regarding the availability of supply or markets for the additional gas volumes, or concerns with the open season process or outcomes.

Views of the Board

The Board is of the view that the natural gas resources supplying the Westcoast pipeline, including the significant resource base in the Montney Formation, represent adequate supply to support the Projects. The Board is satisfied that there are sufficient markets available for the proposed increased firm capacity.

The Board is of the view that the contracting process and open season were conducted in a fair manner which allowed all interested parties an opportunity to contract for service. The Board finds that there is sufficient commercial support for the Projects in the form of executed expansion service agreements such that there is a high likelihood of the demand charges being paid.

2.2.2 Ability to Finance

Views of Westcoast

Westcoast stated that the Class 4 cost estimates for the Projects would total \$740 million. Westcoast indicated that it would be able to finance the applied-for facilities and to safely operate, maintain, and abandon the facilities.

Views of Participants

Powerex stated that the economic feasibility of the Reliability Projects is uncertain.

Views of the Board

The Board finds that Westcoast is sufficiently able to finance the entire life cycle of the Projects, from construction through abandonment and remediation. The Board recognizes that the financial risk Westcoast faces, should throughput decline in the future, is mitigated through the execution of long term expansion service agreements for the full additional contractible capacity provided by the Projects. The Board notes Powerex's concerns with the viability of the Reliability Projects, however the Board is of the view that Westcoast has demonstrated that its firm service contracts, both existing and expansion, create the need for the Projects and will provide Westcoast with a steady source of revenue through the toll increases described in Chapter 3.

3 Toll Principles and Methodology

In assessing a proposed tolling methodology, the Board must be satisfied that a proposed tolling methodology would not result in any unjust discrimination in tolls or service. The Board also 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.

3.1 Tolling Methodology

Westcoast requested an Order from the Board pursuant to Part IV of the NEB Act, affirming that the cost of the Projects will be included in the T-South (Zone 4) cost of service and tolled on a rolled-in basis.

3.1.1 Background

Westcoast stated that the tolls for its sales gas transmission facilities in both Zone 3 (T-North) and Zone 4 (T-South) are determined based on separate costs of service or cost pools for each zone and the contract demand allocation units (or billing determinants) for service in each zone. The Zone 3 and 4 tolls have been determined on this basis since 1986 following the Board's April 1985 Toll Methodology Decision regarding Westcoast (RH-5-83). The cost of service and tolls in Zone 3 and 4 have been established for many years under negotiated toll settlements between Westcoast and its stakeholders.

Westcoast stated that the Zone 4 cost of service is allocated on the basis of contract demand volumes adjusted for distance, or a volume/distance methodology. There are three delivery areas in Zone 4 for service commencing at CS-2, namely, the Pacific Northern Gas delivery point at CS-4A, the Inland Delivery Area in the interior of the Province, and the HDA at the Canada/US border. Westcoast also provides service from Kingsvale (in the Inland Delivery Area) to the HDA for a toll equal to the difference between the HDA Toll and the Inland Delivery Area Toll.

Westcoast stated that in the Board's RHW-1-2005 Reasons for Decision, it approved the introduction of term differentiated firm service tolls in Zones 3 and 4 commencing January 1, 2006 to provide an incentive to shippers in each zone to contract for firm service over longer terms. Westcoast also provides interruptible and authorized overrun services in Zones 3 and 4, with the tolls for these services being based on a load factor equivalent of the one-year firm service tolls.

3.1.2 Expansions

Westcoast said that it does not have written expansion policies or tariff provisions for its transmission facilities in Zones 3 and 4. Westcoast said that when it receives requests for firm service in Zones 3 and 4 in circumstances where there is insufficient existing capacity to accommodate the requests, Westcoast conducts an open season process to provide all potential shippers with an opportunity to contract for service.

Westcoast stated that its current and historical capital expenditure and tolling policy for expansions in Zones 3 and 4 is to roll-in the cost of the expansion facilities into the Zone 3 or 4 cost of service, as the case may be, and to toll the expansion service under the existing Zone 3 or 4 tolling methodology.

3.1.3 Proposed Tolling Methodology

Westcoast stated that the facilities will be fully integrated with the rest of the T-South System and will be jointly used to transport comingled gas on already existing T-South paths. Westcoast said that its Part IV requests are not only supported by a majority of votes cast at the Tolls, Tariff, Facilities and Procedures Committee (TTTF), but the Board's tolling principles and sections 62 and 67 of the NEB Act provide overwhelming support for the appropriateness of these requests.

Westcoast said that the proposed expansions are sized to accommodate the sum of existing and expansion shippers' demand, and all shippers contribute to the need for the facilities and appropriately remain accountable for the resultant sum of system costs. Westcoast said that for capital additions where no new capacity is added, it is the aggregate demand of all existing shippers that causes the need for the capital additions, and therefore all existing shippers are appropriately accountable for the costs.

Westcoast stated that it did not consider any alternative service offerings other than firm service for the expansion capacity. Westcoast said that the offering of firm service was based on customer requests, and customers did not express a desire for anything other than firm service. Westcoast stated that the expansion capacity will enable Westcoast to provide firm service and, therefore, using the capacity to provide service on an alternative basis, such as conditional firm service, with a presumably lower toll than firm service would not appropriately reflect the value of the capacity.

Views of Participants

BP Canada stated that it is concerned about the Projects and BP Canada's treatment under the current Westcoast toll methodology and rate design.

BP Canada submitted issues relating to both cost causation, economic efficiency and equity – as between Westcoast and shippers – bring into question both the justness and reasonableness of tolls on the T-South System and the need for transparency and clear accountability on the part of Westcoast in operating that system. BP Canada argued that shippers should be provided with sufficient information to assess whether or not tolls are just and reasonable and to hold Westcoast accountable. BP Canada submitted that sufficient information would include increased transparency and accountability from Westcoast related to planning, forecasting, record-keeping and system reviews.

BP Canada also raised concerns that the value of the operational flexibility afforded to Westcoast should be properly monetized through maximizing interruptible service utilization. BP Canada argued that the Board should direct Westcoast to commence and complete a process at the TTTF to consider, consult on, and assess:

- how Westcoast can establish a standardized and transparent methodology to determine the amount of T-South System design capacity to be allocated and sold as firm service;
- how Westcoast can increase the frequency in which it changes the deemed heat value; and
- if and how interruptible service tolls should be increased so the current value of interruptible service can be monetized and maximized to ensure economic efficiency is achieved and so as to reduce overall tolls on the T-South System.

BP Canada also submitted that given the historical lack of transparency and accountability on the part of Westcoast, there is a clear need for the Board to direct Westcoast to file an annual report (T-South Annual Report) with the Board. BP Canada suggested that the T-South Annual Report would include among other things, an outline of T-South System capacity and utilization, an outline

of actual capital costs, maintenance expenses and Operations and Maintenance (O&M) expenses incurred over the previous year, cost allocation methodology, a forecast of capital costs, maintenance expenses and O&M expenses to be incurred over the next five years, and an outline of Westcoast's annual maintenance capital and asset renewal and replacement plan and a forecast that extends five years into the future.

BP Canada submitted that it is cognizant that Westcoast may suggest that the information BP Canada requested through the T-South Annual Report can be provided to the TTTF and need not be filed with the Board. BP Canada argued that providing this information to the TTTF effectively defeats – at least in part – the purpose of the T-South Annual Report: transparency for the Board and accountability for Westcoast. BP Canada further argued that should any shipper have a concern or issue relating to the information or material contained in the T-South Annual Report and wish to make a toll complaint so as to hold Westcoast accountable before the Board, that shipper would be unable to use the Report to do so because all information and materials distributed at the TTTF are confidential.

Powerex stated that there is uncertainty of Westcoast's ability to deliver existing shippers' firm service plus the expansion service agreements of 190 MMcf/d without curtailing firm service. Powerex stated that an alternative to protect existing shippers would be to make the expansion capacity a Conditional Firm Service (CFS). Powerex said that CFS is a form of long-term firm service offered when there is insufficient long-term firm capacity to meet customers' full request, CFS may be curtailed prior to other firm service under pre-specified curtailment conditions.

Powerex argued that the persistent confusion amongst parties regarding the true System capacity made it clear that a new metric needs to be identified to provide transparency about the true state of the System. Powerex submitted that the Board should require that Westcoast establish mechanisms for transparency and cost efficiencies including:

- publication of a daily report of:
 - Authorized Nominations,
 - actual heat content,
 - the state of the System;
- separate tracking and accounting of maintenance costs, one time repairs and integrity costs;
- provision of information to relevant parties within a reasonable period in advance of negotiating the next year's aggregate costs;
- auditing and establishing a period for shippers to obtain aggregate costs information; and
- two years of advance notice for major capital investments across the Westcoast System.

Reply of Westcoast

Westcoast argued that a direction from the Board is unnecessary for Westcoast to commence and complete a TTTF process related to:

- T-South contracting capacity;
- tracking, reporting and auditing certain costs information; or
- providing two years' advance notice to shippers of major capital investments,

Westcoast argued that it continuously consults with the TTTF, and the TTTF members are always welcome to bring forward resolutions on issues they would like the TTTF to assess. Westcoast further argued that the information that Westcoast discloses to the TTTF and files with the Board (beyond the requirements of Guide BB of the NEB Filing Manual) is a matter of discussion and agreement with the TTTF and is addressed by way of the Westcoast toll settlement. Westcoast argued that as part of the toll settlement negotiations, Westcoast and its shippers discuss and agree on the nature of the information that Westcoast will provide to TTTF members and to the Board.

Westcoast noted that much of the information requested by Powerex is already provided on Westcoast's customer interface and that to the extent that Powerex or any shipper desires further information regarding daily system performance, the appropriate forum to raise and consider such a request is through the ongoing consultation between Westcoast and the TTTF.

Views of the Board

The Board finds the proposed tolling methodology, using rolled-in cost of service, to be appropriate for the circumstances of these Projects and that applying the proposed methodology will result in just and reasonable tolls. The rolled-in tolling methodology is consistent with Westcoast's existing practice for system expansions.

The Board has decided to grant Westcoast the relief requested pursuant to Part IV of the NEB Act. In issuing this decision, the Board emphasizes that it would not be precluded from determining that a different tolling treatment would be appropriate in the future.

The Board finds that there will be sufficient capacity for Westcoast to reliably fulfill its existing and the incremental contracts and therefore that contracting the additional capacity provided by the Projects on a firm service basis is appropriate given the long life of the applied-for assets. Further, the Board is of the view that, in this case, CFS would go against the "no acquired rights" principle, by granting existing shippers preferential treatment over new shippers for substantially similar service.

Further, with regards to BP Canada's concerns about maximizing interruptible service utilization the Board notes that there are provisions in the Toll Settlement regarding how interruptible service is addressed and that the tolls paid by interruptible service are set out in the toll schedules approved by the Board as part of Westcoast's 2019 final tolls. BP Canada did not persuade the Board that the current tolls for interruptible service had a significant bearing on Westcoast's proposed tolling methodology for the cost of the Projects under the current Toll Settlement. Further, the evidence does not support a view that the toll impact of the cost of the Projects would be reduced from increased interruptible service tolls, only that the base system tolls could be reduced. Therefore, the Board is of the view that BP Canada's request for the Board to direct a TTTF process to assess if and how interruptible service tolls should be increased to reduce overall tolls on the T-South System is outside the scope of this proceeding. The Board is of the view that changes to interruptible service or associated tolls are appropriately dealt with through toll settlements and negotiations. The Board reminds BP Canada that if it cannot resolve its concerns with Westcoast, it may file a complaint with the Board.

The Board is cognizant of Westcoast's argument that the information that Westcoast provides to the TTTF members and to the Board is a matter of toll settlement negotiations. The Board has previously stated that it sees negotiated settlements as opportunities for interested parties to resolve issues without resorting to a hearing process. However, the Board also notes that its *Guidelines for Negotiated Settlements of Traffic, Tolls and Tariffs* state that:

The settlement process must produce adequate information on the public record for the Board to understand the basis for the agreement, assess its reasonableness, and to be able to determine that the resulting tolls are just and reasonable and not unjustly discriminatory.

The Board finds that there was adequate information to assess the justness and reasonableness of the proposed toll methodology and impacts. The Board disagrees with BP Canada's assertions about cost causation, economic efficiency and equity as they relate to the sufficiency of information provided for the Projects. However, Intervenor have persuaded the Board that they may lack the information they require for their own purposes to assess the toll impacts of new projects and the ongoing operation of the pipeline under the Toll Settlement.

Therefore, the Board agrees with Intervenor and is of the view that there is a need for improved transparency and effective communication of information to shippers from Westcoast. The Board notes that shippers requested a variety of information including: capital costs, incurred and forecasted; System capacity and utilization; maintenance costs; authorized nominations; actual heat content; and to receive further information or greater advance notice of applications. The Board also notes that Westcoast argued that some of this information is already readily available to shippers.

The Board is of the view that there is not sufficient evidence on this record to assess what value each piece of additional information requested by shippers would provide or what the burden on Westcoast would be. Further the Board notes the following: the confidentiality concerns raised by BP Canada with regards to information provided to the TTTF; the inherent information asymmetry between a pipeline company and its shippers; and that matters solely before the TTTF may take on aspects of negotiations, whereby shippers may be expected to give something up to get information they view as necessary to assess the impacts of the Toll Settlement.

The Board therefore orders Westcoast to initiate a process with shippers through the TTTF to discuss, consider, and assess the need for additional reporting of, at a minimum, the items requested by Powerex and BP Canada, including determination of contractible System capacity and updated Project costs, both estimated and incurred. Westcoast must file with the Board, no later than **21 November 2019**, a list of any reporting commitments, including:

- when it will provide the information to shippers (e.g. prior to new applications, prior to settlement negotiations, along with revenue requirement, etc.);
- whether the information will be publically filed with the Board; and
- supporting justification for Westcoast's proposed approach, especially for any information not to be made public or that Westcoast has not agreed to provide.

3.1.4 Depreciation

Westcoast stated that since the applied-for facilities will be part of the T-South System and used to meet the aggregate demand of all T-South shippers, it follows that the economic life of those facilities would be the same as the economic life of the T-South System. Westcoast further stated that the addition of the new compressor units is anticipated to extend the expected retirements and replacements of other facilities on the T-South System.

Westcoast said that the facilities removed from service would be treated as ordinary retirements for accounting purposes. Westcoast stated that while the Projects were not specifically included in Westcoast's most recent depreciation study, that additional compression expenditures were assumed for select years between 2023 and 2031 to reflect assumed compression unit obsolescence.

Views of Participants

BP Canada argued that the lack of diligence and record-keeping as it relates to vintaging and the accurate determination of book value and accumulated depreciation has had and will continue to have a direct impact on existing shippers through the depreciation component of the cost of service tolls. BP Canada further argued that the book value of any assets, or plant, that are both added to the Westcoast system and retired or removed from service – like those assets forming part of the Applications – now and in the future will be recovered from shippers through tolls and in this way will have a direct impact on both existing and future shippers.

BP Canada submitted that if the Applications are approved, the Board should direct that Westcoast file updated depreciation studies.

Reply of Westcoast

Westcoast submitted that an updated depreciation study is unnecessary given that Westcoast filed a depreciation study with the NEB on 9 March 2018. Westcoast argued that the study was taken into consideration during the 2018-2019 toll settlement negotiations, and the agreed-upon depreciation rates were factored into Westcoast's final approved tolls for 2018 and 2019.

Views of the Board

The Board finds that using the economic life of the System for the Projects is appropriate. The Board notes the concerns of BP Canada, but disagrees that a new depreciation study is required given the recentness of the previous study. The Board reminds Westcoast that it is Westcoast's responsibility to continually monitor the continued appropriateness of its depreciation rates as circumstances, conditions, or risks change throughout time, and file revised rates with the Board for approval when the existing depreciation rates are no longer applicable.

The Board was not persuaded by BP Canada that the toll impact on shippers of the book value of the facilities that are retired as part of the Applications would be unreasonable. Under the *Gas Pipeline Uniform Accounting Regulations* (SOR/83-190), an ordinary retirement is defined as a retirement that results from causes reasonably assumed to have been anticipated or contemplated in prior depreciation or amortization provisions. The Board was persuaded by Westcoast that the removal of the facilities being replaced was adequately anticipated and contemplated. Therefore, the Board approves of Westcoast treating the retirements as ordinary.

3.1.5 Contract Demand Credits and Costs Related to the Rupture

Westcoast stated that contract demand credits (CDCs) represent a cost incurred by Westcoast if it is required to curtail firm service requests below the target reliability levels of 100 % in the winter months and a sliding scale based on segment contracting levels in the summer months. Westcoast said that in the normal operation of the pipeline system, CDCs can generally arise due to the requirement for Westcoast to undertake O&M work, including integrity, or capital projects, and the effect and treatment of the CDCs depends on the reason why the CDCs were incurred.

Views of Participants

Powerex stated that Westcoast awards CDCs to shippers if winter targets are not met and that Westcoast has financial incentives to perform reliability and maintenance work in the summer. Powerex said that some costs increase significantly for shippers if work is done in the summer rather than in the winter.

Powerex raised its concern of whether the 80 unknown digs that Westcoast indicated are required to return Zone 4 to full operating pressure are included in the estimated \$92 million in integrity expenses for 2019, or if there are additional surprise costs for existing shippers.

Powerex argued that all the CDCs incurred in the last two winters were expensed under O&M, either as maintenance or integrity. Powerex submitted that shippers have been responsible for the majority of the cost of the CDC's incurred resulting from Westcoast's under-deliveries.

BP Canada submitted that the Westcoast General Terms & Conditions - Service (GT&Cs), that form a part of the Westcoast tariff, do not draw distinctions for how CDCs arise and instead state that CDCs will arise and be provided to a shipper when Westcoast is unable to provide a shipper with firm transportation service – regardless of the reason.

BP Canada argued that it is important to note that the exceptions listed in section 8.04 of the GT&Cs relate solely to the actions of the contracting shipper and do not relate to any actions by Westcoast or the reasons for its inability to provide firm service.

BP Canada submitted that the Toll Settlement is completely silent in respect of the treatment of CDCs, as is the Westcoast tariff. BP Canada argued that this silence brings into question the underlying justification for inclusion of CDC costs in tolls.

BP Canada argued that there are real and serious transparency and justification issues in respect of how and under what authority the costs of CDCs are included in Westcoast's tolls; and how and under what authority the costs of CDCs are treated differently – as expenses or as capital costs – in Westcoast's tolls.

The lack of transparency and justification surrounding the flow through of CDC costs is, in BP Canada's submission, unfair and inequitable. Further, the flow through aspect and how those costs are treated (i.e. as either expense or capital additions) raises issues of cost causation.

BP Canada argued that the Board should direct that the costs associated with CDCs should be borne by Westcoast and not shippers. BP Canada submitted that in the alternative, the Board should establish the current Westcoast tolls as interim and establish a separate proceeding to consider whether or not CDC costs should be recoverable from shippers and if those costs are recoverable from shippers how they should be treated (e.g. expense or capital) in the Westcoast tolls design.

Reply of Westcoast

Westcoast submitted that it is improper for BP Canada to use a section 58 facilities hearing to advance its alternate agenda of attacking the Toll Settlement and that the Board should disregard BP Canada's final argument when making decisions on the Projects.

Westcoast argued that given CDC matters were addressed through shipper discussions and through the Toll Settlement, there is nothing for the Board to consider on this issue as it relates to the Projects.

