



National Energy
Board

Office national
de l'énergie

Reasons for Decision

Enbridge Pipelines (NW) Inc.

MH-001-2017

January 2018

Facilities

National Energy Board

Reasons for Decision

In the Matter of

Enbridge Pipelines (NW) Inc.

Application dated 10 March 2017 for the Line
21 Segment Replacement Project

MH-001-2017

January 2018

Permission to Reproduce

Materials may be reproduced for personal, educational and/or non-profit activities, in part or in whole and by any means, without charge or further permission from the National Energy Board, provided that due diligence is exercised in ensuring the accuracy of the information reproduced; that the National Energy Board is identified as the source institution; and that the reproduction is not represented as an official version of the information reproduced, nor as having been made in affiliation with, or with the endorsement of the National Energy Board.

For permission to reproduce the information in this publication for commercial redistribution, please e-mail: info@neb-one.gc.ca

Autorisation de reproduction

Le contenu de cette publication peut être reproduit à des fins personnelles, éducatives et/ou sans but lucratif, en tout ou en partie et par quelque moyen que ce soit, sans frais et sans autre permission de l'Office national de l'énergie, pourvu qu'une diligence raisonnable soit exercée afin d'assurer l'exactitude de l'information reproduite, que l'Office national de l'énergie soit mentionné comme organisme source et que la reproduction ne soit présentée ni comme une version officielle ni comme une copie ayant été faite en collaboration avec l'Office national de l'énergie ou avec son consentement.

Pour obtenir l'autorisation de reproduire l'information contenue dans cette publication à des fins commerciales, faire parvenir un courriel à : info@neb-one.gc.ca

© Her Majesty the Queen in Right of Canada 2018
as represented by the National Energy Board

© Sa Majesté la Reine du Chef du Canada 2018
représentée par l'Office national de l'énergie

Reasons for Decision -
Enbridge Pipelines (NW) Inc. - MH-001-2017

Motifs de décision -
Pipelines Enbridge (NW) Inc. - MH-001-2017

NE22-1/2018-1E
978-0-660-24423-5

NE22-1/2018-1F
978-0-660-24424-2

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

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

Copies are available on request from:

Library and Publication Services
National Energy Board
517 Tenth Avenue SW
Calgary, Alberta T2R 0A8
Telephone:
403-292-4800
1-800-899-1265
Fax:
403-292-5576

Pour obtenir des exemplaires sur demande :

Bibliothèque et bureau des publications
Office national de l'énergie
517, Dixième Avenue S.-O.
Calgary (Alberta) T2R 0A8
Téléphone :
403-292-4800
1-800-899-1265
Télécopieur :
403-292-5576

Copies are available for pick-up at the NEB office:

Library
Second Floor

Email: publications@neb-one.gc.ca
www.neb-one.gc.ca

Printed in Canada

Des exemplaires sont également disponibles à la bibliothèque de l'Office

Deuxième étage

Courriel : publications@neb-one.gc.ca
www.one-neb.gc.ca

Imprimé au Canada

Table of Contents

List of Figures and Tables	6
List of Appendices	6
Abbreviations	7
Recital and Appearances	11
1. Introduction and Decision	13
2. Overview	18
2.1 History of Norman Wells Oil Production and the Line 21 pipeline	18
2.2 What did Enbridge apply for?.....	19
2.3 Mackenzie Valley Land and Water Board.....	21
2.4 What did the Board decide?.....	22
2.4.1 Decisions made by the Board	22
2.5 How did the Board process the Application?	23
2.5.1 NEB Hearing Order and Hearing Process	23
2.5.2 Participant Funding.....	24
2.6 What does the Board do now?	24
3. Facilities and Emergency Response Matters	26
3.1 Description of Facilities.....	26
3.1.1 Codes and Standards	26
3.1.2 Exemption from the requirement to apply for Leave to Open.....	27
3.2 Slope Stability and Decommissioning.....	28
3.2.1 Slope Stability.....	28
3.2.2 Decommissioning	28
3.3 Design and Operation	30
3.3.1 Maximum Operating Pressure	30
3.3.2 HDD Design.....	31
3.3.3 Permafrost.....	32
3.4 Pipeline Integrity.....	34
3.4.1 Coating.....	34
3.4.2 Integrity Management Plan (IMP).....	34
3.4.3 Leak Detection	36
3.5 Enbridge’s Emergency Preparedness and Response Planning	37
3.6 Safety and Security – Construction.....	39
4. Public Consultation	42
4.1 Enbridge’s Public Consultation Program.....	42
4.2 Consultation Activities with the Public	43

5. Indigenous Matters	45
5.1 Enbridge’s Consultation with Indigenous peoples for the Project.....	45
5.2 The Board’s Hearing Process and Participation of Indigenous Peoples.....	47
5.2.1 Enhanced Aboriginal Engagement Process	47
5.2.2 Participant Funding Program (PFP).....	48
5.2.3 Participation of Indigenous Peoples in the Board’s Hearing Process.....	49
5.3 Issues and Concerns Raised by Indigenous Peoples.....	51
5.3.1 Enbridge’s Consultation with Indigenous Peoples	51
5.3.2 Capacity Funding, Timing and Resource Constraints	51
5.3.3 Project Monitoring by Indigenous Peoples.....	52
5.3.3.1 Łíídljì Kúęé First Nation.....	52
5.3.4 Employment and Economic Benefits.....	53
5.3.5 Environmental and Socio-Economic Assessment	53
5.3.6 Traffic Management.....	53
5.3.7 Social and Cultural Well-Being	54
5.3.8 Traditional Land and Resource Use.....	55
5.3.9 Ongoing Operation of Line 21	59
5.3.10 Section 35(1), Constitution Act, 1982	60
5.4 Enbridge’s Reply to Issues and Concerns Raised by Indigenous Peoples	60
5.4.1 Enbridge’s Consultation with Indigenous Peoples	60
5.4.2 Capacity Funding, Timing and Resource Constraints	61
5.4.3 Project Monitoring by Indigenous Peoples.....	61
5.4.4 Social and Cultural Well-Being	61
5.4.5 Traditional Land and Resource Use.....	62
5.4.6 Ongoing Operation of Line 21	63
5.4.7 Section 35(1), Constitution Act, 1982	63
5.5 Views of the Board	64
5.5.1 Enbridge’s Consultation with Indigenous Peoples	64
5.5.2 Capacity Funding, Timing and Resource Constraints	66
5.5.3 Project Monitoring by Indigenous Peoples.....	67
5.5.4 Social and Cultural Well-Being	67
5.5.5 Traditional Land and Resource Use.....	68
5.5.6 Ongoing Operation of Line 21	70
5.5.7 Section 35(1), <i>Constitution Act</i> , 1982.....	70
6. Land Matters.....	73
6.1 Land Requirements	73
6.2 Land Rights and Land Acquisition	73

7. Environment and Socio-Economic Matters.....	75
7.1 The NEB’s Environmental Assessment Methodology	75
7.2 Project Details	75
7.3 Environmental Setting	77
7.4 Environmental and Socio-Economic Effects Analysis	80
7.4.1 Standard Mitigation	80
7.4.2 Detailed Analysis of Key Environmental and Socio-Economic Issues	84
7.4.2.1 Potential Impacts on Aquatic Resources due to Inadvertent Loss of Drilling Fluids	84
7.4.2.2 Noise Management Plan	87
7.5 Cumulative Effects Assessment.....	89
7.6 Environmental Assessment – Conclusion.....	91
7.6.1 Mackenzie Valley Resource Management Act.....	91
8. Infrastructure, Services, Employment and Economy	92
8.1 Infrastructure and Services	92
8.2 Employment and Economy.....	94
9. Economic Matters	97
9.1 Economic Feasibility	97
9.2 Abandonment Matters.....	98

List of Figures and Tables

Table 2-1: Project Summary	20
Figure 2-2: Project Location Map	21
Figure 2-3: Summary of Participation in MH-001-2017	24
Table 5-1: Participant Funding Program Awarded Amounts	48
Table 5-2: Written and Oral Submissions by Indigenous Intervenors by Exhibit Number	49
Table 7-1: Project Components and/or Activities.....	76

List of Appendices

List of Issues	99
Criteria, Ratings and Definitions Used in Evaluating the Likelihood of Significant Effects	100
Section 58 Order Conditions.....	102
Decommissioning Order Conditions.....	109
Comments and Conditions.....	110
Summary of concerns from Indigenous Peoples, applicant responses, and NEB responses	124

Abbreviations

Applicant, Enbridge or the Company	Enbridge Pipelines (NW) Inc.
Application	Application dated 10 March 2017, pursuant to section 58 of the NEB Act and section 45.1 of the OPR.
Board or NEB	National Energy Board
commencing construction	The clearing of vegetation, ground-breaking and other forms of right-of-way (RoW) preparation that may have an impact on the environment (activities associated with normal surveying do not constitute commencing construction).
Commenter or Letter of Comment writer	A person or group who is directly affected, has relevant information or has expertise regarding the Project and who has been approved by the Board to participate in the MH-001-2017 hearing by submitting a letter of comment
COGOA	<i>Canada Oil and Gas Operations Act</i>
CPRA	<i>Canada Petroleum Resources Act</i>
CSA Z246.1	Canadian Standards Association Z246.1, Security Management for Petroleum and Natural Gas Industry Systems
CSA Z662-15	Canadian Standards Association Z662-15, Oil and Gas Pipeline Systems
Decommissioning Order	Board order issued pursuant to section 45.1 of the <i>Onshore Pipeline Regulations</i> (MO-002-2018)
DEM	Digital Elevation Model
DFN	Dehcho First Nations
EAE	Enhanced Aboriginal Engagement
EPP	Environmental Protection Plan
ESA	Environmental and Socio-Economic Assessment
for approval	When a condition requires a filing with the Board “for approval”, Enbridge must not commence the indicated action or activity until the Board issues its written approval of the filing.
GNWT	Government of the Northwest Territories
HDD	Horizontal Directional Drill
IKLUS	Indigenous Knowledge and Land Use Study
Imperial	Imperial Oil Resources N.W.T Limited
including	Use of this term, or any variant of it, is not intended to limit the elements to just those listed. Rather, it implies minimum requirements with the potential for augmentation, as appropriate.

Intervenor	A person, company or group who applied to participate in the hearing and was granted standing by the Board to participate as an Intervenor; has rights and obligations in the proceeding as set out in the Hearing Order.
IR or Information Request	A written question to the Applicant or an Intervenor in relation to its evidence filed by the Board, an Intervenor or the Applicant during the written portion of the hearing pursuant to the deadlines set out by the Board, to which a response must be subsequently filed.
LiDAR	Light Detection and Ranging
LKFN	Łíídljį Kúé First Nation
LSA	Local Study Area
MVLWB	Mackenzie Valley Land and Water Board
MOP	Maximum Operating Pressure
NEB Act	<i>National Energy Board Act</i>
NPS 12	Nominal pipe size of 12 inches
O&M	Operations and maintenance activities as describe in the Operations and Maintenance Activities on Pipelines Regulated under the National Energy Board Act: Requirements and Guidance Notes as available on the NEB website, under Acts and Regulations
OPR	<i>National Energy Board Onshore Pipeline Regulations</i>
Order	A Board Order, including one applied for by Enbridge under section 58 of Part III of the NEB Act, authorizing the construction and operation of a project and exempting certain facilities from specific provisions of the NEB Act (XO-E102-002-2018).
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 Intervenor and Commenters in the hearing.
Parties	Includes the Applicant and Intervenor but does not include Commenters
PFP	Participant Funding Program
PKFN	Pehdzeh Ki First Nation
Post-construction	Activities to take place once construction is complete and includes reclamation activities
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.
Project	The proposed Line 21 Segment Replacement Project as described in Enbridge's 10 March 2017 Application, consisting of approximately 2.5 km of new pipe, installed using horizontal directional drilling, under the Mackenzie River near Fort Simpson, NT.

Reasons or Report	The Board’s decision as to whether a Project is found to be in the public interest, the reasons for the decision, and all the terms and conditions the Board considers necessary, pursuant to section 58 of the NEB Act. This Report also contains the Board’s decision in respect of Enbridge’s application under section 45.1 of the OPR.
RoW	Right-of-Way
RSA	Regional Study Area
SARA	Species at Risk Act
SKFN	Sambaa K’e First Nation
Summer Construction	Construction activities committed to be undertaken during unfrozen conditions, including: <ul style="list-style-type: none"> • Establishing the camp • HDD mobilization, drilling and pull through • Environmental remediation and clean up • Welding and NDE • Pressure testing • Demobilization of project
TEK	Traditional Ecological Knowledge
TLRU	Traditional Land and Resource Use
TLU	Traditional Land Use
TWS	Temporary Workspace
Winter Construction	Construction activities committed to be undertaken during frozen conditions, including: <ul style="list-style-type: none"> • Moving the valve at KP 530.3 • Construction of matted access road within RoW • Installation of clear span bridge at Manners Creek • Installation of surface casing for the HDD • Clearing of temporary work spaces

List of Units

km	Kilometre
kPa	Kilopascal (one thousand pascals)
m	Metre
mm	Millimetre
MPa	Megapascal (one million pascals)
%	Per cent

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 an application dated 10 March 2017 by Enbridge Pipelines (NW) Inc. (Enbridge) for the Line 21 Segment Replacement Project, pursuant to section 58 of the *National Energy Board Act* and section 45.1 of the *National Energy Board Onshore Pipeline Regulations*, filed with the National Energy Board under File No. OF-Fac-Oil-E102-2017-01 01; and

IN THE MATTER OF National Energy Board Hearing Order MH-001-2017 dated 18 May 2017;

HEARD in Fort Simpson, NT on 23 to 26 October 2017;

BEFORE:

D. Hamilton	Presiding Member
M. Lytle	Member
K. Chaulk	Member

Appearances

D. Purvis
R. Salamucha
K. Shannon

Participants

Enbridge Pipelines (NW) Inc.

Witnesses

B. Cikaluk
K. Olson
D. DeMontigny
N. Reid
C. Dickson
A. M. Tout
Y. Hubert

C. Breneman

Dehcho First Nations

L. Land

Łíídlı́j Kúé First Nation

D. T'seleie

S. Pellissey

Pehdzeh Ki First Nation

C. Wenman

Sambaa K'e First Nation

C. Gagné

National Energy Board

Oral Traditional Evidence

Łíídljį Kúę First Nation	Chief G. Antoine E. Cholo Elder J. Antoine Elder J. Tonka E. Mouse G. Cazon
Dehcho First Nations	Grand Chief H. Norwegian Elder E. Hardisty S. Sanguéz
Pehdzeh Ki First Nation	Chief M. Moses Elder G. Hardisty Elder C. Taley T. Lennie J. Horesay
Sambaa K'e First Nation	Chief D. Jumbo Elder D. Jumbo R. Jumbo

Oral Statement

D. McNeely

Joint statement by the First Nations:

Chief G. Antoine

Elder C. Taley

Elder J. Antoine

R. Jumbo

Oral Final Argument

Enbridge Pipelines (NW) Inc.

Imperial Oil Resources N.W.T. Limited

Łíídljį Kúę First Nation

Pehdzeh Ki First Nation

Sambaa K'e First Nation

Dehcho First Nations

Government of the Northwest Territories

Written Final Argument

Dehcho First Nations

Łíídljį Kúę First Nation

Sambaa K'e First Nation

Government of the Northwest Territories

Enbridge Pipelines (NW) Inc.

Chapter 1

Introduction and Decision

The National Energy Board (NEB or Board) has considered the evidence and submissions made by all Participants in the MH-001-2017 proceeding. The Board's views and conclusions on the matters that fall within the scope of the requested authorizations are contained in the following chapters, and constitute the Board's Reasons for Decision (Reasons) concerning Enbridge Pipelines (NW) Inc.'s (Enbridge) application for the Line 21 Segment Replacement Project (Project).

In this proceeding, Enbridge requested an Order under Part III of the *National Energy Board Act* (NEB Act) to build and operate up to 2.5 kilometres of new 323.9 mm (NPS 12) pipeline under the Mackenzie River. Enbridge proposed that the new pipe will be installed using a trenchless crossing method called horizontal directional drilling (HDD). Enbridge also requested permission to leave the section of pipeline that is being replaced under the Mackenzie River (decommission). All of these components comprise the Project. Further detail is provided in **Chapter 2**.

The Board is aware that throughout this proceeding, Participant submissions were informed by the current social and political context in which this Project is being considered. The Board is mindful of an increased awareness and concern towards projects under its jurisdiction, particularly in light of recent decisions by the Supreme Court of Canada regarding the role of regulatory tribunals like the NEB in the Crown's duty to consult¹. The Board also acknowledges the ongoing modern treaty negotiations between the Dehcho First Nations and the Government of Canada (Dehcho Process). The Board is also informed by the Government of Canada's guiding principles respecting its relationship with Indigenous Peoples which was released in July 2017, during the MH-001-2017 proceeding².