Views of the Board

The Board is of the view that the costs of the October 2018 rupture and whether Westcoast is properly applying the provisions related to CDCs under the Toll Settlement specifically concern Westcoast tolls for both T-North and T-South, and is not limited to the proposed treatment of rolling in the costs of the Projects under the existing toll framework. Therefore, the Board finds that these issues are outside the scope of this proceeding.

Additionally, the Board is not satisfied that there was sufficient notice of the relief requested with respect to the costs of CDCs by BP Canada in its final argument. The Board is of the view that the requested relief has the potential to affect numerous parties and stakeholders. The relief was requested at the final argument stage of the proceeding and could not have been reasonably anticipated to be at issue in the hearing by interested parties when they decided whether to apply for participant status in the hearing.

The Board notes that BP Canada has raised a complaint with the Board regarding the justness and reasonableness of Westcoast's tolls. Should BP Canada, or any other interested party wish to pursue this complaint through another proceeding, as BP Canada requested in the alternative, it may file a complaint with the Board.

3.2 Project Costs, Cost of Service and Estimated Toll Impacts

Westcoast stated that the Class 4 cost estimates for the Projects totaled \$740 million. Westcoast stated that it strives to complete all projects as cost effectively as practicable and within industry standard class estimate ranges. However, Westcoast said that unforeseen risks or extenuating circumstances, such as severe weather events and unexpected complexity in regulatory and permitting requirements, are not typically included in estimates and can cause project costs to fall outside the estimate range. Westcoast provided the example of the wildfires that ravaged large portions of British Columbia in 2017 and 2018 which created unexpected cost pressures on the RAM projects.

Westcoast said that where project costs have changed during project evolution, Westcoast has consistently described the cost variances to shippers during regular TTTF meetings.

Westcoast said that no conclusion can be drawn regarding the cost estimates for the Projects based on cost estimates for previous projects. The Jackfish, High Pine and Wyndwood projects cited by Powerex are all pipeline looping projects, which are significantly different from a project execution standpoint and involve additional cost variables compared to compressor station-only project work.

Westcoast said that cost of service would increase as a result of the Projects, with the primary causes for the increases in cost of service being increases in both depreciation expense and return on rate base which result from the increased rate base.

Westcoast stated that its tolls are derived based on billing determinants and the cost of service. Westcoast stated that the table below provides the estimated impact of the Projects on the Zone 4 tolls for the first five full years should the applied-for tolling treatment and facilities be approved. Westcoast noted that the toll impact of 7.1 cents/Mcf stated on the record included the toll impact of the entire Program including the facilities already approved by the Board.

	2021	2022	2023	2024	2025
¢/Mcf	3.8	4.3	4.7	5.0	5.2
\$/10 ³ m3	1.36	1.51	1.65	1.75	1.82

Westcoast stated that the current estimated fuel usage under optimal conditions is approximately 11 MMcf/d for the existing compressors that will be replaced or rendered a backup as a result of the Projects, and approximately 15 MMcf/d for the new compressors that will replace existing units or render them a backup as part of the Projects.

For the first five-year period following the in-service date of the Projects, Westcoast forecasts that the Projects could result in modest capital maintenance cost savings, although these savings will likely be offset by increased maintenance capital costs for the remaining aging compressor fleet. The Projects are not expected to have a material impact on integrity expenses.

Westcoast did not include any change in cost of service due to operating and maintenance expenses or other taxes as Westcoast does not expect any material changes in these costs due to the Projects.

Views of Participants

Macquarie stated that it has specific concerns regarding the total scale of the proposed capital additions and required work, particularly in respect of the potential for cost increases, which could result in increased toll impacts. Macquarie said that previous Westcoast System expansion projects have exceeded capital cost estimates, such as the Reliability and Maintainability 1 project.

Powerex said that Westcoast has not been prudent in its capital spending and that Westcoast's proposed timing, and the expected actual cost, are not prudent.

Powerex stated that Westcoast has consistently exceeded original project costs on several recent pipeline expansion and maintenance projects. Powerex said that based on the four most recently completed expansion and reliability projects on the Westcoast System, final project costs have exceeded original project cost guidance by an average of 28%.

Powerex argued that Westcoast should be solely responsible for any investment decisions made prior to the release of the TSB report and the NEB directions following the results of Westcoast's inspection and EA programs, in order to protect shippers from any resulting change of circumstances.

BP Canada stated that it is concerned about the toll impacts of these capital additions. Further, BP Canada said that reliability and maintenance spending of the magnitude of the Projects is not routine in nature and has substantial toll impacts for shippers.

BP Canada argued that it has been shown that Westcoast has a history of under forecasting capital costs relative to actual and as a result, the forecast 7.1 cents/Mcf could increase to as much 12 cents/Mcf should actual capital costs incurred be 35% higher than the current forecast.

Reply of Westcoast

Westcoast stated that right now the indications are that the estimated cost of the Projects is well within the range Westcoast provided of -20 per cent to +35 per cent. Westcoast stated that it continues to refine and evaluate the costs and forecasts throughout the Projects' lifecycle. Westcoast said that when the Projects' estimate was developed the cost estimate included certain expectations and assumptions that have to be made in order to make that cost estimate. Westcoast stated that these assumptions involved the schedule and a construction start date of February-March 2019. Westcoast said that therefore the schedule is no longer applicable.

Westcoast said that there is uncertainty around the construction market at this time and that it may be premature and speculative to provide a new cost forecast given this uncertainty.

Westcoast argued that irrespective of the findings of the TSB report regarding the October incident, Westcoast's Integrity Management Program (IMP) and Safety Loss Management System (SLMS) are responsive to all integrity hazards and include mechanisms for constant evaluation and adjustment based on operating conditions. On this basis, Westcoast submitted its position that there is no justification for the NEB to grant Powerex's requested relief regarding responsibility for investment decisions related to the Projects.

Views of the Board

The Board finds that the estimated capital cost of the Projects and related toll impacts to be reasonable. The Board notes the concerns of shippers with the cost overruns of previous projects. The Board accepts Westcoast's evidence that the projects described by intervenors are sufficiently different and encountered unexpected events which impacted costs such that the Board does not find that there is a systemic pattern of under-estimating costs. The Board recognizes that Westcoast's cost estimate is a Class IV estimate and that the estimated cost will change as more engineering work is done and as Westcoast receives bids from contractors.

The Board is of the view that the evidence does not demonstrate sufficient reason to grant Powerex's requested relief to hold Westcoast solely responsible for any investment decisions made prior to the release of the TSB report. The Board is of the view that the risk of significant changes to the Projects resulting from the TSB report or related Board direction is very low. Further, the evidentiary record is not sufficient to support the requested relief. The Board notes that its decision not to grant Powerex's request does not impede it from examining costs in the future to determine whether the costs were prudently incurred.

The Board further notes that continuing to refine cost estimates or providing updates to shippers prior to a project entering operation, such as Westcoast described, would increase transparency and toll certainty for shippers.

4 Facilities and Emergency Response Matters

In consideration of the safety and security of proposed facilities, the Board assesses 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 will be located. Westcoast is responsible for ensuring that the design, specifications, programs, engineering assessments, manuals, procedures, measures, and plans developed and implemented are in accordance with the OPR, which includes by reference the Canadian Standards Association Standard CSA Z662 – Oil and Gas Pipeline Systems (CSA Z662-19).

The Board takes a lifecycle approach to regulation, holding its regulated companies accountable so that Canadians and the environment are protected throughout the lifecycle of each pipeline or project. The Board holds pipeline companies accountable for meeting their regulatory requirements through compliance verification activities such as audits, inspections, meetings, and review of condition filings, and other manuals and reports. The lifecycle includes the planning and pre-application phase, the application assessment and public hearing phase, the construction and post-construction phase, the operations and maintenance phase, and the eventual abandonment phase. 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. The Board notes that the Projects will be part of the existing Westcoast System which is subject to the Board's comprehensive regulatory oversight.

4.1 Design and Construction

Views of Westcoast

Westcoast submitted that the Projects will be designed, constructed, tested and operated in accordance with the provisions of the NEB Act, the OPR, CSA Z662-15, Westcoast's specifications and procedures and all other applicable regulations, codes and standards.

Views of Participants

Powerex submitted that the Projects lacked the completion of an engineering assessment of the Projects and impacts on the system.

Views of the Board

The Board is of the view that the general design of the Projects facilities is appropriate for the intended use, and that the facilities will be constructed in accordance with accepted standards for design, construction and operation, as well as Westcoast's standards and guidelines referenced therein.

The Board acknowledges that there is no requirement in CSA Z662-19 for an engineering assessment to be completed for the Projects and the impact of the Projects can be addressed via a management of change procedure as per clause 3 (Safety and loss management system) of CSA Z662-19.

The Board imposes **Condition 2** (Design, Construction and Operation), requiring Westcoast to construct and operate the Projects in accordance with the specifications, standards and other information referred to in its application or as otherwise agreed to during questioning or in its related submissions.

The Board also imposes **Condition 12** (Construction Schedule), requiring Westcoast to file a detailed construction schedule identifying major construction activities for that component and must notify the Board of any modifications to the schedule or schedules as they occur.

The Board notes that CSA Z662-15 was in effect when the Applications were filed. On 19 June 2019, CSA Z662-19 was released and CSA Z662-15 was revoked. Therefore the Board imposes **Condition 4** (New Edition of CSA Z662), requiring Westcoast to file updated information in connection to compliance of the Projects with CSA Z662-19.

4.2 Requested Exemptions

Views of Westcoast

Pursuant to subsection 58(1) of the NEB Act, Westcoast requested an exemption from the application of section 47 (Leave to Open or LTO) for the Projects. Westcoast stated that this exemption will allow Westcoast to commission the piping systems and to perform preliminary tests on the compressor units in a timely manner. Additionally, this exemption will help minimize the duration of any impact from the construction of the Projects on Westcoast's shippers and the gas market. Westcoast also stated that the exemption will not compromise the environment, the safety of Westcoast employees and the public.

Westcoast also requested an exemption from the requirements of section 17 of the OPR pursuant to subsection 48(2.1) of the NEB Act and an exemption from Board Order MO-08-2000. Westcoast committed to conducting NDE on 10 per cent of production welds per day on low pressure auxiliary and utility piping systems consisting of fuel gas (auxiliary), instrument/utility air, lube oil piping, low pressure vent piping, utility heat medium, potable water and hydrocarbon drains. These systems are designed and constructed in accordance with American Society of Mechanical Engineers (ASME) B31.3-16 and Westcoast submits that compliance with ASME B31.3-16 will not compromise the safety of Westcoast's employees, the environment or the public.

Views of Participants

Powerex argued that, given the uncertainties surrounding the pipeline and the Projects, the Board should not grant any exemptions from the provisions of the NEB Act and the regulations.

Views of the Board

The Board is of the view that the general design of the Projects is appropriate for its intended use. The Board is satisfied that the Projects will be designed, constructed and operated in accordance with the OPR and, with the implementation of **Condition 4** (New Edition of CSA Z662), CSA Z662-19.

The Board denies the requested LTO exemption. The Board is satisfied that the Projects will be field or shop pressure-tested prior to being placed in service in compliance with the time duration and pressure requirements of CSA Z662-19, but the Board requires Westcoast to file an application for LTO pursuant to section 47 of the NEB Act for the Projects.

The Board also denies the requested exemption for section 17 of the OPR and Board Order MO-08-2000 for Westcoast to conduct NDE on 10 per cent of production welds per day on low pressure auxiliary and utility piping systems. Westcoast must conduct NDE using radiographic or ultrasonic methods on at least 15 per cent of production welds (on a daily basis) for auxiliary and utility piping systems as per CSA Z662-19 Clause 7.10.3.1.

The production welds that are not subject to radiographic or ultrasonic examination must be examined using alternative NDE techniques, such as liquid dye penetrant or magnetic particle. The use of a visual method as a means of non-destructive examination is not permitted.

The Board imposes **Condition 13** (Low Pressure Auxiliary and Utility Piping Systems NDE) requiring Westcoast to complete NDE on a minimum of 15 per cent of welds made each day on the low pressure auxiliary and utility piping systems of the Projects.

4.3 Pipeline Integrity

Views of Westcoast

Westcoast stated that it has an Operations Management System (OMS) that encompasses all operations and integrity programs. These programs allow Westcoast to identify and manage significant operational risks to achieving objectives for asset integrity, reliability, compliance, personal and process safety and environmental protection. The operation, inspection and maintenance of the Projects will be driven by all of the OMS programs and processes used by Westcoast. Specifically, pipeline integrity is managed in accordance with the Enbridge's Gas Transmission & Midstream Pipeline IMP. (Note Westcoast is a 100%-owned subsidiary of Enbridge Inc.) Additionally, Westcoast states that its IMP fully complies with the requirements of the OPR and CSA Z662.

Westcoast is not proposing to change the current Maximum Operating Pressure (MOP) or temperature of the T-South System in order to accommodate the additional gas volume and therefore the system will continue to be operated within its current design limits. To help illustrate this point, through the IR process, Westcoast provided a representation of current operating ranges that are normal or typical, as well as ranges for what is anticipated after the completion of the Projects. Also, changes to local pressures and temperatures resulting from the Projects are anticipated not to have a material effect on the growth rate of defects or the identification and categorization of defects for repair. For these reasons, Westcoast does not expect any changes to pipeline integrity and concludes that its existing programs are sufficient to cover operations before and after the Projects are in place.

Views of Participants

Powerex inquired about Westcoast's IMP and appeared to question Westcoast's compliance with NEB regulations.

Williams Lake Indian Band was concerned that the increased volume of gas through the T-South System would overload the current design of the pipeline.

Soda Creek Indian Band had concerns about Westcoast operating within current design limits, including the increase in compressor horsepower and what the current design limits are. There were also concerns of the Projects increasing wear and tear on the pipeline and how Westcoast plans to account for this.

Views of the Board

The Board is satisfied that the Projects will be incorporated into Westcoast's IMP as per the OPR and CSA Z662-19. The IMP is a continuous improvement process and is applied throughout the lifecycle of the Projects.

With regards to Powerex's concerns, the Board notes that Westcoast replied to Powerex's questions about its IMP and reiterated that its IMP was fully compliant with the requirements of the OPR and CSA Z662-15. The evidence did not demonstrate that Westcoast has an IMP that is non-compliant with the requirements of the OPR, CSA Z662-15 or CSA Z662-19.

With respect to concerns expressed by the Williams Lake Indian Band and the Soda Creek Indian Band, the Board is satisfied with Westcoast's approach of identifying potential pipeline hazards and performing an engineering analysis. The Board is also satisfied with Westcoast's engineering analysis conclusion that the Projects will have a minimum effect on both the hazards and the integrity of the pipeline.

4.4 T-South Pipeline Rupture

Views of Westcoast

Westcoast acknowledges the concerns of participants related to the 9 October 2018 rupture that occurred on the T-South Pipeline approximately 13.5 km north of Prince George, B.C. Since the incident, Westcoast has completed a comprehensive review of its IMP on the T-South System and identified several improvements to enhance pipeline safety, including additional in-line inspection assessments and shortening of re-inspection intervals. This review also resulted in additional integrity digs being completed on the majority of segments in the T-South System. Westcoast advised that until it is satisfied that it is safe to operate the T-South System at full capacity, and subject to NEB approval, the system will continue to operate at reduced pressures.

In addition to the IMP, there is a maintenance program that includes regular internal pipeline inspections, aerial and ground right-of-way patrols, and preventive maintenance activities to monitor the life of the pipeline.

Westcoast states that its IMP and SLMS are responsive to all integrity hazards and include mechanisms for constant evaluation and adjustment based on operating conditions. This, combined with the thorough engineering analysis of all potential pipeline hazards and the effect that the Projects could have on those hazards, which concluded that the Projects have no material effect on pipeline integrity, is justification to approve the Projects irrespective of the findings of the Transportation Safety Board of Canada Pipeline Investigation Report.

As previously mentioned, Westcoast does not propose to change the current MOP or temperature of the T-South System in order to accommodate the additional gas volume and therefore the system will continue to be operated within its current design limits.

Lastly, Westcoast states that the demand for the additional firm contract capacity and the urgent need to improve the reliability and maintainability of the design reinforces the need for the Projects.

Views of Participants

?Esdilagh First Nation expressed concern about safety considerations related to the Projects, specifically the malfunction of, or damage to, Westcoast infrastructure, including pipeline ruptures, leaks, spills, fires, and transportation accidents.

Soda Creek Indian Band noted the recent rupture and is concerned about the effect the Projects will have on the life of the pipeline.

Stswecem'c Xgat'tem First Nation (SXFN) voiced concerns about the Projects increasing the risk on SXFN traditional territory and that external investigators have not explained the rupture.

Powerex noted that additional information about the cause of the rupture is required prior to going forward with any upgrades on the T-South System. Powerex is concerned that the design and implementation of the Projects may need to be re-evaluated pending the investigation of the rupture and that there is significant risk that the Projects, as designed, may no longer be appropriate. Powerex states that a decision made on the Projects prior to a full understanding of the go-forward operating capability of the pipeline may result in facilities additions that will not be used and useful.

Views of the Board

The Board is satisfied that the Inspection Officer Order (NB-001-2018), the Transportation Safety Board of Canada investigation into the rupture and other associated processes and powers of the NEB will address the integrity issues of the T-South System surrounding the recent rupture.

The Board notes that Westcoast is not changing any of the design limits for the T-South System, and that Westcoast has performed an engineering analysis of the Projects and has come to the conclusion that the Projects will not have a material effect on the integrity of the T-South System.

The Board is satisfied that the Projects will be incorporated into Westcoast's IMP and SLMS as per the OPR and CSA Z662-19.

The Board acknowledges the concerns expressed by the participants, and has imposed **Condition 16** (Hazardous Situation Identified in Inspection Officer Order NB-001-2018), **Condition 17** (Transportation Safety Board of Canada Pipeline Investigation Report) and **Condition 18** (Notice of Measures Satisfied and Transportation Safety Board of Canada Pipeline Investigation Report Update), requiring Westcoast to explain how the operation of the Projects impacts integrity and what actions Westcoast is undertaking with respect to the T-South Pipeline rupture that occurred on 9 October 2018.

4.5 Maximum Operating Pressure

Views of Westcoast

Westcoast is requesting a 9,930 kPa MOP for the Projects. This is similar to three recent compressor station replacement/upgrade applications submitted as part of Westcoast's Reliability and Maintenance Program where the Board granted a 9,930 kPa MOP. Westcoast plans to be operating at 6,453 kPa, but having an MOP of 9,930 kPa would allow Westcoast future flexibility to expand capacity by potentially operating the Nominal Pipe Size (NPS) 42 portion of the T-South System at its MOP of 9,930 kPa.

Westcoast states that the Projects will normally have overpressure protection set at 6,453 kPa in order to protect the T-South Pipeline which has a MOP of 6,453 kPa. The pipeline is monitored on a 24 hour/7 day basis as well, with strict operating procedures and guidelines with set actions through training for operators to take action to keep the pressures below a unit trip or a station trip set point. In addition there are operational set points, which are less than the overpressure protection set point, which would result in alarming in control rooms for operations personnel to take certain actions so that the system is operated safely and reliably. All of the aforementioned set points can only be changed by authorized operations personnel and any changes made would be required to follow Westcoast's management of change process.

With regards to maintenance, Westcoast intends on maintaining the Projects at a 9,930 kPa rating independent of the MOP granted.

Finally, Westcoast submitted that being granted a lower MOP of 6,453 kPa, which matches the MOP of the T-South Pipeline, would mean Westcoast would need to reapply to increase the MOP in the future if the requirement arises.

Views of Participants

No Participants expressed any concerns with the respect to Westcoast's requested MOP for the Projects.

Views of the Board

The Board is of the view that the general procedures and safeguards in place for the Projects are appropriate for its intended use. The Board is satisfied that the Projects will be operated and maintained in a safe and appropriate manner.

The Board is of the view that Westcoast has demonstrated, through the hearing and the IR process, a clear understanding between the requested MOP of the compressor stations (9,930 kPa), the MOP of the T-South Pipeline (6,453 kPa), the requirement to operate segments of the T-South Pipeline at a reduced pressure as per Inspection Officer Order NB-001-2018 (or as per any imposed Order) and the requirement of CSA Z662-19 to set overpressure protection to operate at or below the MOP of the associated piping. The Board also notes that if Westcoast wants to increase the MOP for the T-South Pipeline ((6,453 kPa) to match that of the compressor stations (9,930 kPa)), it would need to apply to the NEB as required by section 43 of the OPR. The Board acknowledges the operations and maintenance commitments by Westcoast and imposes an MOP of 9,930 kPa.

4.6 Emergency Management, Safety and Security

Views of Westcoast

Westcoast submitted that the Projects will be designed, constructed, tested and operated in accordance with the provisions of the NEB Act, the OPR, CSA Z662-15, Westcoast's specifications and procedures and all other applicable regulations, codes and standards.

Westcoast asserted that all of the facilities that are part of the application are covered by the corporate emergency management program; that the compressor stations are on fee simple lands and that with few exceptions, the construction will occur in the fenced compounds that currently enclose the operating compressor stations.

Westcoast's Emergency Management Program information and emergency response plans are publically available on its website.

Westcoast also said that its Construction Safety Manual is on file with the Board. The Construction Safety Manual applies to all Westcoast construction activities and is provided to project contractors who then prepare site-specific Construction Safety Plans for each of the construction sites.

Views of Participants

Soda Creek Indian Band expressed the view that Westcoast has not provided adequate safety and emergency response information. They requested that more safety information be available during normal pipeline operations and response procedures during incidents. Soda Creek Indian Band also requested specific information during construction activity.

Views of the Board

The Board is aware that Westcoast has developed a corporate emergency management program. Emergency management program information, including emergency response plans, is posted on the company's website. Westcoast emergency management information relevant to the facilities in the application include Field Emergency Response Plans (2), and the Corporate Emergency Management Manual. These documents are posted on the company's website and are redacted to protect confidentiality and for security purposes.

To facilitate emergency response planning and communication of such information to interested parties, the Board is of the view that the company must ensure that emergency management program information and emergency plans are updated as required to include information relevant to the projects. Further, relevant information must be shared with communities, impacted Indigenous communities, agencies and the public.

The Board has imposed **Condition 7** (Construction Safety Plan) requiring the submission of site-specific construction safety plans for each compressor station construction site. The plans must address items such as spill clean-up, medical emergencies, fire and evacuation planning, and incident notification.

The Board has also imposed **Condition 8** (Emergency Management Continuing Education Program) to ensure that the company proactively plans to incorporate project-specific elements within its continuing education program required by section 35 of the OPR. Among other things, Westcoast is required to proactively consult with potentially affected parties and to describe how it will address any requests from potentially affected Indigenous communities to have emergency management information translated into the local Indigenous language.

The Board further imposes **Condition 14** (Field Emergency Response Plan and Corporate Emergency Management Manual) requiring that emergency response plans applicable to the projects be updated as required and that an updated Corporate Emergency Management Manual be filed with the Board within 30 days after the Project being placed in service.

5 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 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.

5.1 Land Requirements

The general description of land requirements is described in Chapter 1. The following outlines the specific land requirements associated with each of the Projects.

T-South Expansion and Reliability Project

The Expansion and Reliability Project is located at six existing compressor facilities on Westcoast-owned lands. Westcoast stated that approximately 11.8 ha of construction workspace is required, within these Westcoast lands.

Westcoast stated that the majority of access to the Expansion and Reliability Project site will be through existing public and industrial roads. Westcoast stated that at CS-6A it will construct a new permanent access road within its lands that connects to a public roadway.

CS-4A Project

Within Westcoast lands, the CS-4A Project footprint is comprised of approximately 4.85 ha of construction space within Westcoast-owned lands. Westcoast confirmed that no acquisition of lands are anticipated at this time.

Westcoast stated that access to CS-4A Project will be through existing public and industrial roads.

CS-5 Project

Westcoast stated that the construction footprint for the CS-5 Project is located entirely within Westcoast-owned lands and that no acquisition of lands are anticipated at this time.

Westcoast stated that access to the CS-5 Project site will be through existing public roads and industrial roads on private property owned by British Columbia Railway Company and by Westcoast.

CS-3 Project

Westcoast stated that the CS-3 Project footprint is comprised of approximately 4.4 ha of which 4.0 ha are within existing Westcoast lands and approximately 0.38 ha are on Pembina Pipeline Corporation (Pembina) lands. 0.21 ha of new lands that must be acquired by Westcoast.

Westcoast stated that access to the CS-3 Project site will be by way of existing public roads.

5.2 Land Acquisition Process

Westcoast stated that, although not currently anticipated as necessary, additional land rights may be identified and required for each of the Expansion and Reliability, CS-4A, CS-5, and CS-3 Projects on a temporary basis during construction for contractor staging areas, stockpile sites, and temporary access. Westcoast stated that should it require additional temporary workspace (TWS), it would acquire those rights from the Crown through an Oil & Gas Commission Crown Lands application, or through negotiation of a TWS Agreement with affected landowners for each of the Expansion and Reliability, CS-4A, CS-5 and CS-3 Projects.

Westcoast stated it will acquire road use agreements with applicable industrial road tenure holders and, to the extent applicable, permits from BC Ministry of Transport and Infrastructure (MOTI) for public road use for each of the Expansion and Reliability and the CS-4A Projects.

Westcoast stated that it will acquire any required permit from BC MOTI for public road use for each of the CS-5 and CS-3 Projects.

Westcoast stated that agreements for purchase or lease of new lands required for the CS-3 Project will be negotiated with Pembina in a form that meets the requirements of section 86(2) of the NEB Act.

Views of the Board

The Board finds that Westcoast's anticipated requirements for land rights, and the process for the acquisition of these land rights are acceptable and is satisfied that the acquisition will meet the requirements of the NEB Act.

6 Public Consultation

The Board's analysis with respect to consultation with Indigenous peoples is provided in Section 7.1 (Westcoast's Consultation with Indigenous Peoples).

6.1 Westcoast's Stakeholder Engagement Program

Westcoast stated that its consultation activities for the Projects have been and will continue to be conducted based on the following principles set out in Enbridge Inc.'s Corporate Social Responsibility Policy:

- Conducting business in a socially responsible and ethical manner;
- Protecting the environment and the safety of people;
- Supporting human rights; and
- Engaging, learning from, respecting and supporting the communities and cultures with which it works.

Westcoast stated it will engage stakeholders clearly, honestly, and respectfully and is committed to timely and meaningful dialogue with all stakeholders, including shareholders, customers, and employees, Indigenous peoples, governments, regulators, and landowners, among others.

6.2 Design of Westcoast's Public Consultation Activities

Westcoast undertook a review of local and regional interests in the Project areas, based on the scope of the Projects, to facilitate the identification of persons or groups who may potentially be affected by the Projects. Westcoast stated that key considerations of identification of local and regional interests included:

- evaluation of existing relationships based on previous interactions from many years of operating in the area;
- location of the proposed facilities as well as potential Project impacts and the mitigation measures available to address those impacts; and
- assessment of a 1.5km radius from the compressor stations that are receiving new units, and 650m or 800m for compressor stations receiving other upgrades based on the Emergency Planning Zone associated with the pipeline infrastructure at the compressor stations.

Westcoast identified a number of local and regional interests including local residents and landowners, trapline holders, guide outfitters, and mineral claim holders, local/regional governments, provincial government authorities, and local community organizations.

6.3 Implementation of Public Consultation Activities

Westcoast stated that consultation activities for the Projects commenced in early 2017 and have continued throughout the proceeding as late as the close of record with various communications including face to face meetings, telephone calls, email exchanges, attendance at external events, and letters.

In May 2018, Westcoast established a toll-free information line and email account to facilitate two-way communication about the Projects with the public, stakeholders and communities.

To share additional information about the overall Program, Westcoast established a website that includes links to Project-specific factsheets and additional resources.

In June 2018, Westcoast provided Project Information Packages to identified interest holders that included:

- Description of the Projects and application filing timelines;
- Description of potential impacts of the Projects;
- Project and Program factsheets and maps;
- Information about the NEB and its application review process including the NEB brochure “Information for Proposed Pipeline of Powerline Projects that Do Not Involve a Hearing”; and,
- Contact information and an invitation to submit any further input/concerns about the Projects.

In June 2018, Westcoast hosted community Open Houses for the Expansion and Reliability Project. Based on compressor station proximity to communities and potential impacts to residents, Westcoast held Open Houses in Hixon, 150 Mile House, and Savona, BC. Newspaper and radio advertisements inviting participation were placed in the regions of the Open Houses.

In its response to the Board’s IRs, Westcoast stated that it continues to engage and consult with residents, landowners, land users, government authorities, and any other parties who were consulted on the Projects. Westcoast stated that it is committed to establishing long-term relationships with all of its stakeholders, including landowners and local residents, throughout the development, construction and operating phases of the Projects.

Westcoast committed to work with communities throughout the lifecycle of the Projects to address ongoing questions or concerns. Westcoast stated it will continue to use established communication tools during the operations phase of the Projects, including public awareness and emergency preparedness programs.

Views of Participants

Ms. Vicki Best, a potentially affected landowner and an intervenor in the proceeding, raised a number of concerns regarding the expansion of CS-6A including the proposed length of construction, noise, dust, visual impacts and safety issues.

Reply of Westcoast

Westcoast responded to the Board’s IR with standard mitigation directed at concerns raised by Ms. Best.

In Westcoast’s reply evidence, Westcoast confirmed that it offered to purchase the Best’s property and that the Bests accepted Westcoast’s offer and signed an agreement of purchase and sale on 28 May 2019.

Views of the Board

The Board is of the view that Westcoast's public consultation approach is adequate. The Board finds that Westcoast has adequately and appropriately identified and notified stakeholders and potentially affected landowners. The Board finds that Westcoast's design and implementation of consultation activities for the Projects are appropriate given the scope and scale of the Projects.

The Board notes Westcoast's commitment to continue to consult with all potentially affected stakeholders to identify and address any concerns they may have with respect to the Projects. Given Westcoast's ongoing consultation activities with potentially affected stakeholders, the Board imposes **Condition 10** (Public Consultation).

Ms. Vicki Best participated in part of the hearing process and submitted a letter after the close of the record withdrawing from the process. The Board is of the view that Ms. Best's concerns regarding the Projects are resolved.

7 Indigenous Matters

The Board interprets its responsibilities in a manner consistent with the Constitution Act, 1982, including section 35, which recognizes and affirms the existing Indigenous and treaty rights of Indigenous peoples. Further discussion of the Board's role in upholding section 35 of the Constitution Act, 1982 appears below in Views of the Board.

This chapter includes summaries of evidence provided directly to the Board by Indigenous communities through their participation in the hearing, as well as summaries of Westcoast's consultation with affected Indigenous communities, which noted the concerns and interests, assessment methods and rationales, and any mitigation proposed by Indigenous communities as recorded by Westcoast. 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 Indigenous communities should familiarize themselves with the entire record of the hearing. In addition, Appendix V and Appendix VI provide summaries of the general and specific concerns and issues raised by Indigenous communities through this proceeding, related to potential conditions which the Board may attach in its approval of the Project, as well as summaries of the responses to these concerns provided by Westcoast, responses by the Board (including its conditions), and applicable requirements provided through regulation and/or legislation.

7.1 Westcoast's Consultation with Indigenous Peoples

Westcoast stated that its Indigenous consultation activities for the Projects have been and will continue to be conducted based on principles set out in Enbridge Inc.'s Indigenous peoples Policy. Westcoast stated that this Policy outlines "Enbridge's recognition of the diversity of Indigenous peoples who live where we work and operate and recognizes the importance of reconciliation between Indigenous communities and broader society. Positive relationships with Indigenous peoples, based on mutual respect and focused on achieving common goals, will create constructive outcomes for Indigenous communities and for Enbridge."

Westcoast stated that its consultation program design began with a review of local and regional interests in the Projects areas to facilitate the identification of persons or groups who may potentially be affected by the Projects. A key consideration was the location of the facilities as well as potential impacts of the Projects and the mitigation measures available to address those impacts.

Westcoast stated that ongoing relationships currently exist based on previous interactions from many years of operating in the Projects areas. Westcoast also requested a Traditional Territory analysis from the NEB to confirm potentially impacted Indigenous peoples. Based on the Traditional Territory analysis and Westcoast's research in the region, Westcoast stated that it developed a consultation approach that would focus on building relationships with Indigenous communities in the region while undertaking deeper consultation with communities in closest proximity and whose Traditional Territory overlaps the Projects areas. Indigenous communities that Westcoast identified through the assessment process for each of the Projects is provided in Appendix III.

Westcoast stated that its engagement with potentially affected Indigenous communities identified above began on 8 June 2018 with notification of its intention to submit a Section 58 application for each of the Projects by way of Project Information Packages provided to each Indigenous community. The Project Information Packages included descriptions of the Projects, potential impacts of each Project, information about the NEB and its application review process, contact information, and an invitation to submit any further input/concerns about the Projects. Westcoast stated it undertook follow-up phone calls between 28 June and 5 July 2018 to all Indigenous

communities identified for each of the CS-4A, CS-5, and CS-3, and Expansion and Reliability Projects to confirm that the Project Information Package had been received.

In its response to the Board's IR 1.1, Westcoast confirmed that it mailed a notification letter to O'Chiese First Nation on 10 October 2018 informing them of the Projects and the associated applications Westcoast filed with the NEB. Westcoast has not received any concerns or comments raised by O'Chiese First Nation to date, but stated it would remain responsive to any questions or concerns regarding the Projects that may be raised by O'Chiese First Nation.

In response to the Board's IR 5, Westcoast stated that it provided Papaschase First Nation with a description of the Projects. Westcoast stated that it has not received any concerns or comments from Papaschase First Nation, but will remain responsive to any questions or concerns regarding the Projects that may be raised by Papaschase First Nation.

Westcoast stated that the construction footprints for all Projects, except for CS-3, would be located entirely within Westcoast-owned fee simple lands that are partially disturbed. For construction at CS-3, Westcoast stated that it must acquire 0.21 ha of new lands from Pembina Pipeline Corporation.

Westcoast provided opportunities to interested Indigenous communities to meet to discuss the Projects. Westcoast met with?Esdilagh First Nation, Blueberry River First Nation, Canim Lake Indian Band, Canoe Creek First Nation (Stswecem'c Xgat'tem), Esk'etemc (Alkali Lake) First Nation, High Bar First Nation, Lheidli T'enneh First Nation, McLeod Lake Indian Band, Sauteau First Nations, Skeetchestn Indian Band, West Moberly First Nations, Whispering Pines/Clinton Indian Band, Williams Lake Indian Band, and Soda Creek Indian Band to discuss the Projects.

Westcoast stated that funding for Traditional Land Use studies was offered for the CS-4A and CS-5 compressor station upgrade sites. In addition, Westcoast was responsive to the concerns raised by Indigenous communities (e.g., offered capacity funding towards Traditional Use Studies for culturally sensitive areas not affected by the Projects, conducted a site tour, and included participation of Indigenous peoples in the field work for the Archaeological Impact Assessment).

Westcoast stated it seeks to resolve concerns and issues raised through consultation activities with Indigenous communities and will continue to do so through the life of the Projects.

7.2 Government of Canada's Consultation Process with Indigenous Peoples

The Board sent notification of application (NoA) letters on 4 October 2018 to the same Indigenous communities in British Columbia as engaged by Westcoast. The letters provided a description of the Projects. The letters also stated that if any of the Indigenous communities have Project-related views or concerns that they have not been able to resolve with the company, to send a letter of comment to the NEB by 18 October 2018. The Board did not receive any responses to its NoA letters.

On 18 October 2018, the Board notified Natural Resources Canada that the Applications are believed to be in the Traditional Territory of Dene Tha' First Nation and therefore may trigger obligations under the Federal Authorizations Consultation Protocol (Annex Two), pursuant to the Canada – Dene Tha' First Nation Settlement Agreement 2007.

Natural Resources Canada issued a letter dated 25 March 2019 to advise that the federal Crown would, to the extent possible, rely on the NEB process to fulfill any potential duty to consult that may arise on projects regulated by the NEB. The Board provided the letter to potentially affected Indigenous communities on 16 and 22 May 2019.

7.3 Participation of Indigenous Communities in the Board's Hearing Process

The Board's hearing process was designed to obtain as much relevant evidence as possible on Indigenous concerns regarding the Projects, including the potential impacts on Indigenous interests, as well as possible mitigation measures to minimize adverse impacts on Indigenous interests. The Board was provided with and considered information about concerns related to the Projects, and the measures that would be required to address those concerns, as brought forward through consultation undertaken by Westcoast and through the participation of potentially affected Indigenous communities.

The Board administers a Participant Funding Program, which provides financial assistance to individuals, Indigenous peoples, landowners, and non-industry not-for-profit groups to facilitate public participation in certain project hearings and environmental assessments of designated projects.

On 13 December 2018, the NEB announced \$40,000 to assist groups and \$6,000 to assist individuals with their participation in the T-South 2018 Compressor Station Applications hearing. The PFP received nine applications and recommended awarding \$326,000.

Indigenous communities concerned with potential Project-related impacts on their interests, including rights, had opportunities to present their views directly to the Board through the hearing process as outlined in the Hearing Order. While the Board required Westcoast to implement a consultation program and undertake an assessment of the Project's potential effects, including its environmental and socio-economic effects, the Board also took steps to facilitate the direct participation of these communities in its assessment process.

The Board granted each of High Bar First Nation, Lheidli T'enneh First Nation, Papaschase First Nation, Shackan Indian Band, Soda Creek Indian Band, Whispering Pines/Canton Indian Band, and Williams Lake Indian Band Intervenor status. During the proceeding, these intervenors had the opportunity to present their views to the Board in numerous ways, including submitting written evidence, providing oral Indigenous knowledge, asking written questions of Westcoast through IRs, orally cross examining Westcoast's witness panel, providing comments on draft conditions and providing written final argument.

?Esdilagh First Nation and Canoe Creek First Nation (Stswecem'c Xgat'tem) provided letters of comment outlining concerns about the Projects. Shackan Indian Band filed a comment letter outlining traditional use in the area and requesting capacity funding from Westcoast to support a socio-economic cultural impact assessment and analysis of the Program.

Papaschase First Nation, Williams Lake Indian Band, and Soda Creek Indian Band provided Oral Indigenous Knowledge to the Board on 22 May 2019 in Quesnel, BC.

Issues and concerns raised by Indigenous Intervenors and Commenters are discussed in Section 7.4.

Views of the Board

The Board thanks all participants, and in particular, the Chiefs, Elders, and Traditional Knowledge holders from Papaschase First Nation, Williams Lake Indian Band, and Soda Creek Indian Band for sharing their local, traditional, and cultural knowledge during the oral portion of the hearing.

7.4 Issues and Concerns raised by Indigenous Communities

7.4.1 Westcoast's Indigenous Engagement / Consultation

In their oral Indigenous knowledge, Soda Creek Indian Band stated concerns about the level of information Westcoast shared with them about the Projects. Soda Creek Indian Band had understood the Projects to be integrity-driven and only recently learned the pipeline capacity would increase as a result of the Expansion and Reliability Project.