Another contextual piece is the history of Line 21 itself. On 6 November 1981, the Board issued the Certificate of Public Convenience and Necessity OC-35 authorizing Interprovincial Pipe Line (NW) Inc. to construct and operate an oil pipeline approximately 866 kilometres in length from a point in the vicinity of Norman Wells, in the Northwest Territories, to a point in the vicinity of Zama, in the Province of Alberta. The route crosses lands in the Treaty 11 area, some of which are the subject of modern treaties, and others that are currently the subject of negotiations such as the Dehcho Process. This pipeline is now officially referenced as Enbridge's Line 21, but it is known regionally as the Norman Wells Pipeline. The review of the original application was part of the Norman Wells Oilfield Development and Pipeline Project, which underwent a Federal Environmental Assessment and Review Process resulting in a Report of the Environment Assessment Board, also released in 1981. The pipeline has been in service since 1985.

¹ See *Chippewas of the Thames First Nation v. Enbridge Pipelines Inc.*, 2017 SCC 41 (<https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/16744/index.do>) and *Clyde River (Hamlet) v. Petroleum Geo-Services Inc.*, 2017 SCC 40 (<https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/16743/index.do>).

² "Principles respecting the Government of Canada's relationship with Indigenous peoples", Department of Justice (<http://www.justice.gc.ca/eng/csj-sjc/principles-principes.html>)

The Board notes that Enbridge's Line 21 has been subject to NEB oversight, compliance and legislative requirements since it was originally approved in 1981. The integrity management and potential environmental effects of Line 21 are incorporated into the Board's ongoing regulation and compliance verification activities, including all related engineering, integrity, emergency response and environmental aspects under the Board's jurisdiction. The Board also considers public participation to be a fundamental component during each phase in the regulatory lifecycle, including operations and maintenance (O&M).

Although the Application before the Board consists of an approximately 2.5 km segment of the entirety of Line 21, the analysis of whether the proposed project is in the public interest must necessarily be determined within the context of the existing facility. The Board did not consider whether the ongoing operation of Line 21 is in the public interest as the existing facility has already received its Certificate. However, the Board did consider the evidence placed before it regarding the relationships which have developed between Enbridge and the communities and groups who live along Line 21. Details of the Board's assessment of this evidence, as related to the Project, is provided in **Chapter 4**, Public Consultation, and **Chapter 5**, Indigenous Matters.

Consultation is an important issue that was raised by parties throughout the Board's process. In relation to the Application before it, the Board is of the view that the process was appropriate in these circumstances. In particular, the process was designed to be thorough and accessible to Indigenous peoples so that they could make their concerns known to the Board and have those concerns addressed as appropriate. With respect to this Project, having assessed all of the evidence, the Board is of the view that there has been adequate consultation and accommodation for the purpose of the Board's decision on this Project.

Considering all of the findings in this Report, the Board is of the view that the requirements of section 35 of the *Constitution Act, 1982* have been met, such that an approval of this Project is in keeping with the honour of the Crown. However, the Board heard evidence regarding the overall relationships which Enbridge has developed in the region since 1981. Given that these relationships were not in scope of the Application, the process did not include a thorough examination of Enbridge's approach to consultation and public participation in the context of its O&M activities. However, the Board can offer some comments in response to the evidence it heard.

1.1 Contextual Perspective – Remarks and Reflections

It is the high and laudatory goal of the Government of Canada to advance the reconciliation of Indigenous peoples and the rest of Canadian society. In this hearing, all parties described their desire to achieve an amicable settlement based on a common understanding of the relevant issues and their impacts. The conversation heard by the Board was an exploration into the relationship between the company and the Indigenous peoples whose traditional territory is crossed by this pipeline. Inherent in this conversation was the meaning of being a good neighbour; an adequate understanding of which, we assert is a requirement for achieving the goal of reconciliation.

Reconciling different value systems, cultures and worldviews is not an easy task. In this hearing the Board heard evidence of a problematic relationship between Enbridge and some First Nations. We also heard certain First Nations describe some company representatives as condescending. Clearly, achieving reconciliation and being a good neighbour, even on a regional basis, is hard to do. It cannot be achieved by any one party alone (i.e., industry,

government, Indigenous peoples or other citizens). All of those potentially affected by industrial developments must participate in developing neighbour-like partnerships that are mutually beneficial. With that said, different groups have different roles and responsibilities, and regardless of what those roles are, a dismissive or condescending relationship is antithetical to reconciliation.

As an example of the differing roles and responsibilities, the government of Canada has fiduciary responsibilities³ to First Nations and so, if a First Nation feels that it has to seek redress from the project proponent for services or facilities that are more properly provided by the government, such redress may put that group in a position of being a mendicant rather than a partner.

The Board does not have prescriptions nor sufficient scope of action to reliably produce meaningful reconciliation nor does it have the power to right historic wrongs or address larger constitutional issues regarding Indigenous peoples. However, the Board takes very seriously its role and responsibility to act in accordance with the Honour of the Crown and balance public and private interests. The Board is committed to designing energy adjudication processes that are fair, timely, transparent and accessible. The Board is also committed to using a cooperative and respectful approach to engage with all Parties including Indigenous Peoples to build and enhance relationships. The Board invites industry and government players to join it in seeking the reconciliation which comes from being both good neighbours and good partners, such that there are never legitimate reasons for one party to describe the behaviour of another as condescending or patronizing.

Through the Environmental and Regulatory review (modernization process), the Canadian public and the Government of Canada have made it clear that increased transparency is a foundational principle of effective and legitimate regulatory oversight, and has accordingly included it in the Discussion Paper released earlier in 2017⁴. The Board notes with interest that the Discussion Paper explains the desire for increased transparency in “all aspects of environmental assessment and regulatory processes, from making data and science accessible to clearly communicating the basis for decisions”. The Discussion Paper also considers “inclusive monitoring and compliance activities, so that life-cycle regulators and permitting departments work closely with Indigenous peoples, communities, and landowners.”

The Board also notes the commitment from Enbridge in this regard, as highlighted in its Indigenous Peoples Policy, to engage in forthright and sincere consultation with Indigenous peoples about Enbridge’s projects and operations through processes that seek to achieve early and meaningful engagement so their input can help define projects that may occur on lands traditionally occupied by Indigenous peoples. The Board heard evidence of Enbridge’s past engagement with communities along Line 21 in the monitoring and collection of environmental data and is interested in the possibility of connecting such initiatives to the thoughts expressed in the Discussion Paper. This data could be made public or be managed in a transparent manner.

³ “The Crown’s Fiduciary Relationship with Aboriginal Peoples” revised 18 December 2002.
<https://lop.parl.ca/content/lop/researchpublications/prb0009-e.pdf>

⁴ Environmental and Regulatory Reviews: Discussion paper, June 2017, see p.11.
<https://www.canada.ca/en/services/environment/conservation/assessments/environmental-reviews/share-your-views/proposed-approach.html>

Transparency includes not only the processes in which decisions are made, but also the expectations that the Board has regarding company conduct and public engagement, as well as clarifying its role as an educator on energy issues related to its mandate. The Board recommends that the Board and industry alike continue to make improvements on how engagement occurs during all phases of a pipeline. For the Board, this could be an opportunity to clarify and increase the expectations for industry regarding engagement that are included in the Filing Manual and the O&M Guidelines. For industry, this could be an opportunity to explore a co-development process for mutual understanding and agreement on the minutes of meetings which are logged by a company regarding engagement or consultation.

Lastly, the Board notes the model of the Indigenous Advisory and Monitoring Committees co-developed by Indigenous leaders and the Government of Canada, which bring together Indigenous and federal representatives to provide advice to regulators and to monitor large pipeline infrastructure projects (e.g. Trans Mountain Expansion Project and Enbridge's Line 3). In this respect, the Board notes the important role played by the long-established co-management Boards created by the *Mackenzie Valley Resource Management Act* in the Northwest Territories. Having Indigenous representatives on the regulatory board itself should offer added opportunities for strengthening community and company connections along Line 21. The Board acknowledges the concurrent Mackenzie Valley Land and Water Board (MVLWB) process, and has provided a brief description in **Chapter 2** for context.

1.2 The Board's Decision

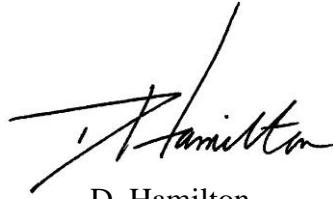
Having considered and weighed all of the evidence before it, the Board has decided that the Project, as proposed by Enbridge, is in the public interest. The Board has approved the Project subject to a number of conditions contained in the attached Orders and described in this Report, which the Board has imposed to address important concerns.

The Board has decided to issue Order XO-E102-002-2018 (Order) pursuant to section 58 of the NEB Act exempting Enbridge from paragraph 30(1)(a) and section 31 of the NEB Act in respect for the applied-for facilities, subject to the conditions contained in the Section 58 Order (Appendix III). As a result, a Certificate of Public Convenience and Necessity is not required in respect of the Project and Enbridge is exempt from the requirement to file a plan, profile and book of reference for the Project. The Board does not exempt Enbridge from paragraph 31(1)(b) and section 47 of the NEB Act and reminds Enbridge that it must apply for leave to open before the Project may be put into service.

The Board has also decided to grant Order MO-002-2018 (Decommissioning Order) pursuant to section 45.1 of the *National Energy Board Onshore Pipeline Regulations* (OPR), subject to the conditions contained in the Decommissioning Order. The conditions are set out in Appendix IV. As a result, Enbridge may decommission the identified portions of the Line 21 pipeline in accordance with the methodology set out in its Application.

The Board takes the commitments made by applicants seriously and throughout its deliberations the Board carefully considered all commitments made by Enbridge. In approving Enbridge's application, the Board has also imposed conditions that will enhance current and ongoing pipeline integrity, safety and environmental protection measures to which Line 21 is already subject. The Board's decision enables Enbridge to react to externally-driven threats to the integrity of Line 21 while at the same time implementing the Project in a safe and

environmentally sensitive manner. It is now up to Enbridge to fulfill its commitments and satisfy the Board's requirements.



D. Hamilton
Presiding Member



M. Lytle
Member



K. Chaulk
Member

Calgary, Alberta
February 2018



Chapter 2

Overview

2.1 History of Norman Wells Oil Production and the Line 21 pipeline

In 1944, Imperial Oil and the Government of Canada signed the Norman Wells Proven Area Agreement which is currently administered by Indigenous and Northern Affairs Canada. The Proven Area Agreement grants Imperial Oil the exclusive right and privilege to drill for, mine, win and extract all of the petroleum and natural gas from this field for 21-year terms. The Agreement is currently in its 4th term (2008-2029). Under the Proven Area Agreement, Imperial Oil was designated the Operator of the project and given full control of the development and operation of the Proven Area and bears all the yearly up-front costs, charges and expenses incurred with the development and production of the proven area. Imperial Oil is also bound to a confidential agreement regarding the terms and benefits which the regional Sahtu community receives. The Government of Canada receives, as partner in the project, a one-third ownership interest in the gross production from this area.

The production facility in Norman Wells is also regulated by the NEB, under the *Canada Oil and Gas Operations Act* (COGOA). Details pertaining to all aspects of the operation remain privileged under subsection 101(2) of the *Canada Petroleum Resources Act* (CPRA). The current Operation Authorization was issued before the recent public transparency amendments to COGOA and the CPRA under the *Energy Safety and Security Act*. Public information regarding the production facility can be found either on Imperial Oil's website, or in the filings associated with the water license granted by the Sahtu Land and Water Board, a co-management board created by the *Mackenzie Valley Resource Management Act*, details of which are posted on the MVLWB Registry.

In association with the application for the Norman Wells Oilfield Development and Pipeline Project, the Board issued Certificate OC-35 on 6 November 1981. This Certificate authorized Interprovincial Pipe Line (NW) Inc. to construct and operate an oil pipeline approximately 866 kilometres in length, which is now known as Enbridge's Line 21. The review of the original application underwent a Federal Environmental Assessment and Review Process resulting in a Report of the Environment Assessment Panel, also released in 1981. That Panel heard from many of the communities along the length of Line 21, including 77 individuals, 30 government bodies, 15 groups and associations, and 7 technical advisors to the Panel.

The Board's expectations regarding pipeline operation are defined in its regulations, including the OPR, and associated guidance materials. The NEB Act also requires the Board to set out conditions that it considers necessary or desirable in the public interest to authorize a project. The purpose of such conditions is to mitigate potential risks and effects associated with a project so that the project can be designed, constructed, operated and abandoned in a safe manner that protects the public and the environment. For example, Certificate OC-35 contains 25 conditions, many with numerous sub-parts, to address the concerns heard at that time.

As part of the NEB's lifecycle oversight, over the 30+ years that Line 21 has been in operation, the Board has issued approximately 60 letters and Orders regarding the safety, security and

protection of the environment to either Interprovincial Pipe Lines (NW) Ltd., or Enbridge Pipelines (NW) Inc. In order to improve access to safety and environmental information to all Canadians, as of September 2011, the Board proactively posts information on its compliance and enforcement activities with the goal of providing all relevant information related to its compliance and enforcement actions, in a manner that is clear and accessible (subject to confidentiality and security considerations). Details regarding compliance to the various conditions currently imposed on Line 21 can be found on the NEB website, under Safety & Environment, Compliance and Enforcement, Condition Compliance Table.

As part of this lifecycle regulation, immediately following the initial shut-down of Line 21 in November 2016, the Board undertook engagement with the most directly affected Indigenous organizations to provide information on the role of the NEB as a lifecycle regulator, particularly in regard to the Board's monitoring and oversight of the Line 21 shut-down. This Board engagement included face-to-face meetings with Indigenous leadership, as well as with the Village of Fort Simpson. The engagement occurred on a regular basis in the months prior to the Enbridge application in March 2017 and continued up to the time of the oral hearing in October. This later engagement included a public information session in Fort Simpson in June and focused on the provision of information on how to participate in the Board's hearing process.

2.2 What did Enbridge apply for?

When considering an application to construct and operate a new facility, the Board assesses the potential effects associated with routine O&M activities⁵. Therefore, companies are not required to apply for additional approval to undertake most O&M activities, and the Board provides Guidance Notes to inform companies and the public of which activities will require approval. The Board regulates routine O&M activities and fulfills its mandate through compliance and enforcement activities, including inspection and audit programs.

The *O&M Requirements and Guidance Notes* specify certain O&M activities that require advance applications, including the addition of a parallel piece of pipe without removal of the existing pipe that has ceased operation. If a company plans to leave an existing section of pipe in place, it must apply to the Board: (i) for an exemption under section 58 of the NEB Act, for the construction and operation of the new section of pipeline; and (ii) to decommission the existing section of pipe under the OPR.

In its Application, filed 10 March 2017, Enbridge applied for permission to build and operate up to 2.5 kilometres of new 323.9 (NPS 12) pipeline under the Mackenzie River. The new pipe would be installed using HDD (a trenchless crossing method). Enbridge also requested permission to leave the section of pipeline that is being replaced under the Mackenzie River (decommission). All of these components comprise the Project. Additional Project details are provided in Table 2-1.

⁵ [Operations and Maintenance Activities on Pipelines Regulated Under the National Energy Board Act: Requirements and Guidance Notes](#)

Specifically, Enbridge requested that the Board grant the following relief:

- an Order pursuant to section 58 of the NEB Act, approving the construction and operation of the Project and exempting Enbridge from the provisions of paragraph 30(1)(b), subsections 31(c), 31(d) and sections 33 and 47 of the NEB Act;
- an Order pursuant to section 45.1 of the OPR to decommission the segment of the existing pipeline in state; and,
- such other relief that Enbridge might request or that the Board might deem appropriate.

As discussed in section 3.1.2, Enbridge later withdrew its request for exemption from section 47 of the NEB Act.