Williams Lake Indian Band stated that consultation occurred late and that engagement needs to be early. Williams Lake Indian Band stated that they rarely hear about development until presented with maps and there are studies that have already been done on them without their knowledge or permission.

?Esdilagh First Nation stated that consultation must be adequate and ongoing in relation to the CS-5 Project.

Reply of Westcoast

In reply to Soda Creek Indian Band, Westcoast stated that it engaged Soda Creek Indian Band early in the project planning phase and consistently communicated that the CS-5 Project is reliability-related, while the work at CS-6A is part of the Expansion and Reliability Project, which has an expansion component. In addition to the Projects, Westcoast has engaged with Soda Creek Indian Band in the past couple of years about other operations and maintenance activities in proximity to Soda Creek Indian Band. Westcoast recognizes the potential confusion that may have arisen given that there are multiple projects, both completed and proposed, in proximity to Soda Creek Indian Band and commits to continuing to engage with Soda Creek Indian Band to clear up the confusion around project rationales.

In reply to ?Esdilagh First Nation, Westcoast stated that in ?Esdilagh First Nation's letter, it acknowledged Westcoast's prior engagement regarding the Program and the CS-5 Project, and other activities related to the Westcoast pipelines and that the parties have agreed to work together to negotiate a formalized consultation structure related generally to Westcoast's activities. Negotiations with ?Esdilagh First Nation in relation to the agreement are ongoing and not specific to the Projects. Westcoast stated it will continue to engage with ?Esdilagh First Nation to address any concerns related to the Projects.

Westcoast stated it will continue to consult with Williams Lake Indian Band, Soda Creek Indian Band, ?Esdilagh First Nation, Canoe Creek First Nation (Stswecem'c Xgat'tem First Nation), Papaschase First Nation and other potentially affected Indigenous communities throughout the lifecycles of the Projects. Westcoast stated it will engage potentially affected Indigenous peoples in ongoing dialogue and meaningfully consider and address information and concerns brought forward in the future.

Views of the Board

The Board notes that engagement efforts undertaken by a proponent with Indigenous communities are considered within the context of the expectations set out in the Board's Filing Manual. While a proponent's consultation or engagement efforts are distinct from those of the Crown, the information gathered as a result of such efforts often provide helpful information to the Board's understanding of the views and concerns with respect to the rights and interests of potentially-affected Indigenous communities. The Board expects companies to design and implement their 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 the

rights and interests of Indigenous peoples, the Board has proportionally greater expectations in terms of the companies' consultation with potentially impacted Indigenous communities. In contrast, where there is a remote possibility of an impact on Indigenous rights and/or interests, or where the impacts are minor in nature, the applicant's consultation will generally not be expected to be as extensive.

The Board notes the construction footprints for all Projects, except for CS-3, would be located entirely within Westcoast-owned fee simple lands that are partially disturbed. For construction at CS-3, the Board notes that Westcoast must acquire 0.21 ha of new lands from Pembina Pipeline Corporation.

In assessing the consultation undertaken by Westcoast with Indigenous communities for the Projects, the Board evaluated the design and implementation of Westcoast's consultation activities. The Board considered the company's activities to engage Indigenous communities and to learn about their concerns and interests, as well as the concerns and views expressed by Indigenous communities. It also considered how Indigenous communities responded to opportunities for consultation and how Westcoast sought to understand and address the concerns of potentially affected Indigenous communities. The Board considered how this input influenced the Projects' proposed design and operations.

The Board notes the concerns raised by Williams Lake Indian Band and Soda Creek Indian Band regarding Westcoast's consultation activities. The Board notes the consultation activities undertaken by Westcoast for the applied-for Projects, including in-person meetings conducted with Indigenous communities that expressed an interest. The Board also notes that Westcoast met the requirements and expectations set out in the Board's Filing Manual. The Board further notes Westcoast's commitment to work with potentially affected Indigenous peoples in ongoing dialogue and holds Westcoast to that commitment, as reflected in **Condition 6** (Commitments Tracking Table). The Board finds that, with regard to the applied-for Projects, Westcoast provided Indigenous communities who expressed an interest in the Projects with reasonable opportunities to participate in project planning, to share traditional knowledge, and to identify site-specific and general concerns about the Projects.

Given the importance of ongoing engagement and consultation activities with Indigenous communities, the Board imposes **Condition 9** (Consultation with Indigenous Peoples).

Having assessed all of the evidence, and taking into account Westcoast's consultation commitments and the Board's imposed condition, the Board finds that Westcoast designed and implemented consultation activities that are appropriate for the size, scope and scale of the applied-for Projects.

7.4.2 Traditional Land Use

Soda Creek Indian Band, ?Esdilagh First Nation, Shackan Indian Band, Papaschase First Nation and Williams Lake Indian Band raised concerns about the effects of the Projects on traditional land use. A summary of their concerns and the views of the Board on these matters is provided in Chapter 8.

7.4.3 Economic Opportunities for Indigenous Communities

Soda Creek Indian Band, in their written evidence, sought a right of first refusal for Soda Creek Indian Band and other communities along the T-South System to receive contractor Request for

Proposals. Soda Creek Indian Band stated that there needs to be substantial positive commercial impacts for Soda Creek Indian Band from the Projects.

?Esdilagh First Nation requested that Westcoast commit to engaging qualified ?Esdilagh First Nation members and businesses in all employment and economic opportunities related to Program activities within the Caretaker Area.

?Esdilagh First Nation stated that Westcoast employees and contractors working on the CS-5 Project, and on the Program more generally within the Caretaker Area, must have an informed understanding of the T̓silhqot̓in culture and traditional use of resources within the Caretaker Area. ?Esdilagh First Nation stated that such Westcoast personnel would benefit from cultural awareness training by ?Esdilagh First Nation.

Stswecem'c Xgat'tem First Nation raised concerns in its letter of comment about missing out on economic opportunities related to Westcoast projects that take place within their traditional territory. Stswecem'c Xgat'tem First Nation stated it has a band member-owned business, Skywest Environmental (Skywest) that has previously been a subcontractor on Westcoast projects. Stswecem'c Xgat'tem First Nation also raised concerns about an issue around payment of invoices to Skywest.

During Oral Indigenous Knowledge Papaschase First Nation raised the issue of employment, training, and jobs for their people.

Reply of Westcoast

Westcoast stated that it does not agree that any one group or contractor should have a right of first refusal. When selecting prospective contractors, Westcoast must continue to ensure that the contractors meet the safety and quality standards necessary to complete the work. In addition, given the overlapping traditional territories in the region, Westcoast must continue to engage with multiple Indigenous communities about economic opportunities.

Westcoast stated that it is continuing to work with Soda Creek Indian Band and will be focusing on the economic opportunities that exist as part of the CS-5 Compressor Station Upgrade Project, as CS-5 is within Soda Creek Indian Band traditional territory. Westcoast has identified opportunities which it believes could be suitable for Soda Creek Indian Band, given the community's current capacity. Soda Creek Indian Band will be invited to participate in one or more project Request for Proposals (RFPs) for businesses representing that capacity to compete for work on a preferred basis.

Westcoast stated that since 2017 it has implemented a process referred to as Socio-Economic Requirements of Contractors (SERC) when approaching the market for goods and services to support project and operational needs. Where Indigenous communities are in proximity to the work being contemplated, Westcoast will engage those communities and gather or update information for businesses connected to or supported by those communities. Business capacity is first reviewed for potential participation in Westcoast-managed contractor sourcing processes (e.g., an RFP initiative) and where appropriate capacity is available, it is considered for those sourcing processes. In a RFP for a certain scope of work, prospective contractors (i.e. both Indigenous and non-Indigenous companies) are provided with information on relevant Indigenous business capacity for Indigenous communities that are in proximity to the work activities. Through the SERC, as part of their proposal, interested parties are required to submit a socio-economic plan that shows how the contractor intends to utilize Indigenous business capacity in the RFP process. The SERC also instructs prospective contractors during the RFP process to provide information in the socio-economic plan about how they will engage nearby Indigenous communities in employment and training

opportunities associated with the work. The socio-economic plans are evaluated and clarified through the RFP process, which includes having Westcoast work directly with the successful contractor in an effort to strengthen the list of goods and services that can be supplied by Indigenous community businesses.

Westcoast stated that, through the SERC process, qualified Soda Creek Indian Band businesses will also be sought for subcontracting proposals and, where successful, those Soda Creek Indian Band businesses will be utilized by Westcoast general contractors. Westcoast noted that, with respect to other economic benefits, it provides taxes directly to Soda Creek Indian Band for assets on reserve in addition to annual relationship agreement funding.

In its reply to ?Esdilagh Westcoast stated it has designed and implemented the SERC as part of its contracting process. Through the SERC process, contractors are required to develop a socio-economic plan, which outlines how the contractor is going to engage with Indigenous businesses. The socio-economic plan is submitted as part of the contractor's submission to the RFP. Socio-economic plans are evaluated as part of the RFP evaluation, refined with the successful contractor, and later form part of the contract.

Westcoast stated that it works with Indigenous communities to understand the business(es) that exists within those communities and the goods and services they provide. That information is shared with contractors who are participating in contracting activities so they may be aware of the businesses associated with the local Indigenous communities and aid them in the development of their socio-economic plans.

In addition to sub-contracting opportunities with general contractors, Westcoast stated it also looks for opportunities to contract directly with Indigenous businesses (for instance, it looks at the scope of the work, its location and whether the business is qualified to complete the work). Where appropriate, Westcoast invites Indigenous businesses to participate in RFPs for direct contracting activities.

In reply to ?Esdilagh, Westcoast stated that it is open to discussing with ?Esdilagh the opportunity to provide cultural awareness training for personnel working on the CS-5 Project component of the Program.

In reply to Stswecem'c Xgat'tem First Nation, Westcoast stated that Skywest has not missed out on opportunities related to the Projects as the procurement process is just starting, and Skywest will be engaged appropriately. With regard to the issue raised about the payment of invoices to Skywest on a previous project by a Westcoast contractor, as far as is known to Westcoast, those issues have been resolved. Westcoast understands there are no outstanding payments to be made to Skywest. Westcoast has been advised by the general contractor they have taken steps to remedy these issues and a plan has been established to ensure timely payment of Indigenous and non-Indigenous vendors. Westcoast expects general contractors to provide timely payments for services to all sub-contractors.

Views of the Board

The Board is of the view that the Projects would contribute positive economic value. The Board acknowledges Westcoast's commitment to follow the principles set out in Enbridge Inc.'s Indigenous Peoples Policy, including the principle to work with Indigenous peoples to achieve benefits for them resulting from Enbridge's projects and operations, including opportunities in training and education, employment, procurement, business development, and community development. The Board also acknowledges Westcoast's commitment to Indigenous employment through its SERC.

The Board further notes the commitment from Westcoast to continue discussing with ?Esdilagh the opportunity to provide cultural awareness training for personnel working on the CS-5 Project component of the Program. Given the importance of ongoing engagement and consultation activities with Indigenous communities, the Board imposes **Condition 9** (Consultation with Indigenous Peoples). The Board expects to see a summary of these discussions with ?Esdilagh including the measures that will be taken to provide cultural awareness training or an explanation of why no further action is required to address the concerns.

7.4.4 Heritage Resources

Soda Creek Indian Band and Williams Lake Indian Band raised concerns about heritage resources. A summary of their concerns and the views of the Board on these matters is provided in Chapter 8.

7.4.5 Human Health

Williams Lake Indian Band raised concerns about the human health effects of methane. A summary of their concerns and the views of the Board on these matters is provided in Chapter 8.

7.4.6 Wetlands

Williams Lake Indian Band raised concerns about wetlands. A summary of their concerns and the views of the Board on these matters is provided in Chapter 8.

7.4.7 Wildlife Species at Risk

Williams Lake Indian Band raised concerns about wildlife species at risk. A summary of their concerns and the views of the Board on these matters is provided in Chapter 8.

7.4.8 Section 35 of the *Constitution Act, 1982* and Duty to Consult

Soda Creek Indian Band stated that they were not adequately consulted when the T-South System was originally constructed and have not been adequately accommodated over the years the system has been in service. In its letter of comment, ?Esdilagh First Nation stated that when the T-South Pipelines, CS-5, and associated infrastructure were commissioned within the Caretaker Area, neither they nor T̓silhqot'in Nation were adequately consulted by the project proponent or the NEB in respect of direct and indirect impacts on T̓silhqot'in Aboriginal rights, including title and that compensation for these impacts has been non-existent to date.

Reply of Westcoast

In reply to Soda Creek Indian Band, Westcoast stated that the October 12, 1955 Privy Council Order 1955-1535 and permit under s. 35 of the *Indian Act*, R.S.C., 1985, c. I-5 (1955 PC Order), the September 27, 1962 Privy Council Order 1962-1340 and permit under s. 35 of the *Indian Act*, as well as the January 18, 1963 Grant/easement grant Westcoast the necessary tenure to construct, operate and maintain the pipelines across Soda Creek Indian Band's Reserve (i.e. Deep Creek Indian Reserve No. 2), among others. The 1955 PC Order and 1963 PC Order also explicitly provide that the respective Band Councils (including Soda Creek Indian Band) had agreed with Westcoast on the amount of compensation to be paid for the use of the lands as required.

Views of the Board

The Board notes that the Supreme Court of Canada has acknowledged in two recent decisions, *Clyde River (Hamlet) v Petroleum Geo-Services Inc.*³ and *Chippewas of the Thames First Nation v Enbridge Pipelines Inc.*⁴, that the Board has the procedural powers to implement consultation and the remedial powers to impose and enforce accommodation measures as well as the requisite technical expertise. The Supreme Court of Canada also acknowledged the Crown's ability to rely on the Board's regulatory assessment process to fulfill its duty to consult. The Board is the final decision-maker in relation to these Projects.

Administrative tribunals play an essential role in the execution of federal or provincial constitutional powers. Through their legislative mandates, they are charged with performing duties and exercising the powers that fall within the executive branch of government. Administrative tribunals such as the Board must perform those duties and exercise those powers, not only in accordance with their legislative mandates, but also in accordance with section 35 of the *Constitution Act, 1982* and other applicable laws.

The *NEB Act* provides the Board with broad powers and expansive remedial authority to deal with the impacts of federally-regulated pipeline projects. The Board is the federal statutory body that has the most direct involvement in the assessment of applications to construct and operate interprovincial and international pipelines. The Board also has the technical expertise and the regulatory experience to understand a project, the likelihood of effects, and the measures that can be implemented to minimize effects. In addition, the Board has the authority to elicit commitments from the proponent, impose conditions on an approval, and ensure ongoing regulatory oversight of a project and a proponent's compliance. The Board also has been given the statutory mandate to impose and enforce mitigation measures to reduce negative project effects and hold a proponent to the commitments made in the Board's project assessment process.

The framework within which the Board operates and decisions under the *NEB Act* are made, which include the requirement that a project assessment process be conducted in a procedurally fair manner, can provide a practical, effective and efficient way within which Indigenous communities can request and receive meaningful assurances from the proponent or the Board about project-related effects on the rights and interests of Indigenous communities. Hearing directly and indirectly about Indigenous communities' concerns about project-related impacts allows the Board to impose measures to mitigate the impacts and balance, as appropriate, any residual effects with the other societal interests at play when assessing a project. As a result, decisions on pipeline projects can be made in a constitutionally appropriate manner consistent with the honour of the Crown.

The Board's consideration of what is required in terms of consultation with Indigenous communities is an iterative process as more information is obtained and assessed in the Board's proceeding. There are several points in a Board proceeding where the existence and extent of rights and/or interests of Indigenous peoples, and the potential impact of the Projects on them will be considered with a view to determining the procedural opportunities that must be provided and the substantive outcomes that are warranted.

3 2017 SCC 40, [2017] 1 SCR 1069.

4 2017 SCC 41, [2017] 1 SCR 1099.

For example, the existence and extent of rights and/or interests of Indigenous peoples, and the potential impact of the Projects on them may be considered when:

- the proponent determines who may be impacted by its proposed project;
- the Board decides to whom to send notices;
- the Board considers the type of Board process that should be employed;
- the Board decides who should be allowed to participate in the proceeding and to what extent;
- the Board assesses the level of consultation expected of the proponent and any others who may have authority to deal with an issue;
- the Board considers the amount of information required from the proponent regarding potential impacts and proposed mitigation measures;
- the Board considers the amount of information required from Indigenous participants;
- the Board determines what conditions would need to be imposed; and,
- the Board determines whether the authorization for a project should be issued.

The Board's process is designed to be thorough and accessible to Indigenous peoples so that they may make their concerns known to the Board and have those concerns addressed as appropriate. In addition to the mandated one-on-one consultation that is to occur between an applicant and potentially impacted Indigenous communities, the Board's hearing process itself (described in Section 7.3 above), including this Decision, is part of the overall consultative process.

As final decision maker on these Projects, the Board is of the view that consultation has been meaningful, responsive and significant. The Board therefore finds that there has been adequate consultation and accommodation for the purpose of the Board's decision on these Projects. The Board is also of the view that, with the Board's conditions, its regulatory requirements, along with company's mitigation and commitments, potential impacts of the Projects on the rights and interests of affected Indigenous peoples are not considered significant and have been effectively addressed.

With regard to the concerns from Soda Creek Indian Band and ?Esdilagh about adequate consultation and accommodation when the Projects were originally constructed, the Board notes that the original decisions (e.g., orders, permits and easements) to construct and operate the pipeline were granted in 1955, 1962 and 1963. The Board is assessing the consultation associated with the Projects and is not assessing claims for past infringement such as the construction of the original pipeline.

As a result of the above, considering all of its findings in this Decision, related Orders and the conditions it has applied to this approval, the Board, as final decision maker with respect to the Projects, is of the view that the approval of these Projects is in keeping with the honour of the Crown.

8 Environment and Socio-Economic Matters

Under the NEB Act, the Board considers environmental protection as a component of the public interest. When making its decision, the Board is responsible for assessing the environmental and socio-economic effects of the Projects throughout the life of the Project. This chapter represents the Board's environmental assessment (EA).

8.1 The NEB's EA Methodology

In assessing the environmental and socio-economic effects of the Projects, the NEB used an issue-based approach as set out in the NEB's Filing Manual for applicants.

This assessment begins with: (a) a description of the Projects (subsection 8.2), (b) a description of the setting and the environmental and socio-economic elements within that setting (subsection 8.3), and (c) a summary of those environmental and socio-economic concerns raised by the public (subsection 8.4). Based on these, the Board identified Projects-environment interactions expected to occur (subsection 8.5; Table 8-3). If there were no expected Projects-environment interactions or interactions that would be positive or neutral then no further examination were deemed necessary.

The Board then assessed the potential adverse environmental and socio-economic effects, as well as the adequacy of the applicant's proposed environmental protection strategies and mitigation measures (subsection 8.5). Subsection 8.5.2 discusses the extent to which standard mitigation is relied on to mitigate potential adverse effects. In subsection 8.5.3, 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, 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 subsection 8.6. The Board's conclusion on significance is provided in subsection 8.7.

8.2 Projects Details

Chapter 1 of this Decision provides a general description of the Projects. The following table provides further details on the Projects' components and activities relevant to the EA.

Table 8-1: Project Components and/or Activities

Project Components and/or Activities
Construction Phase
<ul style="list-style-type: none">• Clearing/grubbing, topsoil stripping, segregation and grading, access roads, civil works, excavation
<ul style="list-style-type: none">• Clean up and reclamation
Operation Phase – Timeframe: Service life of the Project
<ul style="list-style-type: none">• Inspection and maintenance
Abandonment Phase – Timeframe: At the end of the service life of the Project
<ul style="list-style-type: none">• 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 NEB.

8.3 Environmental Setting

Soil and Soil Productivity

- The Projects' footprints include previously disturbed and non-disturbed soils with variable soil textures and topsoil depths.
- Considering the operational history associated with existing compressor stations, contaminated soils may be encountered during construction activities.

Vegetation

- The Projects are situated in several different provincial Biogeoclimatic Ecosystem Classification zones ranging from northeast to southwest BC. The predominant land cover is coniferous and mixed-wood forests at all Projects locations, except CS-7 which is located in a grasslands setting.
- At CS-3, CS-4B, and CS-7, construction activities will require disturbance to provincially Blue- and Red-listed ecological communities. At CS-4B and CS-7, the listed ecological communities within the footprints are previously disturbed and contain invasive species.
- There are documented occurrences of invasive plant species at most of the Project locations.
- Activities associated with construction and vegetation management during operations of the Projects may affect vegetation with the disturbance footprints.

Wetlands

- The expansion at CS-6A requires the permanent infilling of a 0.077 ha cattail marsh wetland that formed in borrow pit following pipeline construction activities.
- Wetlands are present within the property boundaries of other Projects locations. There are no wetlands present within 30 m of the Projects' disturbance footprints.

Water Quality and Quantity

- Mapped watercourses, including non-classified drainages and S3 and S6 streams, were identified within the property boundaries of CS-3, CS-4A, CS-4B, and CS-7. The disturbance footprints at these compressor stations and all other Project locations are more than 30 m away from watercourses and surface waterbodies.
- A groundwater well is present within the Westcoast property boundaries at CS-4A.

Fish and Fish Habitat

- There are no fish-bearing watercourses within 30 m of the Projects' disturbance footprints.

Wildlife, Wildlife Habitat, and Species at Risk

- The disturbance footprints for the Projects do not overlap provincially designated Wildlife Habitat Areas or Ungulate Winter Ranges. The Project footprint areas may provide habitat for migratory birds during the breeding season and migratory birds were observed at some locations during surveys.
- The regional study areas for the Projects overlap with identified ranges for a number of *Species at Risk Act* (SARA) Schedule 1-listed species and provincially-listed species of special status. The SARA-listed species include songbirds, raptors, amphibians, reptiles, and mammals.
- CS-7 is located within designated critical habitat for SARA-listed Lewis' woodpecker.
- The regional study area for CS-2B falls within matrix habitat and designated range for SARA-listed woodland boreal caribou, Kennedy Siding herd.
- During field surveys at CS-4B and CS-6A, SARA-listed Western toad was observed within and outside of the disturbance footprints for construction, respectively.

Atmospheric Environment

- Existing ageing equipment has no nitrogen oxide emission controls.
- Existing ageing equipment vents natural gas to start the turbines. This venting is very loud for short periods of time.

Land Use and Human Occupancy

- The Projects are located on privately owned, previously disturbed land within existing compressor station property boundaries.
- The nearest dwellings in proximity to each of the compressor station locations are:
 - 70 m southwest of CS-3;
 - 1160 m west of CS-4A;
 - 560 m west of CS-5;
 - 3 km from CS-2B;
 - 1300 m northwest of CS-4B;
 - 190 m west of CS-6A;
 - 250 m north of CS-7; and
 - 100 m west of CS-8B.

Heritage Resources

- Archaeological Impact Assessments (AIA) for CS-3 CS-4A, CS-4B, CS-5, CS-6A, and CS-7 were completed by Landsong Heritage Consulting Ltd. No previously unidentified archaeological sites were identified.
- AIA was not conducted at CS-2B as ground disturbance for piping modifications will occur within the fenced station yard and disturbance outside the fence will be limited to the surface associated with pipe stockpiling on previously disturbed lands.

Human Health

- The Expansion and Reliability, CS-4A, and CS-5A Projects are located on Westcoast fee simple land on and adjacent to existing compressor stations.
- The CS-3 Project is located on Westcoast fee simple land and privately owned lands within a previously developed industrial landscape.

Navigation and Navigation Safety

- The Projects are not located near navigable waterways.

8.4 Environmental Issues of Public Concern

The Board received submissions from participants that raised particular concerns related to environmental and socio-economic issues. The table below summarizes the topics of concern.

Table 8-2: Environmental Issues Raised By Participants

Participant	Environmental and Socio-Economic Issue(s) Raised	Addressed in Section
Williams Lake Indian Band	Wildlife species at risk, methane soil persistence Habitat loss due to wildfire Increased construction traffic and related concerns with weed introduction, dust, and effects on wildlife Effects of methane on human health (biopersistence) Effects of the Projects on heritage resources	Section 8.5.2 Standard Mitigation Table 8.5.3.2, Wildlife Species at Risk Section 8.5.3.4 Human Health Section 8.5.3.5 Heritage Resources Section 8.6 Cumulative Effects Assessment
Soda Creek Indian Band	Increased all-terrain vehicle and snowmobile access; Negative impacts to wildlife Effects of the Projects on heritage resources	Section 8.5.2 Standard Mitigation Section 8.5.3.5 Heritage Resources
Ms. Vicki Best	Effects of the Project at the CS-6A Compressor Station including the proposed length of construction, noise, dust, visual impacts and safety issues.	Section 8.5.2 Standard Mitigation

8.5 Environmental Effects Analysis

The Board has reviewed the Projects and identified interactions expected to occur between the proposed activities and the surrounding bio-physical and socio-economic elements. In assessing the effects of the Projects, the Board considered interactions with the following elements:

- Soil and Soil Productivity
- Vegetation
- Water and Water Quality
- Wetlands
- Wildlife and Wildlife Habitat
- Wildlife Species at Risk
- Atmospheric and Acoustic Environment
- Heritage Resources
- Current Traditional Land and Resource Use
- Human Health

The Board also considered the potential accidents and malfunctions that may occur due to the Projects, and any change to the Projects that may be caused by the environment. For those

elements where interactions with the Projects were predicted, the Board then considered any potential adverse effects.

The bio-physical and socio-economic interactions and effects of the Project, excluding accidents and malfunctions, are expected to be negligible or managed effectively through standard mitigation so as to be insignificant. Standard mitigation is discussed in Section 8.5.2 below.

The Board's detailed analysis of the potential adverse effects of the Project on the current use of lands and resources for traditional purposes by Indigenous peoples, including a determination of significance, is discussed in Chapter 7, Indigenous Matters.

8.5.1 Mitigation of Potential Adverse Environmental Effects

In its application, Westcoast has identified routine design and standard mitigation to mitigate the potential adverse environmental effects identified. Westcoast's Applications and supporting documentation contain details on all Westcoast's proposed mitigation.

Where there are outstanding issues regarding key environmental elements, or the Applicant's proposed mitigation may not be sufficient and additional mitigation may be necessary, a detailed analysis is presented in Section 8.5.3.

8.5.2 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.

Views of Westcoast

In addition to the mitigation strategies to avoid or minimize the effects of the Project, Westcoast is relying in part on scheduling activities to avoid sensitive periods and conducting work on previously disturbed lands where possible.

Westcoast notes that the new proposed compressor units use electro-hydraulic starters that do not require venting and, as a result, will have less adverse impact on the surrounding communities with respect to noise levels and emissions.

Westcoast stated that it would prepare Environmental Protection Plans (EPP) for each of the Projects. These EPPs would include mitigation measures to minimize the effects of the Project on the environment.

Views of the Board

Westcoast's Applications included its proposed mitigation measures to be implemented during the construction and operation of the Projects.

The Board notes Westcoast's commitment to minimize impacts of the Projects through routing and scheduling. The Board also notes Westcoast's commitment to implement best practices to mitigate potential adverse environmental effects on the physical environment, soils, vegetation, water quality and quantity and the atmospheric and acoustic environments. The Board further notes Westcoast's commitment to include additional mitigation measures

for rare ecological communities and any rare plants discovered during construction in the EPP. The Board has imposed **Condition 3** and **Condition 6** to confirm implementation of the relevant policies, practices and commitments related to environmental protection.

The Board is of the view that environmental effects associated with the Project are minor in nature, as construction activities would occur mainly within areas which are partially or fully disturbed due to prior pipeline and compressor station construction, and are located on Westcoast-owned lands. Further, the majority of these effects are temporary (confined to the construction period) and most of the proposed work will be above-ground. The Board is of the view that the potential effects can be resolved through the use of standard design or routine procedures, as outlined in Westcoast's Applications and related filings.

The Board directs Westcoast to file an EPP prior to construction, as set out in **Condition 5**. The EPP shall describe all environmental protection procedures, and mitigation and monitoring commitments, as set out in Westcoast's application or as otherwise agreed to during questioning or in its related submissions.

8.5.3 Detailed Analysis of Key Environmental Issues

There are six issues explored in detail in the following subsections. Table 8-3 specifies the definitions for criteria used in evaluating the significance of residual effects.

Table 8-3: 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.

Criteria	Rating	Definition
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 and the TWS.
	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., a 500 m buffer around the Project footprint for 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., a 5 km buffer around the Project footprint for wildlife).
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 Regional significance.

Criteria	Rating	Definition
	Not likely to be significant	Any adverse effect that does not meet the above criteria for “significant”.

8.5.3.1 Wetlands

Background/Issues Views of the Parties	Williams Lake Indian Band is concerned about the loss of a wetland at CS-6A due to wetland infilling to accommodate construction.			
Proposed Mitigation	Westcoast committed to work with the appropriate regulatory authority to determine the need for a wetland compensation plan to achieve no net loss of wetland function, in accordance with the Federal Policy on Wetland Conservation. Westcoast stated that it has been in discussions with Environment and Climate Change Canada (ECCC) regarding a voluntary wetland enhancement strategy as a result of the proposed infilling of the man-made wetland at CS-6A. Westcoast completed a wetland functional assessment for the man-made wetland that would be infilled at CS-6A. Westcoast shared this assessment with ECCC and Williams Lake Indian Band, and filed it with the Board. Westcoast has sought Williams Lake Indian Band's input and suggestions for the wetland enhancement strategy and is committed to engaging with Williams Lake Indian Band further on the development and implementation of the strategy.			
Views of the Board	The Board acknowledges Westcoast's commitment to wetland compensation through enhancement to achieve no net loss of wetland function. The Board finds that this approach satisfies the Federal Policy on Wetland Conservation.			
Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Medium-term	Reversible	Local Study Area	Low
	Adverse Effect			
	Not likely to be significant			

8.5.3.2 Wildlife Species at Risk

Background/Issues Views of the Parties	Williams Lake Indian Band stated that American badger, western painted turtle, and Western toad are observed in the CS-6A and/or CS-7 Project areas. Williams Lake Indian Band argued that Westcoast has not demonstrated that the Project has addressed American badger and badger conservation issues, western painted turtle and western painted turtle conservation issues, and that Westcoast has not addressed the scope and nature of the Western toad population at CS-6A.
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	<p>Westcoast stated that the footprints at CS-6A and CS-7 were identified as potentially overlapping with habitat for American badger. Westcoast determined that the Project footprint at CS-6A falls outside of a mapped distribution polygon for American badger, however the CS-7 footprint is located within a mapped distribution polygon for American badger. American badger was not identified during field surveys at CS-6A or CS-7, and no observations have been historically reported by Westcoast Operations staff at these facilities.</p> <p>Westcoast found no publicly available mapped occurrences of western painted turtle within the compressor station properties at CS-6A or CS-7, and observed none during field surveys. The closest occurrence of western painted turtle to CS-6A is approximately 3 km south of the compressor station, and the closest occurrence to CS-7 is approximately 6 km east of the compressor station.</p> <p>CS-7 is located within designated critical habitat for SARA-listed Lewis' woodpecker.</p> <p>The regional study area for CS-2B falls within matrix habitat and designated range for SARA-listed woodland boreal caribou, Kennedy Siding herd.</p>
Proposed Mitigation	<p>Westcoast stated that if American badger, dens, or denning activity are identified prior to construction, Westcoast will contact the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNORD) to discuss an appropriate mitigation strategy.</p> <p>Westcoast committed to developing Traffic Management Plans for each Project, ensuring that the Traffic Management Plans include mitigation measures for wildlife and species at risk, and sharing the draft Traffic Management Plan for Compressor Station CS-6A with Williams Lake Indian Band prior to the plan being finalized.</p> <p>Westcoast committed to completing a western painted turtle and amphibian survey prior to construction at CS-6A. If western painted turtle are identified, Westcoast would apply for a federal species at risk permit and contact MFLNORD to agree upon a salvage and relocation strategy.</p> <p>Further, Westcoast stated it would conduct an amphibian salvage on the full footprint of the Expansion and Reliability Project and during drawdown of the wetland prior to construction. Any salvaged amphibians would be relocated to similar or superior wetland habitat on Westcoast property outside of the Expansion and Reliability Project footprint. Westcoast also described mitigation measures in its filings that would minimize impacts to wildlife and wildlife habitat, including amphibians, turtles, and American badger, that would be included in its Project-specific EPPs. For example, the Environmental Inspector on site during construction may recommend installation of amphibian exclusion fencing at appropriate wetland sites if deemed necessary.</p> <p>Westcoast submitted that construction is not anticipated to disturb Lewis' woodpecker habitat as no known or potential nest trees will be removed and no potential foraging habitat within 400 m of known or potential nest trees will be disturbed or removed.</p> <p>Westcoast states that a previously disturbed area outside of the CS-2B fence boundary will be used for stockpiling materials during construction. This area is located within matrix habitat for woodland caribou; however, it will not undergo Project-related vegetation removal or ground disturbance. As the material laydown site does not require new physical disturbance and is within the pipeline right-of-way on Westcoast property, standard mitigation will be implemented for</p>

	any potential sensory disturbances and no restoration or offset measures are proposed.			
Views of the Board	The Board notes that construction activities at all Project locations will occur mainly on previously disturbed land adjacent to existing compressor station facilities. Given the environmental setting, the likelihood of potential adverse effects on species at risk is considered to be low.			
	The Board notes that Williams Lake Indian Band has raised concerns about species at risk within the CS-6A disturbance footprint, and within the area surrounding the Expansion and Reliability Project due to increased construction-related traffic. While Westcoast has conducted species at risk surveys in the Project areas, these surveys may capture only a snapshot in time of species presence. Westcoast has gathered all available information regarding species at risk presence in the area, including database searches of past occurrences. However, Williams Lake Indian Band members, as residents of the area, have a well-informed long-term picture of habitat use in the area by species at risk. The Board encourages Westcoast to take advantage of the knowledge that Williams Lake Indian Band members have shared regarding habitat use in the Project areas, and to continue consulting with Williams Lake Indian Band regarding species at risk.			
	The Board notes Westcoast’s additional commitments and mitigation measures for species at risk and finds that the commitments and mitigation measures adequately address any potential effects on the species at risk identified by the Williams Lake Indian Band.			
	The Board finds Westcoast’s mitigation measures as described in its Applications and other Project filings are adequate, and expects all of these measures to be incorporated into it EPP as required by Condition 5 .			
Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Short-term	Reversible	Local Study Area	Low/Moderate
	Adverse Effect			
	Not likely to be significant			

8.5.3.3 Acoustic Environment

Background/Issues Views of the Parties	Westcoast's application states that the CS-3, CS-4A, CS-5 and Expansion and Reliability Projects are expected to result in a potential increase in noise level at the closest residential dwellings during both the construction and operation phases of the Projects.
Proposed Mitigation	Westcoast stated a noise study was performed for each of the listed compressor stations using high quality input data and conservative calculation methods. Westcoast stated it has a high level of confidence that the recommended noise mitigation measure for the Projects will result in compliance with permissible sound levels during construction and operations. Westcoast stated that

	<p>monitoring should not be required unless prompted by complaints from nearby residents.</p> <p>Westcoast stated that the predicted sound propagation as a result of the noise levels from CS-6A during construction activities and during operation is in compliance with Health Canada’s acceptability for noise effects related to construction at all receptors.</p> <p>In reply evidence, Westcoast stated that the new compressors replace existing, aging equipment that vents natural gas to start the turbines. This venting is very loud for short periods of time. The new proposed compressor units use electro-hydraulic starters that do not require venting and, as a result, will have less adverse impact on the surrounding communities with respect to noise levels and emissions.</p>																
Views of the Board	<p>The Board notes that Westcoast’s mitigation measures for Project-related noise will result in compliance with permissible guideline sound level during construction and operations. The Board also notes Westcoast’s statement that monitoring should not be required unless prompted by complaints from nearby residents. Given Westcoast’s proposed mitigation measures, the Board finds that the potential adverse effects of the Projects on the acoustic environment are not likely to be significant.</p> <p>If there are complaints from nearby residents, the Board also notes that NEB programs such as Alternative Dispute Resolution and Landowner Complaint process, are available.</p>																
Evaluation of Significance of Residual Effects	<table><tr><th>Temporal Extent</th><th>Reversibility</th><th>Geographical Extent</th><th>Magnitude</th></tr><tr><td>Long-term</td><td>Reversible</td><td>Local Study Area</td><td>Low</td></tr><tr><td colspan="4">Adverse Effect</td></tr><tr><td colspan="4">Not likely to be significant</td></tr></table>	Temporal Extent	Reversibility	Geographical Extent	Magnitude	Long-term	Reversible	Local Study Area	Low	Adverse Effect				Not likely to be significant			
Temporal Extent	Reversibility	Geographical Extent	Magnitude														
Long-term	Reversible	Local Study Area	Low														
Adverse Effect																	
Not likely to be significant																	

8.5.3.4 Human Health

Background/Issues Views of the Parties	Williams Lake Indian Band raised concerns about the effects of methane, including biopersistence, on human health and asked whether biopersistence studies have been conducted on methane.
Proposed Mitigation	<p>Westcoast, in reply evidence, stated that biopersistence studies for methane gas have not been conducted because the properties and characteristics of methane in the atmosphere and in biological organisms do not indicate such studies are warranted.</p> <p>Westcoast provided information on methane in its reply evidence. Methane is a colorless, odorless gas and is the main component of natural gas. Methane is non-toxic and does not cause irritation to skin or eyes when exposed. Methane is considered to be not harmful after long term exposure (CCOHS, 2019). At high concentrations methane can act as an asphyxiant. Methane is not biopersistent, meaning it does not remain inside biological organisms but is expelled. When</p>

	released to the environment, methane is lighter than air and rapidly disperses into the atmosphere. Methane does persist in the environment; however, it does not bioaccumulate.			
Views of the Board	The Board agrees with Westcoast’s assessment of the effects of methane gas on human health, given the dispersive property of methane. The Board finds that the Projects’ effect on human health from methane directly or related to biopersistence are not likely to be significant.			
Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	short-term	Reversible	Local Study Area	Low
	Adverse Effect			
	Not likely to be significant			