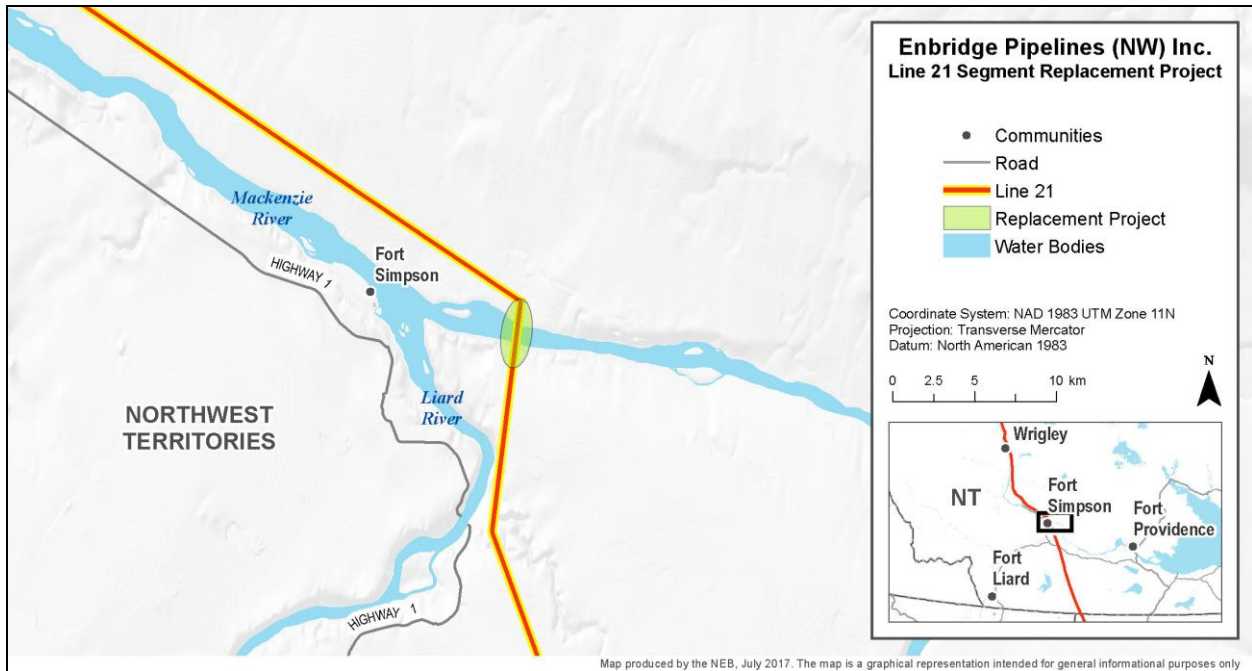
Table 2-1: Project Summary

Total approximate length of Enbridge’s Line 21	867 km
Approximate length of the Segment Replacement Project	2.5 km
Estimated cost of the Project	\$53,000,000
Estimated construction schedule	Winter 2018 and Summer 2018
Outside Diameter	323.9 mm (NPS 12)
Minimum Wall thickness	12.7 mm
Pipe Material	Steel
Maximum Operating Pressure	9930 kPa
Product Carried	Crude Oil

Pending regulatory approvals, Enbridge has committed to complete some activities in the winter of 2018, with the HDD activities occurring between May and September 2018. Enbridge anticipates that the Project would be complete and that Line 21 would be ready to resume normal operation within the fourth quarter of 2018.

Enbridge submitted that the estimated cost of the Project is approximately \$53,000,000.

Figure 2-2: Project Location Map



2.3 Mackenzie Valley Land and Water Board

As part of a broad integrated resource management system, as defined in land claim agreements in the Northwest Territories, the *Mackenzie Valley Resource Management Act* created and provided authorities to co-management boards to carry out land use planning, regulate the use of land and water and, if required, conduct environmental assessments and reviews of large or complex projects⁶. Built on a history of co-operation, the NEB has had a Memorandum of Understanding with the MVLWB since 2013, to exchange technical expertise and knowledge, and to maximize effective and efficient environmental screening and regulatory processes⁷. Under the *Mackenzie Valley Resource Management Act*, *Preliminary Screening Requirement Regulations* – Part 1 of Schedule 1, the Board is a Designated Regulatory Agency when it issues an authorization under subsection 58(1) of the NEB Act.

Concurrent with the MH-01-2017 proceeding, the MVLWB held a public hearing regarding Enbridge’s Land Use Permit Application MV2017P0013 and Water License Application MV2017L1-0002 in association with the Project and off-Right of Way (RoW) activities. On 18 May 2017, the Board explained that, in consideration of the MVLWB review time lines, and

⁶ The Gwich’in, Sahtu and Wek’eezhii Land and Water Boards, act as regional panels of the Mackenzie Valley Land and Water Board in issuing land use permits and water licences on public and private lands in their respective areas. The MVRMA also applies in the regions of the Northwest Territories where the Dehcho First Nations, Akaitcho First Nations, and the NWT Métis Nation continue to negotiate their rights and interests. Ad hoc Section 103 Panels of the MVLWB issue permits and licences in these areas. (<https://mvlwb.com/content/co-management>)

⁷ Memorandum of Understanding Between the Mackenzie Valley Land and Water Board and the National Energy Board (<http://www.neb-one.gc.ca/bts/ctrg/mmrndm/2013mcknzlndwtrbrd-eng.html>)

to avoid duplication, the Board was satisfied that the obligation to meet the requirements of Preliminary Screening⁸ under the *Mackenzie Valley Resource Management Act* would be met through the MVLWB process.

Further to this, on 3 August 2017, the MVLWB ruled that the applications are exempt from Part V, including preliminary screening, under s. 157.1 of the *Mackenzie Valley Resource Management Act*. However, as part of its responsibilities under the NEB Act, the Board conducted an environmental assessment, regardless of the exemption from Part V.

In reviewing the two applications before it, the MVLWB held a two-part public hearing to hear concerns in October 2017 and January 2018. The Board received requests from Parties in the hearing to harmonize its processes and regulatory decisions with the MVLWB. The Board held the oral portion of MH-001-2017 during the week of October 23, 2017, to coordinate with the first part of the MVLWB public hearing.

The Board and the MVLWB are independent regulators making independent decisions on the Project. For the construction phase of the Project, inspections could occur from both the NEB Inspectors (NEB conditions) and the Government of Northwest Territories Lands Inspectors and Water Resource Officers (compliance to the land use permit, easement agreement and water licence). In the spirit of the Memorandum of Understanding mentioned above, the Board commits to coordinating inspections when feasible.

2.4 What did the Board decide?

This Report contains the Board's decisions regarding Enbridge's proposed Project. As explained in **Chapter 1**, the Board considered and weighed all of the evidence before making its decisions on this Project. The Board notes the importance of the whole Report and cautions readers against reading individual chapters in isolation.

2.4.1 Decisions made by the Board

Subject to the conditions, the Board is satisfied that the general design of the Project is appropriate for its intended use. The Board is also satisfied that the Project would be constructed and operated in accordance with all applicable legislation and standards. Discussion relating to facility and emergency response matters is provided in **Chapter 3**.

The Board is satisfied that, subject to the conditions, Enbridge's approach to decommissioning is appropriate in the current circumstances, including its proposal to leave the existing Line 21 pipeline segment in place as described in **Chapter 3**.

The Board is of the view that, with the implementation of Enbridge's environmental protection procedures and mitigation, as well as the Board's imposed conditions, the Project is not likely to cause significant adverse environmental effects. A discussion of potential environmental and socio-economic effects is provided in **Chapters 6, 7 and 8**.

⁸ MVRMA Subsection 124(4)

Where more than one body conducts a preliminary screening in respect of a development, any of them may consult the others, adopt another's report or participate in a joint preliminary screening and, where one of them is a board established under Part 3 or 4, **the others are not required to conduct a preliminary screening.** (Emphasis Added)

The Board is of the view that Enbridge's design and implementation of its Project-specific public and Indigenous engagement activities are appropriate for the scope and scale of the Project. The Board is also of the view that all Indigenous peoples potentially affected by the Project were provided with sufficient information and opportunities to make their views about the Project known to Enbridge and to the Board. Public consultation is further discussed in **Chapter 4** and consultation with Indigenous peoples is discussed in **Chapter 5**.

As explained in **Chapter 9**, the Board is satisfied with the economic feasibility of the Project.

Overall, through its reasoning explained in this Report, the Board finds the Project, inclusive of the terms and conditions set out in Appendix III and IV, to be in the public interest.

2.5 How did the Board process the Application?

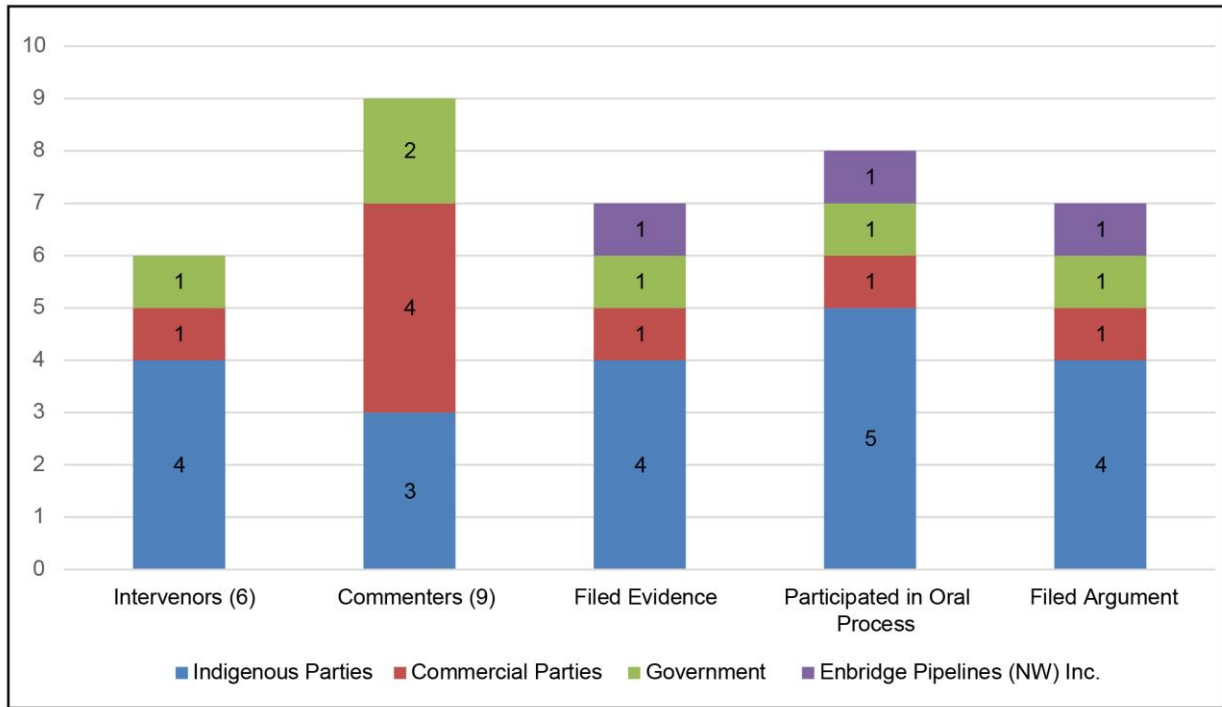
On 15 March 2017, the Board released its Notice of Hearing, requesting that any person or group who is directly affected by the Project, or who has relevant information or expertise, file a letter with the Board to declare their intent to participate in the hearing process, should the Application be deemed complete enough to proceed. On 18 May 2017, the Board determined that the Application was complete enough to proceed to assessment, released Hearing Order MH-001-2017 which established a process with both written and oral components, and released its List of Participants.

Both the Notice of Hearing and the Hearing Order included the Board's preliminary List of Issues. After receiving comments from Parties on its List of Issues, the Board released the final List of Issues for MH-001-2017 on 31 May 2017 (provided in Appendix I for reference).

2.5.1 NEB Hearing Order and Hearing Process

As set out in Hearing Order MH-001-2017, the Board established both written and oral components in this proceeding. The Board held the oral portion in Fort Simpson, NT, during the week of 23 October 2017, where the Board heard oral traditional evidence, oral cross-examination, oral statements and oral argument. Overall, the Board heard from the Applicant, 6 Intervenors and 9 Letter of Comment writers (Figure 2.2).

Figure 2-3: Summary of Participation in MH-001-2017



2.5.2 Participant Funding

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

The funding opportunity for the Project was announced on 16 March 2017 with a funding envelope of \$100,000. The PFP received four applications requesting a total of \$210,196. After reviewing the applications, the PFP recommended awarding to all four. The Executive Vice President, Regulatory approved the recommendation and the total funding allocated to the hearing was increased to \$210,196. More information on the program and the funding awards to all eligible applicants can be found on the Board’s web-site at <http://www.neb-one.gc.ca/pfp>.

2.6 What does the Board do now?

As discussed above, the Board’s role does not end once a hearing process is complete. The Board takes a lifecycle approach to regulation, holding regulated companies accountable so that Canadians and the environment are protected. The Board is present for all stages of a pipeline’s lifecycle – from before a company applies for a project, to the assessment of that project, to the construction and operation of a project, and finally to the oversight and approval of abandonment, reclamation plans and post-abandonment conditions.

During this hearing, the Board heard frustration regarding the availability of detailed, technical information relating to the HDD activity. In response to this concern, the Board encourages Enbridge to hold a technical meeting in the community of Fort Simpson, NT, before the commencement of the HDD activities. As a life-cycle regulator, the Board has highly qualified technical staff dedicated to confirming that the energy infrastructure regulated by the Board remains safe and secure. As such, Board staff would be available to participate in such a meeting should one occur. The location and agenda of the public technical meeting should be locally advertised and Parties of MH-001-2017 notified.

The Board will monitor and enforce compliance with the terms and conditions in the Orders, along with overarching requirements of the OPRs, throughout the lifecycle of the Project through inspections, audits, and other compliance and enforcement tools. Monitoring compliance enables enforcement, promotes continual improvement and facilitates an improved understanding of a regulated company's systems and practices. Compliance can focus on commitments made during the application stage and set out as the terms and conditions of approval, as well as those made during project operations. Additionally, the Board continues ongoing, periodic reviews of the manuals and reports of regulated companies, including those related to environmental protection. The Board also investigates compliance as a result of complaints, reports of high-risk activity or incidents.

The Board will maintain its project-specific website until the conditions in the associated Orders are satisfied. Documents filed by Enbridge in relation to condition compliance and related Board correspondence will be available on this project-specific website:

- <http://www.neb-one.gc.ca/pplctnflng/mjrpp/ln21rplcmnt/index-eng.html>

Details regarding compliance to the various conditions currently imposed on the Line 21 pipeline can be found on the NEB website, under Safety & Environment, Compliance and Enforcement, Condition Compliance Table, searching for Enbridge Pipelines (NW) Inc.:

- <http://www.neb-one.gc.ca/sftnvrnmnt/cmplnc/cndtns/cndtncmplncfst/index-eng.html>

Documents filed by Enbridge in relation to the operation of the existing Line 21 facility, and related Board correspondence, will be available to the public on the NEB website, under Safety & Environment, Compliance and Enforcement:

- <http://www.neb-one.gc.ca/sftnvrnmnt/cmplnc/index-eng.html>

As mentioned above, the NEB and the MVLWB are independent regulators who are making independent decisions. The MVLWB may impose conditions on its Land Use Permit and Water Licence (if granted) and enforce them independently. Details of MVLWB's regulatory oversight can be found on its Registry. The Board does expect overlap with the MVLWB on certain topics, and encourages Enbridge to file consistent plans, programs and procedures if the timing imposed in the conditions allows.

Chapter 3

Facilities and Emergency Response Matters

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

3.1 Description of Facilities

The Project is comprised of approximately 2500 meters of 323.9 mm (NPS 12) pipeline. Pipe material will be carbon steel grade 359 MPa with wall thickness of 12.7 mm and Maximum Operating Pressure (MOP) of 9930 kPa. The purpose of the Project is to install a replacement segment via HDD below an identified slip plane on the south bank of the Mackenzie River.

Enbridge also proposed to relocate an existing gate valve at KP 530.3 on the Line 21 pipeline. Enbridge will relocate the existing valve approximately 90 metres downstream on the pipeline, effectively moving it out of the way of Project activities. The activities associated with the valve relocation are proposed to be completed during winter (frozen conditions).

Enbridge has also proposed that the approximately 2100 metres of existing pipe be decommissioned in place. This decommissioned section of pipe from KM 528.2 to KM 530.3 will be cut, filled with grout, capped and backfilled.

3.1.1 Codes and Standards

When a company designs, constructs, operates, decommissions or abandons a pipeline, it must do so in accordance with the OPR, the commitments made during the hearing, and the conditions attached to any approval. The OPR references applicable engineering standards. Pertinent to this Project is the *Canadian Standards Association Standard Z662-15 Oil and Gas Pipeline Systems* (CSA Z662-15). The company is responsible for ensuring that the design, specifications, programs, manuals, procedures, measures and plans developed and implemented by the company are in accordance with the OPR, which incorporates by reference CSA Z662-15.

Enbridge has stated that all construction will be performed as per the requirements of CSA Z662-15, the OPR and applicable Enbridge standards and specifications.

Views of the Board

The Board is satisfied that the general design of the Project is appropriate for the intended use. The Board is further satisfied that the Pipeline would be constructed in accordance with the OPR and CSA Z662-15.

3.1.2 Exemption from the requirement to apply for Leave to Open

Enbridge submitted that the Project is routine in nature from an engineering perspective and poses minimal risk to the public, to the environment, and to the integrity of the Enbridge system. Therefore, Enbridge requested that the Project be exempt from the Leave to Open requirements of section 47 of the NEB Act.

Views of Parties

Dehcho First Nations

DFN submitted its concerns regarding the overall integrity of the Line 21 pipeline, particularly related to the period of time when the pipeline was shut down. DFN argued that since the crude oil shipped in Line 21 is typically cooled to mitigate and reduce permafrost degradation along the pipeline right-of-way, and that the Line 21 pipeline has not had cooled crude oil running through the pipe since November 2016, DFN is concerned that the position of Line 21 may have shifted considerably. Given DFN's outstanding concerns regarding the integrity of the Line 21 pipeline, DFN requested that the exemption from Leave to Open not be granted and that there be a process whereby DFN and other parties can participate and file information requests and approval conditions regarding pipeline integrity for the entirety of the Line 21 pipeline.

Lúdljį Kúę First Nation

LKFN stated that, in view of the unique circumstances of using HDD in a northern permafrost environment, under one of the continent's largest rivers and in a region with potential for enormous impacts on Indigenous land, water and resource rights, a condition of the Project be the opportunity for LKFN and other First Nations Parties in this hearing to review and provide input regarding compliance with the other conditions of the Project prior to the Board granting Leave to Open the Project.

Sambaa K'e First Nation

SKFN stated that Enbridge should be required to apply for Leave to Open from the NEB prior to resuming operations. SKFN also requested that the Board ensure that the Leave to Open process include a full, public oral hearing including opportunities for Parties to submit information requests. SKFN argued that such an approach is warranted because of the unusual circumstances that will surround the Leave to Open application for Line 21. SKFN asserted that Line 21 is well past its expected lifespan at this time and passes through a region of sensitive terrain undergoing rapid permafrost thaw. The operations of the line must be reviewed to ensure that its operations are still safe under circumstances that are more extreme than what was originally anticipated.

Reply of Enbridge

Enbridge indicated that it had been actively engaged in ongoing negotiations with LKFN. As a result of those discussions, Enbridge withdrew its request for an exemption from the Leave to Open requirements of section 47 of the NEB Act.

Views of the Board

The Board is satisfied that Enbridge will apply for Leave to Open the Project. The Board notes that the Leave to Open process is an assessment to ensure that all testing has been completed in accordance with the OPR and CSA-Z662-15, to confirm that the relevant facilities are safe to operate. This is not an open public process whereby evidence or procedures are tested. The Board also notes that the Leave to Open application is filed on the Board's public website and can be viewed by the general public. However, to address the Intervenor's concerns, the Board has imposed **Condition 16** requiring Enbridge to file its Leave to Open application 10 days before a proposed return to service and serve Parties with this filing.

3.2 Slope Stability and Decommissioning

3.2.1 Slope Stability

Enbridge submitted that slope instability was initially identified on the south slope of the Mackenzie River valley through the annual slope monitoring activities conducted on the Line 21 pipeline. In June 2016, LiDAR data for the south slope of the Mackenzie River near the Line 21 pipeline Right of Way (RoW), including areas upriver and downriver of the RoW, were obtained and used to create a Digital Elevation Model (DEM). Extensive areas of shallow to moderately deep-seated translational and flow sliding were identified on the LiDAR DEM along the south slope of the Mackenzie River upstream and downstream of the crossing location. The LiDAR DEM also indicated landslide terrain on the south slope, with a well-defined headscarp near the crest of the slope and areas of displaced material, or colluvial deposits, extending from the headscarp to a well-defined toe bulge. This finding also corresponded to the toe bulge identified in the field. The slope instability failure zone observed on the south slope was interpreted to be within the glaciolacustrine clay and silt zone, to an approximate depth of 10 m. No deep movement data is presently available but it was assumed for the purposes of the direction drill feasibility assessment that sliding below the headscarp area could extend down to elevation 130 m.

On the north approach slope, no indication of slope movement was observed during visual reconnaissance. Similarly, geotechnical personnel working on the slope during the 2016 geotechnical test drilling program did not identify any evidence of moderately deep or deep-seated sliding that would be a consideration for the proposed HDD.

3.2.2 Decommissioning

Enbridge explained that to complete the decommissioning activities for the Project, it will:

- Obtain all necessary permits and perform a site hazard assessment.
- Confirm that the line has been isolated, drained and cleaned properly.
- Approximately 2100 metres of the existing NPS 12 pipe section, from KM 528.2 to KM 530.3, will be filled with concrete grout.
 - Cold cut the segment and fill it with concrete grout, pouring from the cut on the south side.

- Cap the north and south end.
- Seal the decommissioned piping.
- Reconnect the cathodic protection to the decommissioned pipe.
- Backfill the remaining portion of the exposed decommissioned pipe.

Enbridge proposed to leave the decommissioned pipe in-place. Enbridge stated that the removal of the pipe from the slope would require the use of heavy equipment (excavators and dozers) on the south slope to expose the pipe before it could be removed. Given the stability issues with that slope, the use of heavy equipment would pose a significant safety hazard. The exposure of the pipe would require the removal of approximately 1200 cubic meters of woodchips, the rolling back of approximately 700 cubic meters of topsoil and the excavation of approximately 3700 cubic meters of soil. A 5 m deep bell hole would also be required at the bottom of the slope to reach and expose the pipe in order to cut and separate the line from the section under the Mackenzie River.

If the line is removed from the slope, then Enbridge would be required to bring heavy equipment down the slope. Further, the insertion point for the grout fill would then be at an elevation lower than the pipe on the north side and would present some challenges with maintaining the level of grout in the pipe and ensuring no leakage of grout. Enbridge would also need to complete a study and risk analysis to determine whether the large soil piles from exposing the pipe could contribute to the further destabilization of the slope, as a result of the high localized normal loads.

In Enbridge's assessment, it would not be possible to complete any remedial work that would maintain the slope stability in the long-term. The slope movement being observed is not localized to the Enbridge right-of-way; it extends across a long section of the south bank of the Mackenzie River, with multiple large flow slides visible upstream. Decommissioning the pipeline in place may help to maintain slope stability, since the pipeline can provide structural support for the slope, while removal of the pipe may destabilize the soil. There would also be environmental hazards associated with pipe removal, related to the disturbance of the soil and groundwater and the potential impacts to natural wildlife and vegetation. An additional concern is soil stability during and after excavation, which could lead to increased localized erosion and contribute to further destabilization of the slope. These hazards could also cause considerable disruption to ongoing and future land management activities.

Enbridge states that this segment of Line 21 is being permanently decommissioned in place and that there will be no future use of this segment. Enbridge does not anticipate any further abandonment activities for the decommissioned segment assets. Enbridge confirms that records related to the decommissioned facilities will be maintained, in accordance with applicable requirements. Enbridge will continue to monitor the decommissioned segment of pipeline in accordance with its O&M Manuals, as applicable.

Enbridge has stated that it would monitor this crossing as part of its real-time flood monitoring program which will provide notifications to Enbridge should flowrates reach the 1:500 year flood return period necessary to scour and expose the top of the pipe. Should flooding significantly exceed 1:500 year levels, Enbridge would complete an inspection of the crossing to verify the extent of loss of cover. Enbridge will also continue to monitor the Line 21 RoW

(including the Mackenzie River crossing) in accordance with its O&M Manuals, which support Enbridge's Environmental Protection Program, as applicable.

Views of Parties

Lúdljį Kúé First Nation

LKFN expressed concerns about the decommissioned pipe being left in place and the limited information Enbridge provided relating to the decommissioning. LKFN stated that Enbridge provided reasons for not removing the section of pipe on the slope, but no rationale or technical analysis about why Enbridge still proposes to leave the existing segment of pipeline in the riverbed. LKFN further stated that, in evidence provided at the oral hearing, it became clear that Enbridge had in fact clearly considered what specific work would be involved to remove the decommissioned segment of pipe including environmental risks, safety issues and associated cost. However, Enbridge had not provided clear written evidence or technical analysis of this rationale to LKFN or any of the other affected Dene Nations and Dene communities, for review and analysis regarding impacts on Dene rights.

Views of the Board

The Board is satisfied with Enbridge's Decommissioning Plan. Enbridge has shown that pipe removal is difficult, has environmental impacts and is potentially dangerous to workers. Enbridge has also shown that removing the pipe may adversely affect the slope and destabilize it more than its current state. The Board is satisfied that the pipe will be cleaned to further remove any residual trace hydrocarbon deposits to the extent practical and that the pipe section will be filled with grout and capped, in accordance with OPR and CSA Z662-15. The Board is also satisfied that the decommissioned section of pipe will remain part of Enbridge O&M manuals, plans and procedures.

Further to the Board's questioning around the appropriateness of removing the pipe, Enbridge indicated, in the Oral portion of the Hearing, that certain parts may possibly be removed. The Board has imposed **Condition 4 of the Decommissioning Order**, which requires Enbridge to file a study to determine the feasibility of removing a portion of the pipe. Also, the Board has imposed **Condition 5 of the Decommissioning Order** requiring Enbridge to include the decommissioned section of pipeline when it files an Abandonment application for Line 21 at the end of the pipeline's lifecycle.

3.3 Design and Operation

3.3.1 Maximum Operating Pressure

Enbridge has stated that the design MOP of the Pipeline is 9930 kPa. However, once the Project has been completed and the Line 21 pipeline is back in service, the pipeline will not be operating at the maximum operating pressure. Enbridge will continue to comply with Board Order MO066-2015 for as long as it remains in effect.

Views of the Board

The Board is satisfied with the design pressure of the pipeline being consistent with the existing pipeline design and that the operation of the new segment of pipeline will be in compliance with existing Board Orders.

3.3.2 HDD Design

The proposed HDD has a horizontal crossing length of 2071.1 m and includes a designed 16 degree angle for both north entry and south exit drill plans. The observed movement of the south slope requires that the crossing be completed beneath a defined zone of instable movement. Enbridge would establish a “No-Drill Zone” for the drill path established using defined slope stability criteria and calculated hydrofracture considerations based on soil and rock properties. All soil and rock properties used for hydrofracture calculations apply conservatism to limit the possibility of inadvertent returns. Based on those reviews, there are no specific hazards that would be considered abnormal or unmanageable in terms of ensuring overall feasibility of the HDD program. The limiting pressure throughout the drill, but particularly on the south side, is largely affected by soil overburden on the annulus.

The drill path is designed to be straight as it travels through the rock-soil interface. The limiting pressure curve dips slightly through this area due to a decrease in overburden pressure. Given the uncertainty of the specific geotechnical properties that will be experienced through this section, along with the specific drilling conditions at the time of execution, the hydrofracture design assumptions are meant to be conservative. Although no hydrofracturing is expected based on the depth and profile design, Enbridge committed to highlighting this region to the drilling contractor to ensure close monitoring. In addition, no high permeability fractures, faults or formations, providing a direct mud flow migration path from the HDD hole to the Mackenzie River or ground surface, were identified in the analysis.

As a result of the geotechnical issues found on the south side, Enbridge stated that multiple attempts will likely be required, from the south side, to successfully drill into the shale bedrock. On the north side, the issues posed by the granular materials near the hole collar, the transition layer into the shale bedrock and zones of low rock quality designation in the shale, will be mitigated using the measures identified in the HDD Geotechnical Feasibility Study. Overall, Enbridge stated that a straight drill path, not laterally constrained by RoW considerations, offers the highest chance of success.

Enbridge confirmed that the Project will be completed using the drill and intersect method with a designated entry location for the drill path at the north side of the river and the exit on the south side. The pilot hole alignment would be drilled and remain within the tolerance given on the Issued for Construction drawings and agreed specifications. Enbridge will be notified of any measured deviations or projected deviations from the agreed upon specifications by its drilling contractor.

Views of Parties

Dehcho First Nations and Łı́ı́dlı́ı́ Kúé First Nation

DFN and LKFN expressed concerns about the potential failure of the HDD and eventual abandonment of the planned crossing. DFN and LKFN requested that Enbridge prepare an HDD contingency plan in the event the proposed plan cannot be successfully completed which would have details on what will be done in the event the drill has to be abandoned.

Views of the Board

The Board has reviewed the evidence submitted by Enbridge and is satisfied with Enbridge's HDD plans. The Board understands that with an HDD there is the potential for failure and learnings, and that it is standard industry practice to retry with adjusted drilling parameters or locations. Given the challenging subsurface conditions presented in the evidence and difficult terrain of the HDD, the Board agrees that multiple attempts will likely be required before the completion of a successful HDD. Therefore, the Board has imposed **Condition 15**, in which Enbridge will file with the Board the results of failed attempts, the modifications for the next attempt and any learnings applied for subsequent HDDs.

The Board also recognizes that a viable contingency plan to an HDD is another HDD, as opposed to an open cut crossing. The Board is mindful that Enbridge has not provided this as an alternative and has maintained that an HDD will likely be successful given multiple attempts.

3.3.3 Permafrost

Enbridge submitted that thermistors installed between 1985 and 1991 (T22, T85T10, T91-7) on the south slope showed frozen soil conditions, with seasonal temperature variations noted between 1991 and 1994. In 1995 and 1996, all of the installed thermistors registered thawed conditions which correlates to one of the hottest summers on record for this region.

Enbridge stated that following 1999, the data from all of the functioning thermistors showed unfrozen soil conditions on the south slope. Permafrost conditions encountered in previously drilled boreholes varied and are no longer considered by Enbridge to be representative of slope soil conditions. Boreholes drilled in 2015, 2016 and 2017 did not encounter frozen soil conditions (this includes the north slope in the 2017 holes). The Shape Accel Array (SAA) installed in 2016 also contain thermistors which will allow monitoring of ground temperatures at additional sites on the south slope.

While the Project is mapped as a zone of extensive discontinuous permafrost, no permafrost was encountered during geotechnical investigations completed as part of the HDD feasibility study. Enbridge will nevertheless implement measures to reduce potential impacts of the Project on permafrost, including:

- prohibiting the disposal of heated water used for hydrostatic testing in potential permafrost terrain;
- minimizing vegetation clearing to the extent required to accommodate HDD activities;
- working from matting to reduce impacts to soil; and

- rolling back vegetation onto cleared areas during clean-up.

Views of Parties

Lúdljì Kúé First Nation

LKFN is concerned that Line 21 has contributed to permafrost thaw and degradation on and around the pipeline RoW. LKFN argue that permafrost monitoring has shown that permafrost on the RoW has thawed and, in some cases, disappeared in recent years. LKFN's modelling work suggests that permafrost thaw on the Line 21 RoW will extend, via the talik, for several metres off the RoW. LKFN stated that surface disturbance due to the digging of pits for the HDD, pipe pullback and for sumps to store drilling waste, has the potential to trigger a positive feedback of permafrost thaw.

Sambaa K'e First Nation

SKFN stated that Enbridge has not assessed permafrost of the areas to be cleared for this Project, nor have they put in place a plan for permafrost monitoring. SKFN argued, given the lack of knowledge demonstrated by Enbridge about permafrost at the Project site, and given that permafrost degradation can cyclically extend the affected zone of the project footprint over time, that Enbridge be required to assess permafrost at the site. SKFN further argued that a permafrost monitoring plan and site-specific erosion monitoring and mitigation plan should be part of a required site-wide monitoring plan.

Dehcho First Nations

DFN has concerns about the impacts of permafrost degradation on the Line 21 pipeline. Permafrost in the Dehcho Region has decreased from 70 percent cover to 43 percent cover from 1943 to 2008. There is evidence that permafrost thaw is further accelerated in areas that have been disturbed. Extensive ground thermal monitoring on the Line 21 Pipeline south of Fort Simpson, NWT, has shown several metres of vertical permafrost thaw, a complete loss of thin permafrost, ponding, and ground subsidence of more than 2 m. In permafrost terrain, a slope that may be stable in frozen, thawed or unfrozen terrain may not be stable during the period of thawing. This is because as the frozen soils thaw, pore-water pressures are generated that may destabilize the slope. Permafrost–pipeline interactions may include thaw settlement, frost heave, upheaval buckling, buoyancy, slope instability, and others. Many of these issues develop many years after construction in response to changes in permafrost.

Views of the Board

The Board is satisfied that Enbridge has studied the permafrost conditions along the RoW for the Project. From the instruments installed, as well as the geotechnical boreholes completed, no permafrost has been encountered. Therefore, the Board is of the view that while the Line 21 pipeline does cross areas of discontinuous permafrost, the Project location specifically is not of concern. In the event that permafrost is encountered in new lands required off the RoW, the Board is satisfied with Enbridge's mitigation plans. The Board expects Enbridge to strictly enforce these plans and to ensure that permafrost conservation is at the forefront of required activities.

3.4 Pipeline Integrity

3.4.1 Coating

Enbridge noted that the coating of the replacement segment is different than that of the original construction. The Project pipe will have a fusion-bonded epoxy (FBE) coating with an abrasion resistant overcoat (ARO) to prevent damage to the pipe during the HDD pullback. Enbridge stated that the difference in coatings does not result in any ramifications to the long-term integrity of the pipeline.

Views of the Board

The Board is satisfied that the use of FBE coating and ARO for the replacement segment is appropriate and industry standard practice for HDD. The Board notes that the existing pipe coating system is not FBE, but this will not have a negative impact on the integrity of either coating or the pipeline. The Board is satisfied that Enbridge will use ARO on the pipe for the HDD to minimize the potential damage to the pipe during the HDD pullback and that the pipe coating will be checked for continuity and visual damage on the exit side after pull through.

The Board also notes Enbridge's commitment for further engagement with local communities and knowledge sharing. The Board expects that Enbridge will take the opportunity to educate local interested people about HDD operations, including possible viewing of the coating condition and pipe ends once pull back is complete.