8.5.3.5 Heritage Resources

Background/Issues Views of the Parties	<p>Soda Creek Indian Band stated, in written evidence, that they require proper archaeology conducted for any land disturbance. Soda Creek Indian Band stated that they do not agree with Westcoast's policy that pre-disturbed land does not require archaeological assessment.</p> <p>Williams Lake Indian Band, in written evidence, stated that they are not clear how heritage resources not contemplated under the BC <i>Heritage Conservation Act</i>, R.S.B.C. 1996, c. 187 such as post-1846 Culturally Modified Trees, and trails, are recorded and mitigated by Westcoast.</p>
Proposed Mitigation	<p>Westcoast confirmed that it will implement a heritage and cultural contingency plan in the event that previously unidentified heritage and archaeological sites are identified. Westcoast stated that a heritage and cultural resources contingency plan will be included in each of the EPPs for the Projects and will be implemented as required.</p> <p>Westcoast stated that it conducted a full AIA for the Projects in consultation with Williams Lake Indian Band. Westcoast funded a representative from Williams Lake Indian Band who participated in the field studies at CS-6A. Westcoast worked with Williams Lake Indian Band to engage its archaeology company, Sugar Cane Archaeology, as a subcontractor and a Sugar Cane Archaeology representative as field director for the study at CS-6A. Williams Lake Indian Band participated in archaeology field studies for the entire footprint within their identified territory. Westcoast noted that the Projects are not impacting reserve lands. Westcoast has been advised by the BC Archaeology Branch that archaeological assessments are not required on previously constructed right-of-way. However, if artifacts are identified within the right-of-way through construction or other means, Westcoast recognizes the BC <i>Heritage Conservation Act</i> applies.</p> <p>Westcoast stated that AIAs conducted pursuant to the <i>Heritage Conservation Act</i> include the identification and documentation of both culturally modified trees</p>

	<p>(CMTs) and trails. If CMTs and/or trails are determined to predate 1846, they receive automatic protection under the <i>Heritage Conservation Act</i>. Westcoast understands that they can also be designated under section 13 based on heritage values. If CMTs and/or trails are found during an AIA that do not have protection (under the <i>Heritage Conservation Act</i>) these sites are still reported on in the AIA as post-1846 sites. Westcoast has not received any information regarding any previously unrecorded CMTs, trails or areas of cultural significance within the footprints of the Projects.</p> <p>In reply to Soda Creek Indian Band, Westcoast stated that it conducted a preliminary AIA for the CS-5 Project within Soda Creek Indian Band territory in October 2017. CS-5 is located on private land, owned in fee simple by Westcoast. This AIA was provided to Soda Creek Indian Band following completion. In September 2018, Westcoast conducted a secondary AIA at CS-5. Soda Creek Indian Band was invited to participate in the field work but was unable to attend.</p> <p>In reply to Williams Lake Indian Band's written evidence, Westcoast stated that the AIA process provides for the identification of post-1846 sites (such as post-1846 culturally modified trees) and further accommodates discussion between Westcoast and local Indigenous communities if such sites are identified. If such sites were to be identified for the Projects or sites that are the focus of traditional use or cultural importance to Williams Lake Indian Band or other potentially affected Indigenous communities, Westcoast would work with Williams Lake Indian Band (specifically, the Williams Lake Indian Band Field Director) to ensure these sites or any heritage resources potentially impacted are recorded and mitigated.</p>			
Views of the Board	<p>The Board acknowledges concerns raised by Williams Lake Indian Band and Soda Creek Indian Band, regarding the Projects effects on heritage resources on previously disturbed land. The Board notes Westcoast's efforts to involve Indigenous communities in activities related to the archeological impact assessment and also the heritage and cultural resources contingency plan. The Board finds that Westcoast's commitments and mitigation are reasonable. The Board imposes Condition 11 (Heritage Resources) requiring Westcoast to provide confirmation that it has obtained all required Provincial approvals to commence construction in the Projects areas and to comply with any recommendation the Province may make in regards to the same. Given the NEB's condition and Westcoast's proposed mitigation measures, the Board finds that the potential adverse effects of the Projects on heritage resources are not likely to be significant.</p>			
Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	short-term	Reversible	Local Study Area	Low
	Adverse Effect			
	Not likely to be significant			

8.5.3.6 Traditional Land Use

<p>Background/Issues Views of the Parties</p>	<p>Soda Creek Indian Band, in Oral Indigenous Knowledge, raised concerns about the existing pipeline such as increased access to hunting areas, safety concerns and emergency processes, visual impacts of the pipeline right-of-way markings on reserve, effects of the pipeline on wildlife and therefore hunting.</p> <p>Soda Creek Indian Band stated that there has not been a Traditional Use Study done for the T-South System through their traditional territory. Soda Creek Indian Band is of the view that a Traditional Use Study should be conducted to help describe the impacts of the Projects on Soda Creek Indian Band title and rights.</p> <p>?Esdilagh First Nation stated that completion of a Traditional Use Study of the Caretaker Area is essential to recording how ?Esdilagh and Tâilhqot'in people use the land and water within the Caretaker Area.</p> <p>Shackan Indian Band filed a comment letter on the Board's record to the attention of Westcoast, outlining traditional use in the area and requesting capacity funding to support a socio-economic cultural impact assessment and analysis of the T-South Program.</p> <p>Papaschase First Nation, during Oral Indigenous Knowledge, stated that their members still adhere to the Cree culture – gathering medicines and herbs; and that a lot of people still adhere to the traditions and still hunt, fish and gather.</p> <p>Williams Lake Indian Band raised concerns in written evidence regarding areas unavailable for use as those areas are on private property, loss of traditional knowledge, and cumulative effects of the loss of land.</p>
<p>Proposed Mitigation</p>	<p>Westcoast stated that Traditional Land Use studies were offered for the CS-4A and CS-5 Compressor Station upgrade sites, but communities have not put forward any proposals to complete Traditional Land Use studies and no studies have been completed to date. Westcoast further stated that funding for a Traditional Land Use study was offered to the Williams Lake Indian Band for CS-6A in conjunction with potential pipeline looping which has since been removed from the scope of the Project. Williams Lake Indian Band completed the study of the potential pipeline area, but did not conduct a Traditional Land Use study at the CS-6A Compressor Station location. Westcoast stated that since no Traditional Land Use studies have been completed at CS-4A, CS-5 of CS-6A, there have been no identified impacts on Traditional Land Use activities or proposed mitigation measures.</p> <p>Westcoast stated, in reply to Soda Creek Indian Band, that it does not believe that a Traditional Use Study specific to the CS-5 Project is necessary given that the current land use at the CS-5 Project site is incompatible with any traditional use, and the land is not currently being used for the purposes of exercising traditional rights. That said, Westcoast understands Soda Creek Indian Band's desire to complete a Traditional Use Study within their traditional territory and has offered to provide capacity funding towards a Traditional Use Study in a culturally sensitive area identified by Soda Creek Indian Band, such as Blue Lake. For the CS-5 Project, which is within Soda Creek Indian Band Traditional Territory, Westcoast has provided opportunities to address potential impacts and address concerns raised by Soda Creek Indian Band through means other than a Traditional Use Study such as a site tour of CS-5 on 10 September 2018, and various meetings and presentations.</p>

	<p>In reply to Papaschase First Nation Oral Indigenous Knowledge, Westcoast acknowledged that Papaschase First Nation members use plants for medicine and that moose meat, fish and berries provide food for their members; however, given the size and scope of the Projects, current land use at the sites for the Projects is incompatible with any traditional use. Westcoast stated it will continue to engage with Papaschase First Nation should they have specific information regarding how they may be impacted by the Projects so any potential mitigation measures may be applied as appropriate.</p> <p>Westcoast stated, in reply to ?Esdilagh, that it understands ?Esdilagh's desire to complete a Traditional Land Use study in the Caretaker Area and has offered to provide capacity funding towards such a Traditional Land Use study. Westcoast agrees to work with ?Esdilagh to understand and address information in the Traditional Land Use study as it applies to the CS-5 Project within the ?Esdilagh Caretaker Area. Westcoast noted that ?Esdilagh acknowledged the completion of an AIA by a qualified archaeologist for the CS-5 Project, with participation in the field from T̓silhqot'in Nation on behalf of ?Esdilagh, who identified an area of moderate archaeological potential adjacent to CS-5. Westcoast proposed to install temporary fencing around the area to help ensure avoidance. Westcoast completed an AIA for the CS-5 Project. If further archaeological assessments are required, Westcoast committed to working with ?Esdilagh to enable their participation in those studies. Westcoast also committed to engaging with ?Esdilagh regarding support for an ?Esdilagh Land Guardian for future Westcoast project activities within the ?Esdilagh Caretaker Area when working in areas of cultural significance.</p>
Views of the Board	<p>The Board notes that a number of Indigenous communities stated that the effects of the Projects on Traditional Land Use are related to effects of the existing pipeline on Traditional Land Use. The Board is of the view that effects from the existing pipeline are outside of the scope of the Board's assessment of Westcoast's proposal for compressor station upgrades.</p> <p>Regarding the effects of the Projects on traditional land use, the Board notes that the construction footprints for all Projects, except for CS-3, would be located entirely within Westcoast-owned fee simple lands that are partially disturbed. And for construction at CS-3, Westcoast stated that it must acquire 0.21 ha of new lands from Pembina Pipeline Corporation. Given the lack of ability for Indigenous peoples to use these lands for traditional purposes, the Board finds that Westcoast adequately responded to the concerns raised by Indigenous communities (e.g., Westcoast stated that Traditional Land Use studies were offered for the CS-4A and CS-5 compressor station upgrade sites). In addition, Westcoast was responsive to the concerns raised by Indigenous communities (e.g., offered capacity funding towards Traditional Use Studies for culturally sensitive areas not affected by the Projects, conducted a site tour, and included participation of Indigenous peoples in the field work for the AIA). Therefore, the Board is of the view that there is not likely to be any significant adverse effects on current use of lands and resources for traditional purposes by Indigenous peoples as a result of the Projects.</p>

Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	short-term	Reversible	Local Study Area	Low
	Adverse Effect			
	Not likely to be significant			

8.6 Cumulative Effects Assessment

The Board considered the potential effects of the Projects on the bio-physical and socio-economic elements noted in Section 8.5. The Board's assessment identified no residual effects for soils, vegetation, water, wildlife, or species at risk due to the construction and operation of the Projects. The Board assessed the predicted residual effects and proposed mitigation measures for wetlands at CS-6A, and on air emissions and the acoustic environment for the Projects.

Views of Participants

Williams Lake Indian Band described widespread landscape alteration in its traditional territory due to wildfire events in 2017. Williams Lake Indian Band identified fire-related effects to forests, soils, native plants, wildlife populations, springs, and increased weed presence and flood risk. Williams Lake Indian Band is concerned that construction activities at CS-6A, that includes removal of a wetland, timber removal, and brushing, will result in negative effects on the surrounding landscape, and that increased construction traffic will effect wildlife and result in more dust and spread weeds. Given that the area is still recovering from the 2017 wildfires, coupled with the lack of landscape change information, Williams Lake Indian Band stated that it's not certain how the Projects will impact the environment.

Westcoast's Reply

Westcoast stated that it recognizes the impact to wildlife habitat as a result of the wildfires in the region is a significant concern to Williams Lake Indian Band. Westcoast states that its environmental consultant undertook field studies at CS-6A in May 2018 after the 2017 wildfires. CS-6A is located just outside the 2017 wildfire burn area and was not directly affected by the wildfires. Having heard Williams Lake Indian Band's concerns regarding new development and potential impacts of such development on wildlife given the impacts caused by the wildfires, Westcoast recognizes that it is important to retain green forest in adjacent areas of the wildfire for wildlife habitat. The clearing required for the Expansion and Reliability Project and road access into CS-6A is in an area that has been previously logged and is only sparsely vegetated. The access road to CS-6A traverses the edge of a densely forested area in the southwest corner of the property. This densely forested area within the Westcoast property will be retained. Westcoast believes the proposed wildlife mitigation measures described in response to NEB IR No. 4.13 and outlined in the Project EPP are appropriate, and no residual impacts are anticipated. Westcoast stated its commitment to further engage with Williams Lake Indian Band to discuss potential tree planting or other measures that may address concerns related to wildfire impacts.

Views of the Board

The Board acknowledges Williams Lake Indian Band's concerns regarding natural habitat loss in the CS-6A study area due to the 2017 wildfires. The Board has assessed the potential environmental effects due to the construction and operation of CS-6A and finds that, besides effects on wetlands, there will be no residual effects on biophysical components as a result of the Projects. Westcoast's commitment to offset residual effects on wetlands through implementation of a voluntary wetland enhancement strategy as discussed in subsection 8.5.3.1, in consultation with ECCC and Williams Lake Indian Band, will likely prevent potential cumulative effects of the Projects on wetlands.

The Board has considered the potential for cumulative environmental effects for all valued components having residual effects and determined that they would be negligible to temporary, localized, and minor in magnitude. Therefore, it is unlikely that there would be any significant cumulative environmental effects resulting from these Projects.

8.7 EA Conclusion

The NEB is of the view that overall, with the implementation of Westcoast's environmental protection procedures and mitigation and the Board's recommended conditions, the Projects are not likely to cause significant adverse environmental effects.

Appendix I

List of Issues

The Board identified, but did not limit itself to, the following issues for consideration in the hearing with respect to the construction and operation of the proposed Projects:

1. The need for the Projects.
2. The economic feasibility of the Projects.
3. The potential commercial impact of the Projects.
4. The toll and tariff methodology.
5. The potential environmental and socio-economic effects of the proposed Projects, as set out in the NEB's Filing Manual.
6. The appropriateness of the land requirements for the Projects.
7. The engineering design and integrity of the Projects.
8. Potential impacts of the Projects on the interests of Indigenous peoples, including potential impacts on Indigenous and Treaty rights.
9. Potential impacts of the Projects on landowners and land use.
10. Contingency planning for spills, accidents or malfunctions, during construction and operation of the Projects.
11. Safety and security during construction of the proposed Projects and operation of the Projects, including emergency response planning and third-party damage prevention.
12. The terms and conditions to be included in any approval the Board may issue.

Appendix II

Rulings and Procedural Updates

Date	Filing ID	Description
13 December 2018	A96658	Board Ruling No. 1: <ul style="list-style-type: none"> established the Applications were complete and could proceed through the assessment process; and granted intervenor status to parties that had submitted comments on the applications (Powerex, Macquarie, BP Canada and Ms. Vicki Best).
22 January 2019	A97556	Board Ruling No. 2: <ul style="list-style-type: none"> established the List of Parties (comprised of Westcoast and Intervenors) and the List of Commenters for the GHW-002-2018 proceeding. The Board denied standing to Pacific Northern Gas.
28 January 2019	A97682	Board Ruling No. 3: <ul style="list-style-type: none"> granted Intervenor status to Pacific Northern Gas.
22 March 2019	A98474	Board Procedural Update No. 1: <ul style="list-style-type: none"> provided a process step for the sharing of oral Indigenous knowledge on 24 April 2019; provided a process step for Letters of Comment to be filed on 10 April 2019; and provided an amended date of 8 May 2019 for Reply Evidence.
1 April 2019	A98574	Board Ruling No. 4: <ul style="list-style-type: none"> granted a motion by one Intervenor, Ms. Vicki Best, to file late written evidence on 25 February 2019.
16 April 2019	A98894	Board Ruling No. 5: <ul style="list-style-type: none"> revised the schedule and location to hear oral Indigenous knowledge on 22 May 2019 in Quesnel, BC, in response to a motion by Soda Creek Indian Band.
26 April 2019	A99084	Board Procedural Update No. 2: <ul style="list-style-type: none"> provided a process step for oral cross-examination on 18 June 2019; and

		<ul style="list-style-type: none"> provided amended dates for written final argument.
17 May 2019	A99489	Board Ruling No. 6: <ul style="list-style-type: none"> revised the schedule on 22 May 2019 in response to a motion for Papaschase First nation requesting the opportunity to provide oral Indigenous knowledge.
28 May 2019	A99596	Board Procedural Update No. 3: <ul style="list-style-type: none"> provided additional information on the oral cross-examination which was held on 18 June 2019; and confirmed the amended date of 3 June 2019 for Reply Evidence.
29 May 2019	A99626	Board Procedural Update No. 4: <ul style="list-style-type: none"> provided and amended tentative schedule for oral cross-examination on 18 June 2019.
7 June 2019	A99834	Board Ruling No. 7: <ul style="list-style-type: none"> accepted a written summary of oral Indigenous knowledge filed by Soda Creek Indian Band on 28 May 2019 as evidence properly filed on the record for the hearing.
10 June 2019	A99855	Board Procedural Update No. 5: <ul style="list-style-type: none"> provided an amended tentative schedule for oral cross-examination on 18 June 2019.

Appendix III

Westcoast's Consultation with Indigenous Communities

Indigenous Community	Expansion and Reliability Project	CS-4A Project	CS-5 Project	CS-3 Project
?Esdilagh First Nation (Alexandria First Nation)	X		X	
Adams Lake Indian Band (Sexqeltqin)	X			
BC Métis Federation	X	X	X	X
Blueberry First Nation	X			X
Bonaparte Indian Band	X			
Boston Bar First Nation	X			
Canim Lake First Nation	X		X	
Canoe Creek First Nation (Stswecem'c Xgat'tem First Nation]	X		X	
Carrier Chilcotin Tribal Council	X	X		X
Carrier Sekani Tribal Council	X			
Chawathil First Nation	X			

Indigenous Community	Expansion and Reliability Project	CS-4A Project	CS-5 Project	CS-3 Project
Coldwater First Nation	X			
Dene Tha' First Nation	X			X
Doig River First Nation	X	X		X
Duncan's First Nation	X	X		X
Esk'etemo First Nation	X		X	
Fort Nelson First Nation	X	X		X
Halfway River First Nation	X	X		X
High Bar First Nation	X		X	
Horse Lake First Nation	X			X
Kelly Lake Cree Nation	X	X		X
Kelly Lake First Nation	X	X		X
Kelly Lake Métis Settlement Society	X			
Lheidli T'enneh First Nation	X	X		
Lhoosk'uz Dené Nation	X		X	

Indigenous Community	Expansion and Reliability Project	CS-4A Project	CS-5 Project	CS-3 Project
Lhtako Dene Nation (Red Buff Indian Band)	X		X	
Lower Nicola Indian Band	X			
Métis Nation of British Columbia	X	X	X	X
Métis Nation of British Columbia – North Central Region	X	X	X	X
Moccasin Flats Metis Society	X			X
Neskonlith Indian Band	X			
Nooaitch First Nation	X			
North Thompson River Indian Band (Simpchw)	X			
Northern Secwepemc te Qelmucw Nation	X		X	
O'Chiese First Nation	X	X	X	X
Papaschase First Nation	X	X	X	X
Prophet River First Nation	X	X		X
Saulteau First Nations	X	X		X

Indigenous Community	Expansion and Reliability Project	CS-4A Project	CS-5 Project	CS-3 Project
Shackan First Nation	X			
Shuswap First Nation (Secwepemc Nation)	X			
Shuswap Nation Tribal Council	X			
Simpcw First Nation	X			
Skeetchestn Indian Band	X			
Skwłax (Little Shuswap) First Nation	X			
Soda Creek Indian Band	X		X	
Splatsin (Spallumcheen) Band	X			
Stk'emlupsemc te Secwepemc Nation	X			
Tk'emlúps te Secwepemc (Kamloops Indian Band)	X			
Toosey (Tl'esqox) First Nation	X		X	
Treaty 8 Tribal Association	X	X		X

Indigenous Community	Expansion and Reliability Project	CS-4A Project	CS-5 Project	CS-3 Project
Tsek'hene First Nation (McLeod Lake Indian Band)	X	X		X
Tsi Del Del (Alexis Creek, Redstone Band) First Nation	X		X	
Tsilhqot'in National Government	X		X	
West Moberly First Nation	X	X		X
Whispering Pines/Clinton Indian Band	X		X	
Williams Lake Indian Band	X		X	
Yunesit'in (Stone) First Nation	X		X	

Appendix IV

Conditions

The terms used in this appendix have been defined in the Glossary at the beginning of this Report.