3.4.2 Integrity Management Plan (IMP)

Enbridge explained that the Project will be integrated into the IMP that it has in place for all of its pipelines and facilities, including the Line 21 pipeline, to ensure the safe and reliable delivery of hydrocarbon liquids. Enbridge's Integrity Plans are based on a thorough assessment of susceptibility to hazards that can occur on any pipelines and ensure that appropriate preventative and monitoring activities are completed to prevent damage to assets and provide high resolution diagnostics to plan proactive repair long before they represent a potential loss of containment. Using high resolution ILI tools in combination with conservative response criteria to investigate potential threats has been proven to be very effective to maintain assets to operate indefinitely. The typical hazards can be summarized as corrosion, cracking, deformation and Geo-hazards (external forces impacting the pipeline such as soil movement). Excavations, also known as digs, are the investigative activities that allow Enbridge to confirm ILI diagnostics and, if needed, perform a preventive repair.

The Magnetic Flux Leakage (MFL) In-Line Inspection tool is selected as the primary integrity management tool to assess the corrosion threat. The MFL technology is able to characterize and size both external and internal corrosion and allows for early detection and preventative repair using conservative criteria. Internal pipeline cleaning, cathodic protection, and monitoring activities will continue to augment the MFL ILI program for effective corrosion threat mitigation. The MFL ILI program is scheduled for every eight years, with the next inspection in 2020.

Based on pipeline properties, and operational parameters, and available threat ILI tools, the ultrasonic crack ILI tool is selected as the primary integrity management tool to assess the cracking threat. The current operating pressure and cycling are very low and contribute to minimize the initiation and propagation of cracking. Cathodic protection, RoW patrols, geo-hazard monitoring, slope instrument monitoring, strain ILI inspections, and cleaning all contribute to crack threat mitigation. Crack Detection ILI runs every five years, with the next inspection scheduled for 2018.

As part of the management of deformation such as dents, wrinkles and buckles, Enbridge uses an array of monitoring and diagnostic tools. Yearly to bi-annual ILI using a caliper able to measure minute deformation in the pipeline is coupled with an inertial unit (IMU) that, when aligned with Global Positioning System (GPS), can provide accurate pipe movement information on the entire line.

RoW patrol with personnel trained in identifying signs of soil movement, localized slope inclinometers measuring precise local soil movement, and local strain gauges are additional monitoring activities that help in keeping a close watch for potential external forces that may impact the pipeline. Flood monitoring of major rivers is another component, where any flood event beyond a safe threshold leads to a safety review triggering potential on-site inspections or even the shutdown of a pipeline until site inspections can be safely completed.

In addition to the regular activities aforementioned, Enbridge has been conducting a series of additional activities as part of the comprehensive monitoring and maintenance program to fulfill the requirements of NEB Order AO-006-MO-19-93, Pipeline and RoW Monitoring Program for Line 21. These additional activities include annual detailed reconnaissance, instrumentation readings, RoW line patrols and thaw probing. The results of the monitoring and maintenance program are reported and presented to the NEB annually.

The type and frequency of inspections on NEB-regulated pipelines are tailored to the specific pipeline characteristics and environmental settings of each pipeline. Enbridge submitted that its inspection programs meet or exceed the requirements prescribed in CSA Z662. Enbridge reminded the Parties that, as Line 21 is an NEB-regulated pipeline, Enbridge's IMP and inspection programs are audited by the NEB and that the results of these audits are publically available through the NEB website.

Views of Parties

Dehcho First Nations, Łúıdlıj Kúé First Nation and Smbaa K'e First Nation

DFN, LKFN and SKFN expressed concerns about the procedures and IMP Enbridge has in place as well as integrity of the whole line and Enbridge's ability to ensure safe transportation of crude oil.

LKFN also expressed concerns with how the new segment of pipeline would be properly maintained or repaired as part of Enbridge's integrity management programs.

Views of the Board

The Board is satisfied that the Project will be integrated into Enbridge's existing IMP. The Board notes that Enbridge's IMP is developed in accordance with CSA Z662-15 and

meets or exceeds these requirements. However, the Board expects Enbridge to continually improve this IMP given the location of this pipeline and the challenges of operating a pipeline in Northern Canada. The Board expects Enbridge to continue to be proactive in its duty to identify hazards, investigate and mitigate these hazards in a timely manner. The Board also notes that integrity digs are an important part of pipeline integrity to evaluate and mitigate potential hazards. The Board also expects Enbridge to continually involve people in impacted communities and provide relevant and up to date information on activities impacting local areas, such as integrity digs.

3.4.3 Leak Detection

Enbridge submitted that it employs a comprehensive, multi-layered approach to leak detection on Line 21, which will be applied to the Project replacement segment, and is committed to the continuous improvement of its leak detection strategy. This strategy now encompasses six primary leak detection methods, each with a different focus and featuring differing technology, resources and timing. These methods include:

- Controller Monitoring,
- Visual Surveillance,
- Automated Pressure Deviation,
- Computational Pipeline Monitoring,
- Schedule Line Balance Calculations, and
- Rupture Detection.

Using a risk-based approach and considering other mitigations in place, Enbridge explained that it periodically utilizes other complementary leak detection technologies such as acoustic inline inspection tools, which are designed to confirm the integrity of the pipeline through the detection of very small leaks through unique acoustic signatures. Enbridge further explained that the timing of detection is dependent upon the conditions surrounding the leak, such as leak size, location, soil, climate, depth of burial/coverage, product in pipeline, pipeline rates/pressures, and others.

Enbridge expects that timely detection of small leaks would occur prior to having longer term impacts on groundwater systems, although the latter is possible. Specifically, visual surveillance through aerial and ground patrols, complemented by periodic acoustic inspections would be typical methods used to detect these types of leaks.

Views of Parties

Dehcho First Nations, Lúdlíj Kúé First Nation and Sambaa K'e First Nation

DFN, LKFN and SKFN have expressed concerns that Enbridge's leak detection system is inadequate, citing previous incidents along the Line 21 pipeline. DFN and SKFN noted previous leaks which have gone undetected by Enbridge's leak detection system. DFN and SKFN have requested that Enbridge file the leak detection system manual as well as systems test results. Parties also shared concerns about leaks in the new segment of pipe 100 metres below the surface and how Enbridge would access this section of pipeline for integrity digs.

LKFN argued that prior to approval, Enbridge should be required to provide a binding commitment to develop a Leak Detection Plan for the new segment of pipe under the Mackenzie River and under the banks of the River, and prior to commencement of the Project.

Views of the Board

The Board is satisfied that the Project will be incorporated into Enbridge existing leak detection system. The Board also notes that Enbridge is employing new technologies in an effort to reduce the possibility of not identifying small leaks that have occasionally gone unnoticed in the past. The Board also recognizes that Enbridge is unable to conduct integrity digs under the Mackenzie River and notes that along with its use of ILI tools to detect features, the heavier wall pipe that will be used is an appropriate mitigation and is standard industry practice. The Board also expects that, given the unique nature of the Line 21 pipeline, the terrain it crosses and the unique hazards of operating a pipeline in Northern Canada, Enbridge will continue to develop and implement leak detection systems to continually improve those currently in place and to further minimize any potential leaks, large or small.

3.5 Enbridge's Emergency Preparedness and Response Planning

The Board requires all of its regulated pipeline companies to anticipate, prevent, manage and mitigate potentially dangerous conditions associated with their facilities, as part of an Emergency Management Program. The Board developed *Guidance Notes* for the OPR to assist companies in understanding the requirements. Further information on Emergency Management Programs is provided in Annex A of the OPR *Guidance Notes*. With respect to emergency response, the Board notes that Enbridge must comply with sections 33 to 35 of the OPR for continued liaison with agencies and persons that may be involved in an emergency response and for the ongoing implementation of a continuing education program for emergency response.

In order to determine compliance with the Emergency Management Program requirements of the OPR, the Board conducts compliance verification activities on every aspect of this program. These activities include reviews of manuals, compliance screening meetings, implementation assessment meetings, information exchange meetings, inspections, and audits. The Board also participates in emergency response exercises as required by the scale of the exercise. During the course of its compliance verification activities, the Board assesses the adequacy, effectiveness and implementation of a company's emergency management system, program and emergency procedure manual(s). The Board's compliance activities are risk-informed and adaptable to take into account changes in a company's facilities or performance.

Views of Enbridge

Enbridge submitted that the Project will comply with the most recent version of all applicable acts, regulations, and standards, including the OPR and CSA Z662-15.

Views of Parties

Dehcho First Nations, Łı́ı́dlı́ı́ Kúé First Nation and Sambaa K'e First Nation

DFN, LKFN and SKFN expressed concerns regarding spill emergency response with respect to the segment of pipeline that will be installed under the Mackenzie River through HDD, for both

the construction and operation phases. LKFN further argued that no adequate information was provided by Enbridge to address the concerns regarding options for spill or leak response in the newly installed pipeline, considering that the pipe will be buried up to 140 m beneath the Mackenzie River. LKFN is also concerned about how leak response would be complicated by ice cover on the Mackenzie River in the winter, or how leak response procedures would be modified to account for winter ice conditions.

Reply of Enbridge

For spill response during the construction phase, Enbridge indicated that its Spill Contingency Plan, filed as part of the Project Environment Protection Plan, outlines spill prevention measures, spill control plans, reporting, response, and clean-up requirements and procedures. As for emergency spill response during the operation phase, Enbridge stated that the details are provided in the Enbridge Northern Region Integrated Contingency Plan and the Enbridge Northern Region Field Response Plan, which are available on Enbridge's website.

Views of the Board

The Board is of the view that the measures proposed by Enbridge to address emergency preparedness and response are appropriate for both the construction and operation of the new pipeline segment. The Project will be incorporated into Enbridge's existing and regulated Northern Region Integrated Contingency Plan and Northern Region Field Response Plan, which applies to the entirety of Line 21. A Spill Contingency Plan will also be submitted to the Board prior to the commencement of construction of the Project as part of the updated Environmental Protection Plan (EPP) to be filed under **Condition 6**.

As with any company the NEB regulates under the OPR, Enbridge must respond to any incident that results in a loss of product from its pipeline, regardless of the time of year or whether ice cover is present (responder safety permitting). Ice cover can present additional challenges in a response, but there still remains the responsibility to respond effectively and safely.

The Board notes that the challenge with creating a specific tactical guide for responding to spills under ice, or any other condition, lies in the uniqueness of each spill. Variables that influence the fate and effects of oil spilled to the environment can change by the hour, so there could not be a guidebook to address all specific concerns, since the conditions being addressed will be highly dynamic and changing throughout the response. This is why most spill response operations will set a 24-hour Operational Period, as it allows a response team to assess conditions and re-align tactical response on a daily (or sometimes more frequent) basis as conditions change. That noted, it does not change the fact that Enbridge must, under the existing legislation, be able to respond safely and effectively to a spill from its pipeline, regardless of seasonal variances.

As an NEB-regulated company, Enbridge must meet the requirements of sections 32 to 35 of the OPR to address emergency management liaison, continuing education and consultation requirements with affected and potentially impacted parties. The Board expects emergency management-related discussions between Enbridge, first responders, stakeholders and Indigenous peoples to be ongoing and collaborative as part of Enbridge's Public Awareness

Program. As such, the Board encourages Enbridge to communicate potential spill response scenarios to the communities, which could be accomplished through the technical meeting referred to in **Chapter 2**. Community stakeholders can then learn directly from the company the capabilities, and what options exist, for spill response under winter conditions.

The Board recognizes the importance of, and expects Enbridge to ensure, effective emergency management, including planning, training, communication and coordination with first responders, stakeholders and Indigenous peoples. The Board further notes that through the NEB's full lifecycle oversight, it will continue to monitor, assess and review the pipeline's operations as long as it is in service.

3.6 Safety and Security – Construction

In accordance with the OPR, NEB-regulated companies are required to implement mitigative and preventive measures to ensure the safety of employees, workers, contractors, the public and the environment during pipeline construction. Section 47 of the OPR requires a company to develop, implement and maintain a safety management program that anticipates, prevents, manages and mitigates potentially dangerous conditions and exposure to those conditions during all activities relating to construction, operation, maintenance, abandonment and emergency situations. Safety culture is developed and promoted where there is an effectively implemented management system.

The Board monitors a company's compliance with the conditions of approval and with legislation during all stages of the construction and operation of a project. The Board evaluates the need for specific compliance verification activities and determines whether an on-site inspection or review of the company's management systems (audit) is necessary. This includes an evaluation of company programs to address safety and security.

Views of Enbridge

In its application, Enbridge submitted that project construction will be performed as per the requirements of CSA Z662-15, the OPR and applicable Enbridge standards and specifications. Enbridge also indicated that a site inspector will be on-site during construction, testing, commissioning, and start-up of the Project and that construction inspection, along with Quality Assurance surveillances and assessments will ensure all construction activities are performed as per Enbridge's Pipeline Construction Specifications (Canada). Construction, Safety, and Environmental Inspectors will monitor contractor compliance with all applicable regulations and ensure that contractual requirements are met with respect to engineering design, construction, safety and environmental protection.

Enbridge also submitted that the project will comply with the most recent version of all applicable acts, regulations, and standards, including CSA Z246.1 Security Management for Petroleum and Natural Gas Industry Systems and the OPR. Enbridge has developed a Security Plan that is applicable to the project, based on a conducted and documented security assessment.

Views of Parties

Dehcho First Nations, Łı́ıdlı́ı́ Kúé First Nation and Sambaa K'e First Nation

DFN, LKFN and SKFN have expressed concerns about the safety of all community members, particularly Indigenous women and girls, in the context of an influx of outside workers who will reside in the project area, and have access to and interact with the community.

In addition, LKFN specifically raised concerns for the safety of the Mouse family whose home is located just off the RoW on the south side of the Mackenzie River. Concerns were also expressed by LKFN regarding increased barge and water taxi traffic as posing a risk to LKFN members who use the Mackenzie River for harvesting, cultural practices and as a transportation corridor. This is a particular concern with respect to the LKFN youth camp on the south side of the Mackenzie River near the project area and barge docking site.

Reply of Enbridge

Enbridge stated that all project personnel will be required to abide by the Camp Rules and Policies as well as the Personnel Code of Conduct. Enbridge has also confirmed that there will be zero tolerance for the possession, consumption and distribution or sale of any non-prescription drugs, and that any violation to the Personnel Code of Conduct would result in dismissal from the project. In addition, Enbridge indicated that in order to limit the exposure of foreign or transient workers in town, recreational facilities will be provided in the camps and there will be a very limited amount of vehicles on the south camp location for access up and down the RoW. Enbridge also committed to establishing a direct communication line between the construction management team and the local community to report any concerns with the project personnel.

Specifically regarding concerns raised by Ms. Mouse and her family, Enbridge committed to working with them, understanding and addressing their safety concerns, and that it could, for example, install a controlled crossing point on the RoW for safe crossing as well as establishing a safe lane of traffic for them.

Enbridge indicated that barge traffic increases would be concentrated during mobilization and demobilization periods of the project for the north work site, and that barge usage during the drilling operations will be low and restricted to areas between the pipeline crossing and Fort Simpson. Enbridge added that the barge traffic increase will be of short duration and concentrated at the barge landing sites at the north work site and an existing permanent landing in Fort Simpson. Enbridge has also committed to providing the barge schedule and landing procedures when they are available.

Views of the Board

In the Board's view, the safety of Canadians and the protection of the environment is paramount in the design, construction and operation of pipelines. The NEB works to inform Canadians living and working around pipelines to promote their continued safety, and to make sure they understand their rights and responsibilities. The Board is satisfied with the evidence submitted by Enbridge with respect to safety and security, and views the measures proposed by Enbridge as appropriate. The Board notes that, once the Project is complete, the segment will be incorporated into the existing Safety and Security programs for Line 21,

which the Board will continue to monitor, assess and review throughout the pipeline's lifecycle.

To facilitate the ongoing review by the Board of Enbridge's safety plans and performance, the Board is imposing conditions requiring Enbridge to file the following with the Board:

- An updated Construction Safety Manual pursuant to section 20 of the OPR (**Condition 5**);
- A Camp Management Plan, including the measures Enbridge will take to comply with any applicable legislated requirements, the camp rules on access and conduct at the camp, the measures to restrict access and to otherwise ensure safety and security of persons staying in the camp, and a layout of the camp facilities to include location of fencing and controlled access points, office and first aid facilities. (**Condition 12**); and
- A Traffic Management Plan, including a work plan on ongoing mitigation of the impacts due to increased barge and water taxi traffic and increased traffic and heavy equipment traffic restricting public access on roads and highways (**Condition 11**).

Chapter 4

Public Consultation

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

Enbridge's Indigenous consultation program and project-specific consultation activities with Indigenous peoples are discussed in **Chapter 5**, Indigenous Matters.

4.1 Enbridge's Public Consultation Program

In its application, Enbridge stated it designed and implemented a Project-specific consultation program which began in January 2017. The purpose of consultation and engagement activities were to provide stakeholders with Project information and opportunities to identify and address concerns about the Project. Enbridge confirmed it will continue to consult with stakeholders about the Project throughout its lifecycle.

The objectives of Enbridge's public consultation and communication plan were to:

- proactively engage with impacted stakeholders early in the process to build understanding and awareness of the Project;
- design and execute an engagement program that allows for genuine two-way conversations with stakeholders;
- respectfully engage stakeholders to understand their preferred method of communication, which will allow Enbridge to tailor and maximize future engagement;
- learn about community interests and perspectives and implement changes to the program design or scope to minimize adverse impacts where feasible;
- satisfy the needs of the applicable regulatory requirements for consultation with affected stakeholders;
- proactively address issues and respond to questions; and
- be diligent and consistent in maintaining records of contact.

Enbridge identified the following potentially affected parties:

- landowners
- tenants

- local residents
- land use corporations
- local, territorial and federal government authorities

Enbridge submitted that various methods were used to provide information on the Project to potentially affected parties. These included mail-out packages, website info, in-person meetings, fact sheets, telephone discussions, email exchanges and open houses.

Enbridge stated its consultation program was developed to be flexible to respond to new information gathered during consultation and address specific needs or requests of stakeholders as they were identified. Enbridge further stated it will continue to work closely with affected stakeholders and communities as well as participate in ongoing consultation initiatives to identify interests and address concerns related to Project activities.

4.2 Consultation Activities with the Public

Views of Enbridge

On January 12, 2017, Enbridge provided written correspondence and Project notification packages, including information about the Project activities (about the installation of the new segment of pipe and the decommissioning of the existing segment of pipe), schedule, and locations to all identified stakeholders.

On February 28, 2017, Enbridge hosted a public open house in Fort Simpson to provide an update to the communities about the proposed Project.

Enbridge stated it will continue to engage with stakeholders in open and transparent dialogue concerning the Project and will continue to offer meaningful opportunities to engage for the purposes of exchanging information regarding the Project, responding to inquiries, hearing and responding to any interests and concerns that may arise, including those related to potential economic opportunities. Enbridge also stated that stakeholder consultations were conducted simultaneously for the HDD and decommissioning projects and that it will continue to engage with stakeholders as part of its ongoing Public Awareness Program for Line 21.

Views of Parties

Government of Northwest Territories

GNWT stated that the pipeline contributes significantly to the economy of the Northwest Territories and provides important services and opportunities for Northern residents.

Imperial Oil Resources N.W.T Limited

Imperial stated that the pipeline is the only available transportation option for oil produced at its Norman Wells operation and that this operation is a significant economic contributor to the local community, providing both direct and indirect benefits. Imperial further stated that the excess generation of electricity produced by the operation is sold to the Northwest Territories Power Corporation which supplies the town of Norman Wells.

Letters of Comment

Fort Simpson Chamber of Commerce, MLA Sahtu Northwest Territories, Norman Wells and District Chamber of Commerce, Norman Wells Land Corporation, North West Territories Chamber of Commerce, Town of Norman Wells, Tulita Land and Financial Corporation, Village of Fort Simpson

A number of Participants expressed concerns about the significant and adverse economic and social impacts relating to job losses, losses in shared resource revenue and business losses, both locally and in the larger Sahtu Region, since the pipeline has been shut down. Other Commenters shared concerns about pipeline impacts on the environment and slope stability issues.

Views of the Board

The Board is of the view that Enbridge's design and implementation of Project-specific public consultation activities was adequate given the scope and scale of the Project.

The Board is satisfied that Enbridge appropriately identified stakeholders, developed engagement material and notified stakeholders of the Project. Further details regarding consultation with Indigenous peoples is provided in **Chapter 5**.

The Board notes that some participants raised concerns about impacts of the Project on the environment and slope stability. More information about safety and the protection of the environment is provided in **Chapter 3** and **Chapter 7**. The Board further notes that some participants raised concerns about job and business revenue losses, including for communities in the Sahtu Region. This provided the Board with a deeper understanding of the current social and political context in which this Project is being considered.

The Board also notes that Enbridge committed to continue its public consultation activities throughout the lifecycle of the Project to ensure that issues are addressed and that all potentially affected parties remain informed and involved.

Chapter 5

Indigenous Matters

The Board has considered all of the evidence provided by Indigenous peoples and others, including Enbridge, about the potential impacts of the Project on Aboriginal interests, including rights, Enbridge's proposed mitigation of the Project's potential effects, requirements in the regulatory framework and the conditions imposed by the Board in the Orders. The Board interprets its responsibilities in a manner consistent with the *Constitution Act, 1982*, including section 35(1), which recognizes and affirms the existing Aboriginal and Treaty rights of Indigenous peoples. Further discussion of the Board's role in upholding section 35 of the *Constitution Act, 1982* is available in **Section 5.6.2**. The Board is of the view that there has been adequate consultation and accommodation for the purpose of the Board's decision on this Project. The Board is also of the view that any potential Project impacts on the interests, including rights, of affected Indigenous peoples are not likely to be significant and can be effectively addressed.

This chapter includes summaries of evidence provided directly by Indigenous peoples through their participation in the hearing, as well as summaries of Enbridge's consultation with affected Indigenous peoples, which noted the concerns and interests, assessment methods and rationales, and any proposed mitigation by Indigenous peoples as recorded by Enbridge. 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 peoples should familiarize themselves with the entire record of the hearing. This chapter of the Decision should not be considered in isolation from the Decision as a whole. In addition, **Appendix V and IV** 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.

5.1 Enbridge's Consultation with Indigenous peoples for the Project

Enbridge stated that it is committed to pursuing sustainable relationships with Indigenous communities in proximity to where Enbridge conducts business. To achieve this, Enbridge's Indigenous Peoples Policy states that Enbridge will govern itself by the following principles:

- We recognize the legal and constitutional rights possessed by Indigenous peoples, and the importance of the relationship between Indigenous peoples and their traditional lands and resources. We commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply, and we commit to ensuring that our projects and operations are carried out in an environmentally responsible manner.

- We recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples in the context of existing Canadian law and the protection of Indigenous peoples under the Canadian Constitution.
- We engage in forthright and sincere consultation with Indigenous peoples about Enbridge's projects and operations through processes that seek to achieve early and meaningful engagement so their input can help define our projects that may occur on lands traditionally occupied by Indigenous peoples.
- We commit to working 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.
- We foster understanding of the history and culture of Indigenous peoples among Enbridge's employees and contractors, in order to create better relationships between Enbridge and Indigenous communities.

Enbridge stated that initial engagement of First Nation and Métis communities and organizations began on 12 January 2017. Notification was sent to the following groups:

- Acho Dene Koe (Fort Liard) First Nation
- Dehcho First Nation (DFN)
- Fort Liard Metis Local 67
- Fort Simpson Métis Nation Local #52
- Łíídljį Kúę First Nation (LKFN)
- Jean Marie River (Ttheke'edeli) First Nation
- Pehdzeh Ki First Nation (PKFN)
- Sambaa K'e First Nation (SKFN)
- Tulita Dene Band

Enbridge stated it also held in-person meetings with various Indigenous communities to exchange information regarding the Project, facilitate dialogue on matters of interest, and discuss culturally sensitive or traditional uses currently being performed in the proposed Project area or discuss any other concerns groups may have.

On 28 February 2017, Enbridge hosted a public open house in Fort Simpson to provide an update to the communities about the proposed Project. Enbridge commented that approximately 24 guests attended the open house in Fort Simpson where Enbridge provided information to attendees regarding ongoing geophysical-related work at the pipeline crossing, as well as about the proposed horizontal directional drilling (HDD) and decommissioning activities. Subject matter experts were present to speak to all aspects of the Project and a local translator provided real-time translation of the presentation into Dene Zhatie (also known as South Slavey).

Enbridge argued that, at the time of filing the application on 10 March 2017, there were no unresolved concerns identified to Enbridge regarding the Project. It was not until LKFN filed its

application for intervenor status that Enbridge became aware of outstanding concerns about the Project. Since then, Enbridge has worked to understand and resolve those concerns. Discussions have gone beyond the scope of the Project, geared towards a longer-term relationship. Enbridge is committed to ongoing engagement with Indigenous communities about the Project as well as the overall operation of Line 21.

In May 2017, Enbridge met with LKFN leadership in the community to better understand its members' concerns regarding the Project. At that meeting, and in follow-up communications, Enbridge offered to provide capacity funding to LKFN and also expressed its willingness to contract LKFN to provide a report on Traditional Land Use in the Project area.

On 8 August 2017, Enbridge entered into a Process Agreement with LKFN in order to carry out technical discussions, community and engagement activities and negotiations to address potential impacts and benefits related to the Project. These technical discussions also included Samba K'e First Nation, Dehcho First Nations, Pehdzeh Ki First Nation and Jean Marie River First Nation. Through its engagement with First Nations to date on the Project, Enbridge has listened to and responded to the concerns raised.

On September 22, 2017, Enbridge filed an update to the application, indicating that it was considering making adjustments to the Project schedule and listed the work that could be completed during the winter, pending regulatory approval. These changes were in response to a statement from LKFN that Enbridge should consider the possibility of winter construction.

Enbridge has committed to updating its Project Engagement Plan, in collaboration with Dehcho First Nations communities, and to continue its engagement along the entire Line 21 RoW.

Enbridge has also committed to tracking records of engagement throughout the life of the Project, including dates, descriptions, actions taken, and status.

5.2 The Board's Hearing Process and Participation of Indigenous Peoples

The Board's hearing process was designed to obtain as much relevant evidence as possible on concerns regarding the Project, the potential impacts on Aboriginal interests (as noted in the Board's List of Issues), and possible mitigation measures to minimize adverse impacts on Aboriginal interests. Although the *NEB Act* does not mandate a public hearing for section 58 applications, the Board decided to hold an oral public hearing for the Project given the interest in this Project. The Board was provided with and considered extensive information about concerns related to the Project, and the measures that would be required to address those concerns, as brought forward through consultation undertaken by Enbridge and through the participation of potentially affected Indigenous peoples and other participants in the hearing process.

5.2.1 Enhanced Aboriginal Engagement Process

The Board's Enhanced Aboriginal Engagement (EAE) initiative aims to provide proactive contact with Indigenous peoples that may be affected by a proposed project, and to help Indigenous peoples understand the Board's regulatory process and how to participate in that process. The Board reviews the completeness of the list of potentially affected Indigenous peoples identified in the proponent's Project Application in collaboration with the Government of Canada (in this case, the Northern Projects Management Office). The Board then sends letters

to each potentially impacted Indigenous group on the revised list, informing them of the Project as well as the Board’s regulatory role in respect of the Project, and offers to provide further information on the hearing process. Following issuance of these letters, Board staff follow up, respond to questions or conduct information meetings, where requested by Indigenous peoples.

The Board carried out its EAE activities for the Project commencing with the receipt of the Project Application on 10 March 2017. On 16 May 2017, the Board sent EAE letters to 11 potentially affected Indigenous groups and organizations (specifically, the 9 Indigenous groups and organizations listed in **Section 5.2** and Tuli’ta Land Corporation and Fort Norman Métis Local #60 Land Corporation). The Board identified these as potentially impacted organizations in addition to the Indigenous groups identified by Enbridge.

The EAE letters described the Board’s hearing process and Participant Funding Program (PFP). The letters also included a summary of the Project, contact information on how to obtain further information from the Board, and an offer from Board staff to attend a community meeting. In response to the letters and the follow-up phone calls, Board staff held one Open House information session for the public on 6 June 2017 in Fort Simpson, NWT to provide information on the Project and the Board’s hearing process.

On 11 September 2017, NRCan sent letters to the 11 potentially affected Indigenous groups and organizations. The purpose of these letters was to clarify the federal Crown’s approach to fulfilling its duty to consult Indigenous groups that may be impacted by the Project. The federal Crown strongly encouraged all Indigenous groups whose established or potential Aboriginal or treaty rights could be affected by the Project to apply to participate in the Board’s public hearing process. The Government of Canada also encouraged potentially impacted Indigenous groups to engage directly with Enbridge. The letters also provided a contact person at NRCan in case the letter recipient should have any questions with respect to the broader Crown approach to fulfilling the duty to consult for the Project.

5.2.2 Participant Funding Program (PFP)

Independent of the Panel's hearing process, the Board administered a PFP for the Project, which allocated funding to assist Intervenors with their participation.

Funding opportunity for the Line 21 Hearing was announced on 16 March 2017 with a funding envelope of \$100,000. The PFP received four applications requesting a total of \$210,196. After reviewing the applications, the PFP recommended awarding to all four. As a result, the total funding allocated to the hearing was increased to \$210,196. Four Indigenous groups applied for funding and were awarded the amounts shown in Table 5-1.

Table 5-1 – Participant Funding Program Awarded Amounts

Indigenous group	Amount awarded
DFN	\$30,000
LKFN	\$80,000
PKFN	\$80,000
SKFN	\$20,196

5.2.3 Participation of Indigenous Peoples in the Board’s Hearing Process

Indigenous peoples who are concerned with potential Project-related impacts on their interests, including rights, had opportunities to present their views directly to the Board. While the Board required the applicant to implement a consultation program and 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 groups in its proceedings.

Section 55.2 of the NEB Act requires the Board to hear any person who is directly affected by the granting or refusing of an Application. The following four Indigenous groups applied to participate in the hearing and were granted Intervenor status, as requested:

- DFN
- LKFN
- PKFN
- SKFN

On 18 May 2017, the Board issued Hearing Order MH-001-2017 which outlined the process to be followed in the Board’s adjudication of Enbridge’s Application. As described in Section 3.14 of the Hearing Order, the Board originally planned to have an oral portion of the hearing in Summer 2017.

During the proceeding, Indigenous Intervenors were able to obtain further information about the Project and present their views to the Board in numerous ways. Indigenous Intervenors could submit written evidence, provide Oral Traditional Evidence (OTE), ask written questions of Enbridge and other parties (information requests), respond to any written questions asked of them by the Board and Enbridge, conduct oral cross-examination of Enbridge, provide oral statements, provide comments on draft conditions and provide final argument. Table 5-2 below summarizes the process steps participated in by Indigenous Intervenors, including the types and sources of information submitted by Indigenous Intervenors during the proceeding and considered by the Board.

Table 5-2 – Written and Oral Submissions by Indigenous Intervenors by Exhibit Number

Intervenor Name	Information Requests made (to applicant or intervenor)	Written Evidence Submitted	Oral Evidence Submitted	Final and Reply Argument
DFN	<u>A84283</u>	<u>A84670</u>	<u>A87138-1</u>	<u>A87693-1</u>
LKFN	<u>A84247</u>	<u>A84667</u> <u>A86622</u>	<u>A87138-1</u>	<u>A87689</u>
PKFN			<u>A87138-1</u>	
SKFN	<u>A84295</u> <u>A84849</u>	<u>A84673</u>	<u>A87138-1</u>	<u>A87710</u>

The Board understands that Indigenous peoples have an oral tradition for sharing information and knowledge from generation to generation and that this information cannot always be shared adequately in writing. The opportunity to provide OTE was unique to Indigenous intervenors.

The Board is of the view that it is valuable to hear OTE that assists the Board in understanding how the Project may impact Aboriginal interests, including rights.

On 29 June 2017, the Board issued Procedural Update No. 2, which extended an invitation to all Indigenous Intervenors in the proceeding to provide OTE in-person or remotely. The Board held the oral portions of the hearing in Fort Simpson, NWT; a location near those interested in the Project. The Board received notices of intent to present OTE from DFN, LKFN, PKFN and SKFN.

The Board received a number of motions from Indigenous Intervenors relating to the timing and accessibility of the Board's hearing process, including the filing of written evidence. The Board strives to make its hearing processes flexible in order to facilitate the full participation of all parties.

As described in **Chapter 2**, the MVLWB held a public hearing regarding Enbridge's applications for a Land Use Permit and Water License in association with the Project. On 26 July 2017, the Board postponed the oral portion of MH-001-2017 to allow the MVLWB to issue its decision on the applicability of Part V of the *Mackenzie Valley Resource Management Act*. On 3 August 2017, the MVLWB ruled that the Project is exempt from preliminary screening and, on 10 August 2017, indicated that its public hearing would take place the week of 23 October 2017.

In an effort to harmonize with the MVLWB public hearing, staff from both Boards coordinated the daily schedules for that week in Fort Simpson. On 17 August 2017, the Board issued Procedural Update No. 3 indicating that the final oral portion of the hearing would be held in Fort Simpson, NT from 23 October 2017 to 26 October 2017.

During the final oral portion of the hearing, the Board heard Oral Traditional Evidence from DFN, LKFN, PKFN and SKFN and allowed for oral cross-examination of Enbridge and Indigenous Intervenors' witness panels. For all oral portions of its hearing, the Board provided simultaneous interpretation in Dene Zhatie. The Board also provided an audio broadcast, as well as transcripts of its proceedings, so that interested parties who were not in attendance could be aware of what was occurring during the hearing. The Board also offered remote participation in an effort to make the hearing as accessible as possible, though no one chose to participate remotely.

To the extent that other government organizations had information to provide to the Board that potentially relates to Indigenous peoples' concerns, they had the opportunity to participate in the Board's process and file relevant information on the Board's record. GNWT participated in the Board's proceeding as an intervenor and filed information on the Board's hearing record that relates to some of the concerns raised by Indigenous peoples in this hearing, such as protection of aquatic life and habitat, and cumulative effects that are discussed further in **Chapter 7**.