General

1. *Condition Compliance*

Westcoast must comply with all of the conditions contained in this Order, unless the Board otherwise directs.

2. *Design, Construction and Operation*

Westcoast must cause the Project to be designed, located, constructed, installed and operated in accordance with the specifications, standards, commitments made, and other information referred to in its application or as otherwise agreed to during questioning or in its related submissions.

3. *Environmental Protection*

Westcoast must 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 or as otherwise agreed to during questioning or in its related submissions.

4. *New Edition of CSA Z662*

Westcoast must file with the Board, **within 30 days after receiving approval for the Project:**

- a) updated information which complies with CSA Z662-19 for each phase of the Project from design to operation;
- b) updated information which complies with CSA Z662-19 for each instance where the Application relies on CSA Z662; and
- c) an explanation for phases and instances where updated information will not be filed.

5. *Environmental Protection Plan*

- a) Westcoast must file with the Board, **at least 30 days prior to commencing construction**, a Project-specific Environmental Protection Plan (EPP), which it has committed to implement. The EPP must describe all environmental protection procedures, and mitigation and monitoring commitments, as set out in Westcoast's application and subsequent filings or as agreed to during questioning. Westcoast must not deviate from the terms of the filed EPP without prior approval from the Board;
- b) Westcoast must notify potentially impacted parties or interested persons and Indigenous communities when the EPP is filed with the Board and provide them with the electronic link on the NEB website to its EPP;

- c) **Within 7 days after filing the EPP with the Board**, Westcoast must file confirmation that, as required by paragraph 5(b), it notified potentially impacted parties or interested persons and Indigenous communities when the EPP was filed with the Board and provided them with the electronic link on the NEB website to its EPP.

6. ***Commitments Tracking Table***

- a) Westcoast must file with the Board, and post on its T-South Reliability and Expansion Program website, **at least 30 days prior to commencing construction**, a Commitments Tracking Table (CTT) listing all commitments made by Westcoast in its application, or otherwise agreed to during questioning or in its submissions in the Board's GHW-002-2018 hearing process, including all commitments made to Indigenous peoples, and that includes references to:
 - i. the documentation in which the commitment appears (for example, the Application, responses to information requests, hearing transcripts, permit requirements, condition filings, or other);
 - ii. the accountable lead for implementing each commitment; and
 - iii. the estimated timelines associated with the fulfillment of each commitment.
- b) Westcoast must update the status of the commitments in paragraph a) on its Project website and file these updates with the Board on a:
 - i. monthly basis until commencing operations; and
 - ii. quarterly basis until the end of the fifth year following the commencement of operations; and
- c) Westcoast must maintain at its construction office(s):
 - i. the CTT listing all regulatory commitments and their completion status, including those commitments resulting from Westcoast's application and subsequent filings and conditions from permits, authorizations and approvals;
 - ii. copies of any permits, approvals or authorizations 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 permits, approvals or authorizations in paragraph c) ii).

7. ***Construction Safety Plan***

Westcoast must file with the Board, **at least 30 days prior to commencing construction**, a site-specific Construction Safety Plan for each pipeline compressor station construction site, to be implemented during construction, which must include:

- a) a plan for spills of fuels and fluids associated with construction;
- b) a medical plan that provides for treatment, transport and emergency evacuation during construction work hours;

- c) a communications and response plan for fire and evacuation; and
- d) a plan and procedures for reporting qualifying incidents through the Online Event Reporting System (OERS) to the Board.

8. ***Emergency Management Continuing Education Program***

Westcoast must file with the Board, **at least 30 days prior to commencing construction**, a plan (Plan) for the development of a continuing education program for the T-South Project (Program) as required by section 35 of the OPR. The Plan must include:

- a) a list of potentially affected Indigenous communities, first responders (e.g. police, fire departments, medical facilities), and any other appropriate organizations, government authorities and agencies (e.g. municipalities) that have been identified for consultation;
- b) the goals, principles and objectives for consultation for the development of the Program;
- c) a description of how information provided by potentially affected Indigenous communities, first responders or any other appropriate organizations, government authorities and agencies will be incorporated into the Program, including a description of Westcoast's procedure to communicate to potentially affected parties how their information will be incorporated into the Program and justification for why any information may not have been incorporated into the Program;
- d) a description of how the Program information would be communicated or distributed to potentially affected Indigenous communities, first responders, and any other appropriate organizations, government authorities and agencies, including how Westcoast will address any requests from potentially affected Indigenous communities to have Program information translated into the local Indigenous language; and
- e) a summary of the information to be included in the Program, including:
 - i. potential emergency situations involving the pipeline;
 - ii. the safety procedures to be followed in the case of an emergency;
 - iii. the methods by which potentially affected Indigenous communities, first responders, and any other appropriate organizations, government authorities and agencies can contact Westcoast in the case of an emergency situation; and
 - iv. the methods by which Westcoast can contact potentially affected Indigenous communities, first responders, and any other appropriate organizations, government authorities and agencies in the case of an emergency situation.

9. ***Consultation with Indigenous Peoples***

Westcoast must file with the Board, **at least 30 days prior to commencing construction**, a report summarizing Westcoast's engagement with all potentially impacted Indigenous communities identified regarding the Project and Project-specific construction and operations plans. The consultation summary report must include:

- a) the methods, dates and locations of consultation activities, including site visits if applicable;
- b) a summary of any concerns and comments raised by the Indigenous communities;
- c) how Westcoast has addressed or will address the concern(s) and comments raised;
- d) a description of any outstanding concern(s); and

- e) how Westcoast intends to address any outstanding concerns, or an explanation why no further steps are required.

10. **Public Consultation**

Westcoast must file with the Board, at least 30 days prior to commencing construction, an updated public consultation summary report on outstanding concerns identified regarding the Project and Project-specific construction and operations plans. The public consultation summary report must include:

- a) the methods, dates and locations of consultation activities;
- b) a description of the comments and concerns expressed by potentially affected landowners, municipalities and other stakeholders;
- c) a description of the response made regarding each of the concerns or comments;
- d) a description of any outstanding concerns;
- e) how input from persons or groups has influenced the design or operation of the Project; and
- f) how Westcoast intends to address any outstanding concerns, or an explanation why no further steps are required.

11. **Heritage Resources**

Westcoast must file with the Board, at least 14 days prior to commencing construction:

- a) confirmation that Westcoast has obtained all required archaeological and heritage resource clearances and authorizations from the British Columbia Archaeology Branch;
- b) a description of how Westcoast will meet conditions and recommendations contained in the clearances and authorizations referred to in paragraph a); and
- c) a description of how Westcoast has incorporated additional mitigation measures as applicable, into its EPP as a result of conditions or recommendation referred to in paragraph b).

12. **Construction Schedule**

Westcoast must, **at least 14 days prior to the commencement of construction of the approved facilities**, file with the Board a detailed construction schedule or schedules identifying major construction activities and must notify the Board of any modifications to the schedule or schedules **as they occur**.

13. **Low Pressure Auxiliary and Utility Piping Systems Non Destructive Examination (NDE)**

- a) Westcoast must conduct NDE (use of a visual method is not permitted) on a minimum of 15% of welds made each day on the following low pressure auxiliary and utility piping systems:
 - i. fuel gas (auxiliary);
 - ii. instrument air;
 - iii. utility air;

- iv. lube oil;
 - v. low pressure vents;
 - vi. utility head medium;
 - vii. potable water; and
 - viii. hydrocarbon drains.
- b) Westcoast must file with the Board, **at the same time that it files its final Leave to Open application**, confirmation that it has conducted the NDE specified in paragraph 13 (a).

14. *Field Emergency Response Plan and Corporate Emergency Management Manual*

Westcoast must file with the Board, **within 30 days after the date that the approved Project is placed in service**:

- a) confirmation that the relevant site-specific Field Emergency Response Plan has been reviewed and updated to reflect the Project; and
- b) confirmation that the Corporate Emergency Management Manual has been reviewed and updated as required to reflect the NEB Event Reporting Guidelines and OERS as revised 1 April 2018.

15. *Condition Compliance by the Accountable Officer*

Within 30 days after the date that the approved Project is placed in service, Westcoast must file with the Board a confirmation that the approved Project was completed and constructed in compliance with all applicable conditions in this Order. If compliance with any of these conditions cannot be confirmed, Westcoast must file with the Board details as to why compliance cannot be confirmed. The filing required by this condition must include a statement confirming that the signatory to the filing is the accountable officer of Westcoast, appointed as Accountable Officer pursuant to section 6.2 of the OPR.

16. *Hazardous Situation Identified in Inspection Officer Order NB-001-2018*

Westcoast must file with the Board, at least 60 days prior to the approved Project being placed in service:

- a) an explanation of how the operation of the Project, specifically the addition of compressor units, horsepower and flow, impacts the integrity of the hazardous situation identified in Inspection Officer Order NB-001-2018 of the NPS 36 L2 located between Station 2B to the Huntington Meter Station; and
- b) a description of actions Westcoast is, or will be taking, to address impacts identified in part a) above, that negatively affect or decrease the integrity of the hazardous situation identified in Inspection Officer Order NB-001-2018 of the NPS 36 L2 located between Station 2B to the Huntington Meter Station.

17. *Transportation Safety Board of Canada Pipeline Investigation Report*

Westcoast must file with the Board, within 60 days after the issuance of the Pipeline Investigation Report by the Transportation Safety Board of Canada on the

T-South pipeline rupture that occurred on 9 October 2018 (Pipeline Investigation Report):

- a) an explanation of how the operation of the Project, specifically the addition of compressor units, horsepower and flow, impacts the integrity of the T-South System with regards to the nature of the rupture as identified in the Pipeline Investigation Report; and
- b) an explanation of how the recommendations that are made to Westcoast in the Pipeline Investigation Report will be incorporated into the Project or an explanation why no further actions are required.

18. *Notice of Measures Satisfied and Transportation Safety Board of Canada Pipeline Investigation Report Update*

- Westcoast must file with the Board, **at the same time that it files its final Leave to Open application**, an update with regards to Condition 16 (Hazardous Situation Identified in Inspection Officer Order NB-001-2018) and Condition 17 (Transportation Safety Board of Canada Pipeline Investigation Report).

19. *Project Commencement*

If Westcoast does not commence construction on or before 26 August 2022, Westcoast must file with the Board on or 2 September 2022 the rationale for having not commenced the Project. The filing required by this condition must include a statement confirming that the signatory to the filing is the accountable officer of Westcoast, appointed as Accountable Officer pursuant to section 6.2 of the OPR.

20. *Sunset Clause*

This Order expires on 26 August 2022, unless construction in respect of the Project has commenced by that date.

Appendix V

Comments on Conditions

NEB Condition or Proposed New Condition	Summary of Comments from Intervenor on NEB Draft Conditions and Proposed New Condition	NEB Response to the Comments from Intervenor
<i>Condition Compliance</i>	N/A	N/A
<i>Design, Construction and Operation</i>	N/A	N/A
<i>Implementation of Environmental Protection</i>	N/A	N/A
<ul style="list-style-type: none"> Environmental Protection Plan 	N/A	N/A
<ul style="list-style-type: none"> Commitments Tracking Table 	N/A	N/A
<ul style="list-style-type: none"> Construction Safety Manual 	<p>Westcoast recommended changing the wording from a Construction Safety Manual to a Construction Safety Plan, as the Construction Safety Manual is already on file with the Board.</p> <p>Westcoast submitted the Construction Safety Plans will include a medical plan that provides for treatment, transport and emergency evacuation during all hours that construction activities are taking place. These sites remain in operation 24 hours per day, even when construction activities cease, and have their own</p>	The Board has made modifications to the condition to incorporate suggestions from Westcoast.

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Draft Conditions and Proposed New Condition	NEB Response to the Comments from Intervenors
	medical plan that provides for treatment, transport and emergency evacuation procedures that apply to operations personnel.	
<ul style="list-style-type: none"> Emergency Management Program – Project Plan 	<p>Westcoast proposes the condition be revised as indicated to distinguish between the plan required by Condition 7 and the continuing education program to be developed in accordance with the plan required by Condition 7. Westcoast also proposes the language be revised so it is clear the “continuing education program” is to be consistent with s. 35 of the <i>National Energy Board Onshore Pipeline Regulations</i>, SOR/99-294. Additional wording was also proposed for c) for clarity.</p>	<p>The Board has made modifications to the condition to incorporate suggestions from Westcoast.</p>
<ul style="list-style-type: none"> Consultation with Indigenous Communities 	<p>Westcoast states that it is working with Indigenous peoples to arrange site visits which will be subject to reaching agreement with the Indigenous peoples on logistics and other terms, and therefore recommends adding the wording “if applicable” to a)</p>	<p>The Board has made modifications to the condition to incorporate suggestions from Westcoast.</p>
<ul style="list-style-type: none"> Public Consultation 	N/A	N/A
<ul style="list-style-type: none"> Complaint Tracking 	N/A	<p>The Board decided not to impose this condition because issues raised by Vicki Best, an Intervenor in the process, have been fully addressed by Westcoast and Ms. Best and Westcoast have come to an agreement. If there are complaints from other nearby residents, the Board notes that NEB programs such as Alternative Dispute Resolution and Landowner Complaint process are available to Parties.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Draft Conditions and Proposed New Condition	NEB Response to the Comments from Intervenors
<ul style="list-style-type: none"> Heritage Resources 	N/A	N/A
<ul style="list-style-type: none"> Construction Schedule 	N/A	N/A
<ul style="list-style-type: none"> Project Commencement 	Westcoast states that Conditions 13 and 14 appear to be redundant, and requests that the Board consider whether both conditions are necessary or if they can be combined.	The Board has decided to keep the Project Commencement and Sunset Clause conditions as separate conditions. The Board has set the deadline for the filing from the Accountable Officer as one week after the expiry date in the Sunset Clause.
<ul style="list-style-type: none"> Sunset Clause 	Edits have been proposed by Westcoast as to how Conditions 13 and 14 may be combined to reflect the intent of the Board.	The Board has decided to keep the Project Commencement and Sunset Clause conditions as separate conditions.
<ul style="list-style-type: none"> Field Emergency Response Plan and Corporate Emergency Management Manual 	N/A	N/A
<ul style="list-style-type: none"> Condition Compliance by the Accountable Officer 	N/A	N/A
<ul style="list-style-type: none"> Hazardous Situation Identified in Inspection Officer Order NB-001-2018 	<p>Westcoast proposes that “identified in part a) above, a description of actions Westcoast is, or will be taking, to address those impacts” be added to b) for additional clarity.</p> <p>Powerex submits that this condition puts the cart before the horse since there is significant uncertainty surrounding the cause and future implications of the</p>	<p>The Board has made modifications to the condition to improve clarity as suggested by Westcoast.</p> <p>With respect to Powerex's submission, This matter is addressed in Sections 3.2 and 4.4 of the Report.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Draft Conditions and Proposed New Condition	NEB Response to the Comments from Intervenors
	October incident. The TSB pipeline investigation report may find that the causes or impacts are uncertain.	
<ul style="list-style-type: none"> Transportation Safety Board of Canada Pipeline Investigation Report 	<p>Powerex would like Westcoast to be solely responsible for any investment decisions made prior to the release of the TSB report and directions from the NEB following the results of Westcoast's inspection and EA programs. Powerex also submits that this condition puts the cart before the horse since there is significant uncertainty surrounding the cause and future implications of the October incident. The TSB pipeline investigation report may find that the causes or impacts are uncertain.</p>	<p>This matter is addressed in Sections 3.2 and 4.4 of the Report.</p>
<ul style="list-style-type: none"> Notice of Measures Satisfied and Transportation Safety Board of Canada Pipeline Investigation Report Update 	<p>Westcoast proposes that, as it has requested an exemption from the provisions of subsection 47(1) of the NEB Act in respect of the requirement to obtain leave to open for the Project, the submission timing be changed to "at least 30 days prior to the approved Project being placed in service."</p>	<p>The proposed wording change is not necessary as the Board has not granted exemption from leave to open for the Projects.</p>
<p>Proposed New Condition</p> <ul style="list-style-type: none"> Pre-construction Plan 	<p>Papaschase First Nation (PCN) proposed a new condition that Westcoast file a pre-construction plan for identifying potentially affected PCN traditional land use sites or resources that are adjacent to the Project, prepared in consultation with PCN.</p> <p>Westcoast submits that the condition is unnecessary because of Westcoast's commitments to mitigate any specific concerns raised by PCN and to continue to engage with Indigenous peoples. Westcoast further submits that NEB conditions 5 and 8 impose reporting requirements on Westcoast regarding its ongoing Indigenous engagement, further negating the requirement for PCN's proposed conditions.</p>	<p>The Board is of the view that the proposed condition is not required. Given the scope and scale of the Projects, the Board is of the view that Project-related effects are not likely to affect traditional land use sites or resources that are adjacent to the Projects. The Board notes Westcoast's commitment to mitigate any specific concerns raised by PCN and to continue to engage with Indigenous peoples, and refers to Conditions 5 and 8 the Board will impose to ensure Westcoast's commitments toward mitigation and further consultation with PCN are fulfilled.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Draft Conditions and Proposed New Condition	NEB Response to the Comments from Intervenors
<p>Proposed New Condition</p> <ul style="list-style-type: none"> Pre-construction Traditional Land Use (TLU) Investigations 	<p>PCN proposed a new condition that Westcoast file a report describing the pre-construction traditional land use investigations undertaken.</p> <p>Westcoast submits that the condition is unnecessary because of Westcoast's commitments to mitigate any specific concerns raised by PCN and to continue to engage with Indigenous peoples. Westcoast further submits that NEB conditions 5 and 8 impose reporting requirements on Westcoast regarding its ongoing Indigenous engagement, further negating the requirement for PCN's proposed conditions.</p>	<p>The Board is of the view that the proposed condition is not required. The Board notes Westcoast's commitment to continue to engage with PCN should they have specific information regarding how they may be impacted by the Projects so any potential mitigation measures may be applied as appropriate. The Board also notes that given the existing state of the Projects' lands, that traditional land use at the sites would be incompatible with current use of the sites.</p>
<p>Proposed New Condition</p> <ul style="list-style-type: none"> Protection of Rare, Unique or Significant Localized Plant Communities 	<p>PCN proposed a new condition that Westcoast avoid or protect rare, unique or significant localized plant communities that are central to PCN's traditional practices located adjacent to the Project.</p> <p>Westcoast submits that the condition is unnecessary because of Westcoast's commitments to mitigate any specific concerns raised by PCN and to continue to engage with Indigenous peoples. Westcoast further submits that NEB conditions 5 and 8 impose reporting requirements on Westcoast regarding its ongoing Indigenous engagement, further negating the requirement for PCN's proposed conditions.</p>	<p>The Board is of the view that the proposed condition is not required. The Board notes Westcoast's commitment to continue to engage with PCN should they have specific information regarding how they may be impacted by the Projects so any potential mitigation measures may be applied as appropriate. The Board also notes that if rare plant species are discovered during construction, Westcoast has committed to notify the Environmental Inspector, as described in the EPP, and additional mitigation may be required as provided by the Environmental Inspector.</p>
<p>Proposed New Condition</p> <ul style="list-style-type: none"> Monitoring Program 	<p>PCN proposed a new condition that Westcoast file a monitoring program that would include a description of how Westcoast took Aboriginal traditional knowledge and TLU studies into consideration in developing the program, and that the program be prepared in consultation with PCN.</p>	<p>The Board is of the view that the condition is not required because the Projects are located on existing private and previously partially disturbed lands.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Draft Conditions and Proposed New Condition	NEB Response to the Comments from Intervenors
	Westcoast submits that the condition is not required given the scale and scope of the Projects, including the fact that they are all located on private land.	
Proposed New Condition <ul style="list-style-type: none"> Access Management Plan 	PCN proposed a new condition that Westcoast file an access management plan. Westcoast submits that the condition is unnecessary because of Westcoast's commitments to mitigate any specific concerns raised by PCN and to continue to engage with Indigenous peoples. Westcoast further submits that NEB conditions 5 and 8 impose reporting requirements on Westcoast regarding its ongoing Indigenous engagement, further negating the requirement for PCN's proposed conditions.	The Board is of the view that the proposed condition is not required. The Board notes that the majority of access to the Projects will be through existing public and industrial roads on Crown lands and on private property. As such the Projects will not create new access. Westcoast committed to develop Traffic Management Plans prior to construction to address additional construction traffic, and access to and from the Projects' sites.