5.3 Issues and Concerns Raised by Indigenous Peoples

5.3.1 Enbridge's Consultation with Indigenous Peoples

Views of Parties

Dehcho First Nations

DFN stated that consultation by Enbridge to-date has been inadequate and does not address, mitigate or accommodate community concerns. DFN further stated that Enbridge's consultation logs do not reflect the concerns raised by community members.

Lúidlij Kúé First Nation

LKFN stated that Enbridge failed to meet the minimal standards set in out their own *Indigenous Peoples Policy*, and have not engaged in forthright and sincere consultation with Indigenous peoples about Enbridge's projects and operations through processes that seek to achieve early and meaningful engagement. LKFN also stated that Enbridge failed to meaningfully consult and accommodate LKFN, or to provide a sufficient basis on which the Board and other Crown decision-makers could meaningfully consult and accommodate LKFN.

LKFN further stated that Enbridge's attempts at engaging LKFN have been seriously inadequate and insincere and that it has not discharged its obligation to engage LKFN meaningfully.

Sambaa K'e First Nation

SKFN stated that Enbridge's approach to engagement and consultation reveals the poor state of the relationship between the company and the First Nation. SFKN noted that Enbridge's consultation log documented that no concerns were raised at the in-person meeting in April 2017, but SKFN asserted that this statement is inaccurate. SKFN indicated that Enbridge did not take minutes at the April 2017 meeting and that it was not given the opportunity to review Enbridge's consultation logs before Enbridge submitted them to the Board.

5.3.2 Capacity Funding, Timing and Resource Constraints

Views of Parties

Lúidlij Kúé First Nation

LKFN stated that no process funding has been provided by Enbridge or the GNWT. LKFN stated that no offer has been made from Enbridge to provide process funding or other support for the research, studies and consultations with LKFN members that are necessary for consultation to be meaningful. LKFN further stated that it is Enbridge's responsibility to provide the resources necessary to comply with LKFN's policies for proponents, and ensure that the consultations are meaningful on both sides.

Sambaa K'e First Nation

SKFN stated that Enbridge has not provided it with capacity funding to be able to engage in regular communications with Enbridge and to review documents related to operations of Line 21.

SKFN also stated that costs associated with meetings with Enbridge staff and any work required to review Enbridge communications has been borne by SKFN.

SKFN further commented that meaningful consultation would require that First Nation Parties have the means to participate effectively, reviewing, discussing and understanding the activities that are taking place on traditional lands. Therefore, the engagement and consultation agreement should contain funds to support First Nation capacity.

5.3.3 Project Monitoring by Indigenous Peoples

Views of Parties

Dehcho First Nations

DFN stated that there was precedent for community-based monitoring programs related to resource development projects within the Northwest Territories. The goal of the monitoring program is to ensure that the mitigation measures proposed by the proponent are fully and effectively implemented, and significant adverse impacts on the environment are mitigated, throughout all phases of the development. DFN requested that any monitoring programs for the Project entail Enbridge funding of a DFN K'ehodi Stewardship Program.

DFN also stated that it has raised concerns in past projects regarding potential adverse environmental effects, proposed mitigation measures for adverse environmental impacts and reviewed any monitoring and follow-up programs proposed by Enbridge. DFN further stated its position within the regulatory process is that DFN needs to fully understand proposed projects, expects a high environmental standard across their traditional territory and wants employment opportunities for Dehcho members.

Lastly, DFN stated it raised concerns about the adequacy of Enbridge's approach to provide on-the-job training, rather than training programs in advance of the project. This approach does little to prepare community members for positions when they become available, or build the capacity of local community members. DFN remains significantly concerned that the approach being proposed by Enbridge for the community monitors will not result in meaningful, community-based monitoring.

5.3.3.1 Lúidlij Kúé First Nation

LKFN stated it requires involvement in pre-construction and construction monitoring for the project, which would include, but is not limited to: consulting with LKFN monitors and representatives if a frac-out occurs, following clean up procedures immediately and recording any wildlife activity in the immediate vicinity.

Chief Gerald Antoine

Our concerns are concrete. The impacts are real. And that this is not a temporary project. It will hurt our land, our culture, the animals we rely on, the water we need for survival. We needed commitments about the concerns we raised on issues like the impact on land and water, animals, fish we depend on for food, and culture, and our life; the monitors who must be involved to be on the land collecting data and watching to protect the land and water; the spill risk that could affect our health, and the fish, and our

homes; the work camps that will be on our land, on our home; the compensation for all these things that Enbridge cannot address fully or prevent; the need for full participation as equal partners in developing the final environmental protective plan and an emergency response plan.

Sambaa K'e First Nation

SKFN asserted that the Project must include a strong role for independent community monitoring. SKFN stated that in recent years, it has prioritized active monitoring of land and water, using methods strongly based in traditional knowledge and strengthened through strategic partnerships. SKFN also stated that monitors have been consistent year to year and have therefore have been able to strengthen their skills and knowledge, building on their extensive traditional knowledge as harvesters.

SKFN stated it has tried to articulate to Enbridge why it is so important that Enbridge support a strong role for independent community-based monitoring through all facets of its project throughout the hearing process. SKFN further stated that monitors be independent of Enbridge, not simply for employment, but also to strengthen its existing monitoring program, a program that is restoring SKFN's right to land and water stewardship.

5.3.4 Employment and Economic Benefits

Views of Parties

Dehcho First Nations, Lúdljij Kúé First Nation, Pehdzeh Ki First Nation and Sambaa K'e First Nation

DFN, LKFN, PKFN, SKFN all raised concerns about Employment and Economic benefits. A summary of their concerns and the views of the Board on these matters is provided in **Chapter 8**.

5.3.5 Environmental and Socio-Economic Assessment

Views of Parties

Dehcho First Nations, Lúdljij Kúé First Nation, Pehdzeh Ki First Nation and Sambaa K'e First Nation

DFN, LKFN, PKFN, SKFN all raised concerns about Enbridge's environmental and socio-economic assessment. The views of the Board on these matters is provided in **Chapter 7**.

5.3.6 Traffic Management

Views of Parties

Lúdljij Kúé First Nation

LKFN raised concerns about the potential impacts of traffic on the Mouse family and its members. A summary of their concerns and the views of the Board on these matters is provided in **Chapter 3**.

5.3.7 Social and Cultural Well-Being

Views of Parties

Dehcho First Nations

DFN stated it remains concerned about the 120 temporary workers in the work camps and the 40 person crews that will be staying in Fort Simpson and the potential negative impacts on Fort Simpson. DFN stated it is concerned that Enbridge's code of conduct and camp rules are simply not enough to prevent negative social consequences, such as an increase in domestic violence, and violence against women, especially Indigenous women and girls, within the community of Fort Simpson.

Lúdljį Kúé First Nation

LKFN stated it is concerned that Enbridge does not recognize the full scope of the potential interactions between the Project and the ecological health, community health and socio-economic health of its members. LKFN also stated that given the inherent connections between social, ecological, economic and cultural values, potential impacts are complex and inter-dependent.

LKFN has ongoing concerns about the safety of community members, particularly Indigenous women and girls, in the context of an influx of outside workers who will reside in the project area and have access to the community. Transient worker camps have been shown to lead to increased violence against Indigenous women and girls in the host communities. These concerns are exacerbated by risks of outside workers bringing in and/or using drugs and alcohol while in and near the community.

LKFN further stated that negative impacts may be offset to a certain extent by measures that promote positive effects or socio-economic benefits that may contribute to community well-being, including employment during construction and operations; business opportunities to provide goods and services to Enbridge or its contractors, and support for community programs that support Dene livelihoods and cultural identity.

Ms. Elizabeth Mouse

That's -- our main home is right there. And then our access road is right from here to here. And all the activity is going from all the way here to here, and over here is where they were saying that they were going to put up the big camp, and that's at our entrance by the gate where we come in and out so we can get access to our camp.

And that gate is always left open, so now we have random people coming in and out of our camp and things are going missing. And we used to be able to leave things there, and now it's like we feel unsafe leaving anything there unsupervised. It's like someone always has to be at camp so that nothing goes missing.

And if there's going to be all these people at this camp that's going to be staying at the end and on the other end, I don't even know if I feel safe to even have my kids around because I don't even know who these people are going to be that are on the land.

Sambaa K'e First Nation

SKFN stated they have voiced their concerns about the effects of drug and alcohol use, and violence from transient work camps. SKFN stated that in order to mitigate work camp related risks, it proposed the formation of a women's advisory committee who will work directly with Enbridge to develop the camp rules and employee code of conduct for the Project. SKFN further stated that the proposed mechanism would provide SKFN and other Dehcho First Nations a direct say in measures to maintain community and individual health, wellness and safety.

5.3.8 Traditional Land and Resource Use

Views of Parties

Dehcho First Nations

DFN stated that it is still concerned about the residual impacts of the project on traditional land users such as trappers, hunters, fishers and other harvesters near the proposed Project. DFN stated that in LKFN's Indigenous Knowledge and Land Use Study there were over 1200 traditional harvest sites in proximity to the project area. DFN further stated that residual project impacts, include noise, boat and barge traffic by construction workers on the river, the potential aquatic impact of an inadvertent release of drilling fluid, construction of the work camps, traffic to/from the work camps, sediment and erosion impacts, which despite proposed mitigation measures will likely cause wildlife and fish and as a result harvesters to avoid the project area.

DFN stated that the Mackenzie River is a major travel route and is important for traditional harvest, culture, spirituality and land use for DFN members. DFN also stated that Dene culture encourages working together, respecting one another, and the land, and that the protection of Dene culture and traditional land use, such as hunting, fishing, trapping, gathering and occupancy, is one of the highest priorities of Dehcho First Nation members. DFN further stated that the people want to ensure they will continue to have the opportunity to use the land as they always have.

Grand Chief Herb Norwegian

The river is sacred. And for this reason, we will do everything that we can to protect our river, and it's for that reason that we -- you know, we said that there is this serious problem with the pipeline that crosses this great river. And if it's going to be repaired it needs to be done right and it's got to be done transparently. People have got to see that it's being done right.

And so for us, the river is a lifestyle. It's -- the land is important to us, but without water we are nothing. And so we live in this particular part of the country because we believe in the river, we believe the water, and the water believes in us, and the water takes care of us.

Lúdljį Kúé First Nation

LKFN submitted in its Indigenous Knowledge and Land Use Study:

The Dene world view is “based upon the natural world of animals, ecology, aquatic beings and the natural elements: fire, wind, sky and water. The human animal was always interconnected

with those elements. The Dene have strong ties to their kinship. The unity of a family structure is important to the whole community. Dene elders teach community members be sensitive to the land, water, sky or universe, and animals and plants because they offer life. People are not directors in that environment but an integrated part of a whole system. The Dene rely on the environment and its species. We do not abuse what the creator has loaned to us to protect, for example; the caribou is not abused and every part of it is used for something and what is not usable is burned”.

LKFN submitted in its Indigenous Knowledge and Land Use Study that 1287 traditional ecological knowledge, land and resource use sites were mapped across the regional study area and 626 sites were mapped within the local study area surrounding the proposed Enbridge Line 21 Segment Replacement Project and associated Project components. Based on the Study results, it is evident that should the Project be approved, there will be impacts to LKFN Aboriginal and Treaty rights and interests. Fishing, hunting, trapping and gathering are not only important subsistence activities, they are valued cultural activities that strengthen the social fabric of LKFN. Any impacts to the ecological health of the land and water, or restricted access to areas used for harvesting will negatively impact the health and overall well-being of the community.

Should the Project be approved, LKFN recommended the following measures:

- Construction schedules that minimize impacts to seasonal harvesting practices, habitats and access routes should be developed in collaboration with LKFN community representatives
- To ensure the protection of the sensitive balance in the ecosystems throughout LKFN’s traditional territory and to prevent the erosion of Aboriginal and Treaty rights, non-community members in the region associated with the Project should be prohibited from hunting and fishing within the Project area during construction
- Promote and facilitate the incorporation of LKFN’s traditional knowledge to identify and remediate environmental impacts as they arise through the development and implementation of adaptive management plans
- Inclusion of LKFN environmental and cultural heritage monitors in all environmental and cultural heritage assessments, emergency response protocols and ongoing monitoring related to the Project during and post construction. LKFN monitors should have unhindered access to the Project and Line 21 sites, subject only to safety considerations
- Ensure the meaningful participation of LKFN and other Dehcho First Nations in the development of strategies that prevent and mitigate adverse environmental effects of the Project or future Line 21 activities
- Inclusion of environmental monitoring outcomes in reporting to community, including an annual report on the environmental and social performance of Line 21 that addresses LKFN concerns
- Accommodation measures for land users whose harvesting practices will be inhibited in any way as a result of the Project. The terms of these accommodation measures should be developed in collaboration with LKFN community representatives

- Ground truthing (i.e., information provided by direct observation or empirical evidence) with LKFN community members should be carried out if there is a need to verify data presented in this Study
- Full assessment of risks associated with abandoning the existing segment of pipeline in place

LKFN stated that Project activities will make hunting and harvesting more difficult and dangerous for its members and others. The project area, and surrounding areas, are widely used by LKFN members for harvesting and hunting. With work camps on both sides of the Mackenzie River, and no restrictions on access to land for the 120 workers who will be housed in these camps, LKFN submitted there will be an increased risk of accidents while LKFN members are hunting and harvesting. LKFN further identified that its members have accumulated knowledge and protocols that allow them to know who is out hunting or harvesting in a given area and how multiple persons can safely hunt and harvest in the same area. LKFN stated that outside workers introduce an unknown and potentially hazardous factor into this established system.

Chief Gerald Antoine

What we're saying is that the land exists and sustains us as human beings and what we do to it with all that -- that all that observations thousands of years and with the concluded evidence, they're saying is that we need to be very respectful and that we need to be working within that -- the whole concept. That's what we're saying.

So you know, like, companies like Enbridge, they need to work with us. They need to work with the land that way because the thing is that what we do to the land, the water, it affects our store, our food.

LKFN stated that barge and water taxi traffic poses a risk to LKFN members who use the Mackenzie River for harvesting, cultural practices, and as a transportation corridor. LKFN members harvest fish on the Mackenzie River near the proposed water taxi route and barge landing site. LKFN further stated that a nearby youth camp on north side of the Mackenzie River presents additional risks as children and youth may be playing on the shore, swimming in the River, or travelling or harvesting in boats.

LKFN stated that the proposed Line 21 Project presents risks to the LKFN's Indigenous rights and its community members' well-being because of numerous Project activities and interactions with the surrounding ecological and human environment. LKFN further stated that these new impacts are anticipated to add to the ongoing and growing cumulative effects being experienced by the LKFN members, as the Dene people have historically been, and continue to be, overlooked, dismissed and disrespected with regards to third party industrial natural resource development in their territories.

Elder Jane Grossetete Tonka

Right from Six Mile House, I used to go all on the traditional trails and we went all over the land and right up to the mountain area, up to the Fish Lake areas. So they have extended trails all over, and they also had an area where they went trapping too in that area. There is a lot of traditional trail that I have walked on, right to the point we had a

trail for snares. That was where we all set rabbit snares. And those were all the areas that we occupied right from the Six Mile house, the whole land area.

Elder Jonas Antoine

I would like to point something out that is hard for a non-Dene person to understand, and that is that -- the intensity of the spiritual connection that we have to the land. It is something that you cannot see, you cannot touch, but it is the spirituality that we have. ...

Just being out there is just as important as harvesting something out there to bring back, just being on the land. You can go fishing all day and not catch any fish but you're satisfied because you have been out there, that kind of a feeling. What we have is something that you cannot capture on paper. We cannot write it down. We can do all kinds of studies but you could never, ever capture that spirituality.

Pehdzeh Ki First Nation

Elder Gabe Hardisty

All of us living here we depend on the land. We survive off the land. The animals survive on the land. We're all people of the land and we all survive on the land.

Sambaa K'e First Nation

SKFN stated its connection to the land and water is integral to its tradition, culture, language and past and current livelihood, and that this connection therefore includes but greatly surpasses purely physical, health and economic considerations. SKFN also stated that the connection to the land and water is about individual and collective relationships with the land and water; maintaining active relationships of respectful stewardship and dependence is part and parcel of SKFN's rights.

SKFN stated that oil and gas development, including the Enbridge pipeline, have had cumulative effects over time which have negatively impacted the land and water and SKFN's relationship to it. SKFN further stated that these effects are both local and regional in scope.

SKFN further stated concerns of noise impacts on wildlife which have prevented both big and small animals from returning to the RoW area when the pipeline is in operation.

Ms. Ruby Jumbo

Sambaa K'e First Nations elders like to transfer all its cultural skills to the younger generation so that they hold their traditional values and their culture.

Over the years, the harvesters who have been trapping and hunting in this area have experienced a lot of small animals and big animals. They stay away for their right-of-way for the pipeline. And mainly the caribou and the moose, they would cross the right-of-way. They won't be using the right-of-way as their trail.

There continue to be cumulative effects on land, traditions, and rights.