Appendix VI

Summary of Concerns Raised by Indigenous Peoples, and Applicant and NEB Responses

This appendix provides a summary of the general and specific concerns and issues raised by Indigenous peoples through this proceeding, as well as summaries of the responses to these concerns provided by the applicant, responses by the board (including conditions), and applicable requirements provided through regulation and/or legislation. The issues and concerns include those raised directly by Indigenous peoples through their participation in the hearing, as well as summaries of Indigenous concerns and interest as recorded by the applicant in its evidence.

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
Westcoast's Indigenous Engagement				
Concerns about adequacy of Westcoast's Indigenous engagement efforts	?Esdilagh First Nation Williams Lake Indian Band Soda Creek Indian Band	Westcoast engaged Indigenous communities early in the plan phase of the Projects. Westcoast said it will continue to consult with potentially affected Indigenous communities through the lifecycles of the Projects. Westcoast also said it will engage potentially affected Indigenous peoples in ongoing dialogue and meaningfully consider and address information and concerns brought forward in the future.	The Board finds that Westcoast designed and implemented consultation activities that are appropriate for the size, scope and scale of the applied-for Projects. Given the importance of ongoing engagement and consultation activities with Indigenous communities, the Board imposes Condition 9 Consultation with Indigenous Peoples.	7.4.1
Crown Consultation				
Concerns about adequacy of Crown consultation.	?Esdilagh First Nation	Not applicable.	The Board sent notification of application (NoA) letters to the same Indigenous communities in British Columbia on 4 October 2018 as engaged by Westcoast providing a description	7.2 7.4.2

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
			<p>of the Projects and stating that if any of the communities have Project-related views or concerns that they have not been able to resolve with the company, to send a letter of comment to the NEB by 18 October 2018. The Board did not receive any responses to its NoA letters.</p> <p>On 18 October 2018, the Board notified Natural Resources Canada that the T-South Project Applications are believed to be in the Traditional Territory of the Dene Tha' First Nation and therefore may trigger obligations under the Federal Authorizations Consultation Protocol (Annex Two), pursuant to the Canada – Dene Tha' First Nation Settlement Agreement 2007.</p> <p>Natural Resources Canada issued a letter dated March 25, 2019 to advise that the federal Crown would, to the extent possible, rely on the NEB process to fulfill its duty to consult regarding the Projects. The Board provided the letter to potentially affected Indigenous communities on each of 16 and 22 May 2019.</p> <p>The Board is of the view that there has been adequate consultation and accommodation for the purpose of the Board's decision on the Projects.</p>	

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
Projects' Effects on Traditional Land Use				
Concerns regarding effects of the Project on Traditional Land Use including hunting, fishing, and gathering, loss of traditional knowledge and cumulative loss of land.	?Esdilagh First Nation Papaschase First Nation Shackan Indian Band Williams Lake Indian Band Soda Creek Indian Band	Westcoast acknowledged traditional land use concerns, and stated that, given the size and scope of the Projects, current land use at the sites for the Projects is incompatible with any traditional land use, and the land is not currently being used for the purposes of exercising traditional rights.	The Board notes that a number of concerns raised by Indigenous communities with respect to Project effects on Traditional Land Use are related to effects of the existing pipeline on Traditional Land Use. The Board is of the view that effects from the existing pipeline are outside of the scope of the Board's assessment of Westcoast's proposal for compressor station upgrades on existing disturbed private land. The Board is of the view that there is not likely to be any significant adverse effects on current use of lands and resources for traditional purposes by Indigenous peoples as a result of the Projects.	7.4.3
Economic Opportunities for Indigenous Communities				
Concerns regarding opportunities for employment, training and jobs for Indigenous communities.	?Esdilagh First Nation Papaschase First Nation Shackan Indian Band Williams Lake Indian Band Soda Creek Indian Band	Westcoast said that since 2017 it has implemented a process referred to as Socio-Economic Requirements of Contractors (SERC) when approaching the market for goods and services to support project and operational needs. Where Indigenous communities are proximate to the work being contemplated, Westcoast will engage those communities and gather or update information for businesses connected to or supported by those communities.	The Board acknowledges Westcoast's commitment to Indigenous employment through its SERC. The Board notes that the Projects are limited in scope and scale and are of the view that Westcoast's commitment to address Indigenous employment for the Projects is adequate.	7.4.4

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
Pipeline Integrity				
The increased volume of gas through the T-South System would overload the current design of the pipeline.	Williams Lake Indian Band	Westcoast is not proposing to increase the current maximum operating pressure or temperature of the T-South System in order to accommodate the additional gas volume and the system will continue to be operated within its current design limits.	The Board is satisfied with Westcoast's approach, and conclusions, of an engineering analysis of the pipeline hazards and analyzing the effect that the Projects will have on the hazards.	4.3.2
Westcoast operating within current design limits, including the increase in compressor horsepower, what the current design limits are and what Westcoast is doing to account for increasing wear and tear on the pipeline due to the Projects.	Soda Creek Indian Band	Westcoast is not proposing to increase the current maximum operating pressure or temperature of the T-South System in order to accommodate the additional gas volume and therefore the system will continue to be operated within its current design limits. Westcoast provided a representation of current operating ranges that are normal or typical, as well as ranges for what is anticipated after the completion of the Projects. Westcoast stated that changes to local pressures and temperatures resulting from the Projects are anticipated not to have a material effect on the growth rate of defects or the identification and categorization of defects for repair.	The Board is satisfied with Westcoast's approach, and conclusions, of an engineering analysis of the pipeline hazards and analyzing the effect that the Projects will have on the hazards.	4.3.2

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
T-South Pipeline Rupture				
Safety considerations related to the Projects, specifically the malfunction of, or damage to, Westcoast infrastructure, including pipeline ruptures, leaks, spills, fires, and transportation accidents.	?Esdilagh First Nation	Westcoast states that its Integrity Management Program and Safety Loss Management System are responsive to all integrity hazards and include mechanisms for constant evaluation and adjustment based on operating conditions. In addition to the integrity program, the pipeline system is monitored 24-hours a day by a control centre for pressure, temperature and operating states of the system using sophisticated equipment that can shut down the pipeline	The Board is satisfied that the Projects will be incorporated into Westcoast's IMP and Safety and Loss Management System as per NEB OPR and CSA Z662-19.	4.4.2
The effect the Projects will have on the life of the pipeline and how Westcoast is accommodating for this.	Soda Creek Indian Band	There is a maintenance program that includes regular internal pipeline inspections, aerial and ground right-of-way patrols, and preventive maintenance activities to monitor the life of the pipeline	The Board acknowledges that Westcoast will not change any of the operating limits for the T-South pipeline system that Westcoast has performed an engineering analysis of the projects and have come to the conclusion that the Projects will not have a material effect on the integrity of the T-South pipeline system.	4.4.2
The Project increasing the risk on SXFN traditional territory and that external investigators have not explained the rupture.	Stswecem'c Xgat'tem First Nation	Westcoast states that its Integrity Management Program and Safety Loss Management System are responsive to all integrity hazards and include mechanisms for constant evaluation and adjustment based on operating conditions. This combined with the thorough engineering analysis of all potential pipeline hazards and the effect that the Projects could have on those hazards, which concluded that the	The Board acknowledges the concerns expressed by the participants, and has imposed Conditions 16 (Hazardous Situation Identified in Inspection Officer Order NB-001-2018), 17 (Transportation Safety Board of Canada Pipeline Investigation Report) and 18 (Notice of Measures Satisfied and Transportation Safety Board of Canada Pipeline Investigation Report Update), requiring Westcoast to explain how the	4.4.2

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
		Projects have no material effect on pipeline integrity, is justification to approve the Projects irrespective of the findings of the Transportation Safety Board of Canada Pipeline Investigation Report.	operation of the Projects impacts integrity and what actions it is undertaking with respect to the T-South pipeline rupture that occurred on 9 October 2018.	
Environment Matters				
Project-related effects outside of disturbance footprint	Williams Lake Indian Band	Westcoast stated that specific spatial boundaries for the Projects were identified prior to the initiation of baseline field studies, and are defined as Project Footprint, Local Study Area (LSA), and Regional Study Area (RSA). The proposed development footprint for each Project varies in size, but all are located on Westcoast-owned fee simple land within or adjacent to existing compressor stations, with the exception of a small portion of the Project footprint at CS-3, which is on adjacent, privately owned industrial land. As noted above, the baseline environmental field surveys (with the exception of soils, which was specific to the Project footprints) encompassed, at a minimum, the entire Westcoast fee simple properties for each Project, which extend beyond the respective Project footprints. Accordingly, Westcoast identified potential effects of the Projects (as outlined in the Interactions Tables) by considering the entirety of the Westcoast fee simple land in addition to the respective Project footprints.	The Board is of the view that the concerns raised by Williams Lake Indian Band can be mitigated through the use of standard mitigation as described in Westcoast's Application. The Board has imposed Condition 5 that requires the filing of an Environmental Protection Plan (EPP) that incorporates all mitigation and monitoring commitments made by Westcoast during the hearing process. The condition also requires Westcoast to notify and serve copies of the EPP to Indigenous communities that express interest.	8.5.2

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
		The Projects will have a Traffic Management Plan developed prior to construction to address additional construction traffic, access to and from the Project sites. Westcoast will ensure equipment arrives onsite clean and free of vegetation and soil debris to reduce the spread of invasive weeds.		
Fish and fish habitat	Williams Lake Indian Band	Westcoast stated that the Interactions Tables submitted for the Projects did not include the identification of potential effects to fish and fish habitat. The Projects are not located within 30 m of fish-bearing watercourses and therefore no effects to fish and fish habitat are anticipated.	The Board notes that Project construction activities will not occur within 30 m of fish-bearing watercourses and finds that no potential adverse effects on fish and fish habitat are expected.	8.3
Loss of wetlands	Williams Lake Indian Band	Westcoast committed to work with the appropriate regulatory authority to determine the need for a wetland compensation plan to achieve no net loss of wetland function, in accordance with the Federal Policy on Wetland Conservation. Westcoast stated that it has been in discussions with Environment and Climate Change Canada (ECCC) regarding a voluntary wetland enhancement strategy as a result of the proposed infilling of the man-made wetland at CS-6A. Westcoast completed a wetland functional assessment for the man-made wetland that would be infilled at CS-6A. Westcoast	The Board acknowledges Westcoast's commitment to wetland compensation through enhancement to achieve no net loss of wetland function. The Board finds that this approach satisfies the Federal Policy on Wetland Conservation.	Table 8.5.3.1

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
		shared this assessment with ECCC and Williams Lake Indian Band, and filed it with the Board. Westcoast has sought Williams Lake Indian Band's input and suggestions for the wetland enhancement strategy and is committed to engaging with Williams Lake Indian Band further on the development and implementation of the strategy.		
Biopersistence of methane gas	Williams Lake Indian Band	Westcoast stated that biopersistence studies for methane gas have not been conducted as part of the environmental assessment for the Projects as the properties and characteristics of methane in the atmosphere and in biological organisms do not indicate such studies are warranted.	The Board has assessed Williams Lake Indian Band's concerns regarding potential adverse effects of methane biopersistence as it relates to the Projects, and finds that the Project may result in methane losses to the atmosphere due to venting and fugitive emissions during operation. The Board notes that Westcoast included mitigation and operating procedures for greenhouse gas (GHG) and air emissions reduction in its Applications, and that Westcoast must comply with provincial air legislation and emission reporting requirements for the Project. Additionally, methane is considered a significant GHG source and there are federal and provincial methane emission reduction targets in place for oil and gas operations. Methane is non-toxic to humans at normal concentrations, but high levels could be dangerous in low oxygen environments. These conditions could occur within a confined area at a Project location during an emergency situation, but the risk of public exposure is remote because of perimeter fencing and Westcoast security protocols. Methane does	

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
			<p>not “biopersist” in areas that would be harmful to human health, however it does accumulate in the atmosphere as a GHG and reducing its levels in the atmosphere is a global problem and priority.</p> <p>The Board has no concerns with the Project effects, does not believe a methane biopersistence study is warranted, and considers the matter addressed. In the Board’s view, Williams Lake Indian Band concern regarding liquefied natural gas was the basis of its issue and upon acknowledging its error, Williams Lake Indian Band shifted its focus to methane without providing evidence or factual authority. The Board recognizes methane to be a significant GHG that must be managed, but the Board has never considered methane biopersistence to be an acute human health issue related to natural gas pipelines and facilities that it regulates.</p>	
Species at Risk	Williams Lake Indian Band	<p>If American badger, dens, or denning activity are identified prior to construction, Westcoast will contact the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNORD) to discuss an appropriate mitigation strategy.</p> <p>Westcoast committed to conducting a western painted turtle and amphibian survey prior to construction at CS-6A. If western painted turtle are identified prior to construction, Westcoast would apply for a</p>	<p>The Board notes that construction activities at all Project locations will occur mainly on previously disturbed land adjacent to existing compressor station facilities. Given the environmental setting, the likelihood of potential adverse effects on species at risk is considered to be low.</p> <p>The Board notes that Williams Lake Indian Band has raised concerns about species at risk within the CS-6A disturbance footprint, and within the area surrounding Project due to increased construction-related traffic. While</p>	

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
		<p>federal species at risk permit and contact BC MFLNORD to agree upon a salvage and relocation strategy.</p> <p>Westcoast will conduct an amphibian salvage on the full Expansion Project footprint and during drawdown of the wetland to be infilled at CS-6A prior to construction. Any salvaged amphibians would be relocated to similar or superior wetland habitat on Westcoast property outside of the Project footprint.</p>	<p>Westcoast has conducted species at risk surveys in the Project areas, these surveys may capture only a snapshot in time of species presence. Westcoast has gathered all available information regarding species at risk presence in the area, including database searches of past occurrences. Williams Lake Indian Band members, as residents of the area, may have a well-informed long-term picture of habitat use in the area by species at risk. The Board encourages Westcoast to take advantage of the knowledge that Williams Lake Indian Band members have shared regarding habitat use in the Project areas, and to continue consulting with Williams Lake Indian Band regarding species at risk.</p> <p>The Board finds Westcoast's mitigation measures as described in its Applications and other Project filings are adequate, and expects all of these measures to be incorporated into it EPP as required by Condition 5.</p>	
Wildfire effects	Williams Lake Indian Band	<p>Westcoast stated that it recognizes the impact to wildlife habitat as a result of the wildfires in the region is a significant concern to Williams Lake Indian Band. Westcoast notes that its environmental consultant, Triton, undertook field studies at CS-6A after the 2017 wildfires, in May 2018. CS-6A is located just outside the 2017 wildfire burn area and was not directly affected by the wildfires. Having heard Williams Lake Indian Band's</p>	<p>The Board has assessed the potential environmental effects due to the construction and operation of CS-6A and finds that, besides effects on wetlands, there will be no residual effects on biophysical components as a result of the Projects. Westcoast's commitment to offset residual effects on wetlands through implementation of a voluntary wetland enhancement strategy as discussed in subsection 8.5.3.1, in consultation with ECCC and Williams Lake Indian Band, will likely</p>	Section 8.6.

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
		<p>concerns regarding new development and potential impacts of such development on wildlife given the impacts caused by the wildfires, Westcoast recognizes that it is important to retain green forest in adjacent areas of the wildfire for wildlife habitat. The clearing required for the Expansion Project and road access into CS-6A is in an area that has been previously logged and is only sparsely vegetated. The access road to CS-6A traverses the edge of a densely forested area in the southwest corner of the property. This densely forested area within the Westcoast property will be retained. Westcoast believes the proposed wildlife mitigation measures described in response to NEB IR No. 4.13 and outlined in the Project EPP are appropriate, and no residual impacts are anticipated. Westcoast commits to engaging with Williams Lake Indian Band further to discuss potential tree planting or other measures that may address their concerns related to the wildfire impacts.</p>	<p>prevent potential cumulative effects of the Projects on wetlands.</p>	
Potential environmental effects	Soda Creek, ?Esdilagh Letter of comment	<p>For the Project, on behalf of Westcoast, Triton completed desktop assessments and field surveys of soils, vegetation, watercourses, wetlands and wildlife; and desktop assessments of human occupancy and resource use, social and cultural wellbeing, human health and aesthetics, infrastructure and services, and</p>	<p>The Board is of the view that the potential environmental effects can be mitigated through the use of standard mitigation as described in Westcoast's Application. The Board has imposed Condition 5 that requires the filing of an EPP that incorporates all mitigation and monitoring commitments made by Westcoast during the hearing process. The condition also</p>	Section 8.5.2

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
		employment and economy. Landsong completed AIAs, and Stantec Consulting Ltd. completed assessments and modeling for air quality and noise emissions. The Project ESA concluded that the construction and operation of the Project will not result in significant adverse environmental or socio-economic effects. The environmental concerns identified can be readily mitigated by standard or specialized environmental protection measures, and Westcoast will work to address any issues or concerns raised by the local communities during construction and operation of the Project. Adverse effects as a result of the Project are expected to not significantly alter the environmental or socio-economic conditions of the LSA or RSA.	requires Westcoast to notify and serve copies of the EPP to Indigenous communities that express interest.	
Environmental reporting	Soda Creek	Westcoast stated that the environmental concerns identified can be readily mitigated by standard or specialized environmental protection measures, and Westcoast will work to address any issues or concerns raised by the local communities during construction and operation of the Project.	The Board has imposed Condition 5 that requires the filing of an EPP that incorporates all mitigation and monitoring commitments made by Westcoast during the hearing process. The condition also requires Westcoast to notify and serve copies of the EPP to Indigenous communities that express interest.	Section 8.5.2
Weeds and vegetation management	Soda Creek	Westcoast stated that it provided the Soda Creek Indian Band with information on weed management applications in the territory and requested a follow-up meeting	In Westcoast's Application, the issue of weeds was assessed as a potential adverse effect and Westcoast said that mitigation measures to prevent the spread of invasive plants/noxious	Section 8.5.2

Concern	Community(s)	Company response	NEB response (including recommended conditions, and applicable regulatory and legislative requirements)	Report Section
		to discuss the concerns further. Westcoast will continue to consult with the community to address their concerns.	weeds will be implemented as per its Environmental Manual and the EPP. The Board notes that weed control measures would be implemented on Westcoast-owned property that is not available for Indigenous traditional land use or agricultural production, therefore any organic certifications Soda Creek has would not be impacted by chemical use. Organic certification is bound to the land parcel only and not adjacent properties. Furthermore, Westcoast's integrated vegetation management plan requires the flexibility to use the weed control measures that are most appropriate for the specific weed issue on its property. The Board will assess the effectiveness of vegetation management measures included in the EPP post-approval. The Board considers this issue to be addressed.	