5.3.9 Ongoing Operation of Line 21

Views of Parties

Dehcho First Nations

DFN stated their outstanding concerns with ongoing issues such as permafrost degradation, leak detection and unresolved compensation agreements.

Grand Chief Herb Norwegian

And over the years, you know, we saw some pretty major problems with it: pinhole leaks, deteriorations, slumpage that's coming in. We haven't heard anything or noticed anything on the crossing on the Mackenzie River yet, but I think what needs to be seriously looked at in light of that it might be a major, major undertaking is that that entire pipeline needs to be changed. And you just can't play with just pieces and bits and pieces of it. If you're going to do justice and you want it done right, you need to change the entire pipeline because it's -- at some point we're going to have a major catastrophe and we're the ones that are going to have to end up living with it

Lúdljį Kúé First Nation

LKFN stated that their continued concerns, such as permafrost melt and ground movement, outstanding compensation, leak issues and reduced animal abundance near the RoW, are focused on the continued operation of Line 21.

Elder Gilbert Cazon

And my concern is that it's been like this for 30 years. What you're looking at, it's been like this since the get-go of the pipeline with no thought for the caribou, no thought for the animals, no way for them to pass through one area to the other with full cover. And it was just left like that. And then they're flying that every week and they're doing that two cabin periods, they're doing that two fall periods, they're doing it every week. And so our animals have no chance to really come back to our area.

Sambaa K'e First Nation

SFKN stated that their concerns encompass the continued operation of Line 21, unsettled compensation arrangements and the probable likelihood of spill due to the age of the pipeline.

Chief Dolphus Jumbo

That's one of the biggest concerns I have is very fearful of if anything happens, like oil leak, and that is going to go directly into the lake itself. Not only there, but all the way down -- up to Mackenzie. And we're one of the freshwater contributors to Mackenzie River. And that's one of the things that I always look at and try to present all these concerns on the table of to let us know what happens, if anything, that's out of ordinary with the pipeline. We need to be consulted.

5.3.10 Section 35(1), Constitution Act, 1982

Views of Parties

Lúdljį Kúé First Nation

LKFN stated that nothing short of their free, prior and informed consent is required. Such consent may be sought in accordance with LKFN laws and governance and through deep and meaningful engagement with the Crown in furtherance of the Treaty relationship. LKFN further stated that Crown decision-makers have not consulted with the LKFN at all, despite ongoing efforts by LKFN to raise concerns which it has with the Enbridge proposal.

LKFN submitted in its Indigenous Knowledge and Land Use Study that LKFN's traditional and moral authority is informed by Dene laws and values, which are based upon the necessity to act for the collective rather than for the individual interest, and to protect the land from which the people come.

Sambaa K'e First Nation

SKFN stated that the Government of Canada communicated it is relying on the Board's regulatory process to discharge its consultative obligations with SKFN. SKFN also stated that the Government of Canada has a responsibility for deep consultation with resulting accommodating actions for SKFN. SKFN further stated that accommodation will require meaningful and well-resourced participation by SKFN so that it can develop confidence in the pipeline and can share in the project's benefits rather than solely being victim to its negative effects.

5.4 Enbridge's Reply to Issues and Concerns Raised by Indigenous Peoples

5.4.1 Enbridge's Consultation with Indigenous Peoples

Enbridge stated that First Nations have been afforded even more opportunities to participate in the decision making-process than in the *Chippewas of the Thames* case. Enbridge also stated it has undertaken changes to the Project and committed to additional mitigation measures as a result of its consultation with First Nations including, for example, changing the construction schedule to move as much work as practical to the winter season, undertaking sediment dispersion modelling to determine the potential impact of a worst-case inadvertent return into the Mackenzie River, providing funding for and participating in an archaeological reconnaissance survey of the Project area with representatives from local First Nations, providing funding to LKFN to complete an Indigenous Knowledge and Land Use Study (Enbridge offered to provide both capacity funding and funding for a land use study in May 2017), and developing a code of conduct to minimize the social impact of workers in the community.

Since discussions began regarding the Process Agreement in late July, Enbridge has participated in 17 meetings and teleconferences to hear about concerns, provide information, and discuss proposed mitigation for the Project. Enbridge also provided an aerial tour, a community luncheon, and an opportunity to participate in an Archaeological Reconnaissance Survey, in addition to providing further information about the Project and about Line 21 in general.

Enbridge is committed to developing engagement protocols with First Nations, including taking minutes and providing them to First Nations for review, if that is a First Nation's preference.

Enbridge is also committed to continuing to work with First Nations to address their concerns and remains open to negotiating an agreement on the topics that were discussed in the hearing.

Enbridge stated that in addition to incorporating mitigation measures during Project design, as outlined in the application materials, it committed to numerous additional specific mitigation measures as a result of ongoing consultation with the First Nation intervenors.

Enbridge committed to working with local First Nation communities to co-develop site visit and monitoring programs that can be used as learning and partnership building exercises during construction. For example, inviting elders, youth and community leaders for a site visit to visually inspect the leading edge of the pipe for signs of abrasion and damage once the replacement pipe has been pulled across the river.

5.4.2 Capacity Funding, Timing and Resource Constraints

On 8 August 2017, Enbridge entered into a Process Agreement with LKFN in order to carry out technical discussions, community and engagement activities and negotiations to address potential impacts and benefits related to the Project. These technical discussions also include Samba K'e First Nation, Dehcho First Nations, Pehdzeh Ki First Nation and Jean Marie River First Nation. Through its engagement with First Nations to date on the Project, Enbridge has listened to and responded to the concerns raised.

Enbridge stated that as part of ongoing engagement with local First Nation communities, it provided funding for and participated in an archaeological reconnaissance survey of the Project area with representatives from local First Nations. Enbridge further stated that it provided capacity funding, as well as funding for various meetings, site visits, and the Indigenous Knowledge Land Use Study.

During the hearing, reference was made to a previous monitoring program for Line 21 that First Nations participated in. Enbridge confirmed that while that specific monitoring program no longer exists, the funds remain intact and are distributed annually to the communities to use at their discretion.

5.4.3 Project Monitoring by Indigenous Peoples

Enbridge stated that it has committed to provide opportunities for local Indigenous communities to act as cultural, wildlife, turbidity and environmental monitors during construction. Enbridge also stated its willingness to involve indigenous communities on post-reclamation monitoring for the Project.

Enbridge further stated it has committed to continued discussions regarding such monitoring programs, including details related to job descriptions, monitoring goals and reporting structure.

5.4.4 Social and Cultural Well-Being

Enbridge committed to working with the general contractor to hire local personnel where practical, in order to minimize the number of temporary workers entering the region. In response to concerns of intervenors, Enbridge also committed to additional specific mitigation measures to address community safety concerns, including:

- Providing locally-sourced Indigenous awareness training to all on-site personnel, including third parties;
- Working with local communities and service providers on the content of Indigenous awareness training to ensure that the important issues for the communities are addressed;
- Developing and requiring all Project personnel to abide by a Personnel Code of Conduct and Camp Rules. Enbridge has confirmed that there will be zero tolerance for the possession, consumption and distribution of any non-prescription drug and that violating the Code would result in dismissal from the Project.
- Developing a system, together with local First Nations, to report violations of the Personnel Code of Conduct and Camp Rules.
- Limiting transportation into town by workers and providing recreational facilities in camp.
- Establishing a direct line to the construction management team for the local community to report if there are concerns with the Project personnel.
- Continuing discussions with local First Nations to understand and address their concerns regarding safety issues from work camps.

5.4.5 Traditional Land and Resource Use

Enbridge stated that throughout the hearing process, in oral traditional evidence and in the written material provided, the First Nation participants described the importance of the land and water and their use of the land and water. Enbridge recognizes this and does not dispute this. However, the First Nation participants did not provide specific evidence of how their use of the land and water would be impacted by the Project or how the Project could impact their ability to exercise Aboriginal and treaty rights. Enbridge further stated that evidence of use is not the same as evidence of impact.

Enbridge encouraged the Board to look closely at the maps in the IKLUS that identify traditional ecological knowledge and land use sites and consider the location of the sites identified in relation to the Project footprint. Enbridge acknowledged some overlap with the Project Footprint, including areas of land mammal habitat, ecological knowledge, cultural areas, trails, hunting sites, fishing sites, and commercial traplines. However, Enbridge noted that the overlap was small in most cases and that certain maps did not show any overlap with Project Footprint. Where impacts could potentially occur, Enbridge noted that they would be temporary and were addressed in Enbridge's mitigation measures, including its contingency plans.

Enbridge responded to the recommendations made by LKFN in its IKLUS, including:

- Confirmation that Enbridge will continue to consider community input on its construction schedule and has already adjusted the construction schedule by giving consideration to some winter construction based on the wishes of LKFN.
- A commitment that hunting by Project personnel will not be permitted and fishing will only be permitted with a local guide, and with a catch and release policy to mitigate impacts to fish harvesting. Enbridge also agreed to amend the code of conduct to reflect this commitment.

- Confirmation that the IKLUS is an important piece of information that will inform the EPP. Enbridge stated that the EPP provides specific mitigation measures to address potential environmental effects resulting from the Project. Enbridge has committed to engaging with local First Nation communities to understand potential impacts to local land users based on the findings in the IKLUS and reassess proposed mitigation measures to ensure they are appropriate.
- A commitment to providing opportunities for local cultural (First Nations), turbidity, environmental and wildlife monitors during construction and post-construction of the Project.
- A commitment to share any annual reports (for example, post-reclamation monitoring reports) that are made public with any First Nations that are interested in receiving them.
- A commitment to provide accommodation measures (for example, access across mat roads) for land users whose harvesting practices will be inhibited in any way as a result of the project.

Enbridge stated that potential impacts to traditional use of a small portion of the LKFN's traditional territory will be temporary. Enbridge further stated that in this circumstance, appropriate mitigation measures will be implemented to reduce the potential impacts to Aboriginal and treaty rights, such that balancing of these impacts with the benefits to the local communities as well as the community of Norman Wells, means the Project will be in the public interest.

5.4.6 Ongoing Operation of Line 21

Enbridge submitted that First Nation participants have raised issues that go far beyond the limited scope of the applications before the Board. The regulatory proceedings for this Project are not an opportunity to address historical grievances. The Supreme Court of Canada has provided clear direction on this point.

Enbridge further submitted that it is clear from reading the written arguments of LKFN, SKFN and DFN, that much of their concern is with continued operation of Line 21 that they believe only had a 25 year lifespan, with their view that consultation was inadequate when the pipeline was first built in the 1980s and their view that they should have received compensation for that construction and for operations for the past 30 years.

Enbridge argued that, when considering whether the duty to consult has been met in this case, it will be important for the Board to limit its consideration to the scope of this Project.

5.4.7 Section 35(1), Constitution Act, 1982

Enbridge submitted that the evidence shows that consultation, both directly with Enbridge and through the NEB regulatory process on behalf of the Crown has been meaningful, deep, and extensive. Enbridge submitted that the Board should conclude that the consultation has been adequate and the Crown's duty to consult has been satisfied.

Regarding impacts, Enbridge submitted that the potential impacts to Aboriginal and treaty rights of this Project are low. As noted, this is a maintenance project on an existing pipeline. Some new temporary workspace will need to be cleared, but any impacts will be short term and localized.

Further, Enbridge has undertaken changes to the Project and committed to additional mitigation measures as a result of its consultation with First Nations.

Enbridge submitted, that in *Chippewas of the Thames*, the Supreme Court of Canada confirmed that the interests of Indigenous groups can be balanced with other interests at the accommodation stage, noting that “it is for this reason that the duty to consult does not provide Indigenous groups with a “veto” over final Crown decisions (*Haida*, at para. 48). Rather, proper accommodation “stress[es] the need to balance competing societal interests with Aboriginal and treaty rights” (*Haida*, at para. 50).” (*Chippewas of the Thames* at para. 59)

In the recent case of *Chippewas of the Thames First Nation v Enbridge Pipelines Inc.*, the Court stated that the duty to consult on a specific project “is not about resolving broader claims that transcend the scope of the proposed project.” (*Chippewas of the Thames First Nation v Enbridge Pipelines Inc.*, 2017 SCC 41 at para 2) and that:

The duty to consult is not triggered by historical impacts. It is not the vehicle to address historical grievances. (Chippewas of the Thames First Nation v Enbridge Pipelines Inc., 2017 SCC 41 at para 41)

5.5 Views of the Board

The Board recognizes that this Project is taking place on the traditional territory of the Łíídljį Kúé First Nation. The Board also wishes to recognize this Project is being held within the lands of Treaty 11 and to acknowledge the history, spirituality, and culture of the Dehcho First Nations with whom Treaty 11 were signed.

The Board thanks all participants in the Line 21 Segment Replacement Hearing and, in particular, the Elders and Traditional Knowledge holders from DFN (specifically, Grand Chief Herb Norwegian, Elder Ernest Hardisty and Mr. Stanley Sanguéz), LKFN (specifically, Chief Gerald Antoine, Elder Jonas Antoine and Elder Jane Grossetete Tonka, Mr. Edward Cholo, Ms. Elizabeth Mouse, Mr. Gilbert Cazon), PKFN (specifically, Chief Maurice Moses, Elder Gabe Hardisty and Elder Charlie Taley, Mr. Tim Lennie and Mr. Jay Horesay), and SKFN (specifically, Chief Dolphus Jumbo, Elder David Jumbo and Ms. Ruby Jumbo) for sharing their local, traditional, and cultural knowledge during the oral portion of the Hearing.

5.5.1 Enbridge’s Consultation with Indigenous Peoples

In addition to providing technical information addressing Project-related impacts on, among other things, fisheries, wildlife, vegetation, and heritage resources, Enbridge was required to make all reasonable efforts to consult with potentially affected Indigenous peoples and to provide information about those consultations to the Board. This included evidence on the nature of the interests potentially affected, the concerns that were raised and the manner and degree to which those concerns have been addressed. Enbridge was expected to report to the Board on all concerns that were expressed to it by Indigenous peoples, even if it was unable or unwilling to address those concerns. Therefore, even if Indigenous peoples chose not to participate in the subsequent hearing process, any concerns could be brought to the attention of the Board through the applicant’s evidence.

This early consultation was guided by the Board’s *Filing Manual* Requirements. The requirements reflect the fact that an applicant is often in the best position to respond to the

concerns of Indigenous peoples about a project before an application is filed and while a project is still in the early stages of development. The Board expects an applicant to design and implement its consultation activities with regard to the nature and magnitude of a project's potential impacts both from early in the design phase and into the future operational phase of the Project. Where there is a greater risk of more serious impacts on Indigenous interests including rights (which would, in part, depend on the nature of that interest), the Board has greater expectations in terms of the applicant's consultation with potentially impacted Indigenous peoples. In contrast, where there is a remote possibility of an impact on Indigenous interests, or the impacts are minor in nature, the applicant's consultation will generally not be expected to be as extensive.

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

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

The Board is of the view that Enbridge's design of Project-specific consultation activities was adequate given the scope and scale of the Project. The Board notes that, through regular maintenance and inspection, Enbridge identified increased rates of slope movement around the pipeline near the Mackenzie River along the existing RoW (refer to **Chapter 3** for more details). And in order to protect the pipeline from further slope movement, Enbridge determined that a replacement segment of pipeline should be installed below the Mackenzie River and the slip plane of the slope. The initial contact related to the Project happened on 12 January 2017, when Enbridge sent a Project Information Package to Indigenous peoples it identified as being potentially impacted by the Project. The Board notes that Enbridge provided Project information to all potentially-impacted Indigenous peoples, which included information about the project design, operations, environmental, social and economic effects, including potential economic development opportunities such as contracting and employment. The Board is of the view that potentially affected Indigenous peoples were appropriately identified and provided information about the Project.

As discussed in **Chapter 1**, the Board invites industry and government players to join it in seeking the reconciliation which comes from being both good neighbours and good partners. Consultation needs to occur early in the planning stages of a project and continue throughout the lifecycle of a project. The Board views consultation as an iterative and ongoing process of

discussion and dialogue. Information about a project is necessarily refined as project planning progresses, including in response to information provided by Indigenous peoples through consultation. As the regulator of a project throughout its lifecycle, the Board also has a number of processes and tools at its disposal to execute its oversight of a project, including ensuring compliance with any conditions imposed by the Board and requirements that form part of the regulatory framework, including the OPR.

The Board is of the view that Enbridge's implementation of Project-specific consultation activities had some positive elements, including the commitments from Enbridge to:

- conduct winter construction, where possible, as requested by LKFN;
- fund LKFN's Indigenous Knowledge and Land Use Study; and
- provide opportunities for local indigenous communities to act as cultural, wildlife, turbidity and environmental monitors during construction of the Project.

At the same time, there were areas for improvement, including a more timely completion of LKFN's Indigenous Knowledge and Land Use Study, and more transparent engagement protocols with First Nations (for example, taking minutes during meetings and providing them to First Nations for review). The Board notes Enbridge's commitment to work with Indigenous peoples to address Project-related concerns and finalize measures to address the Project's effects. The Board expects companies to continue to learn about the concerns that Indigenous peoples may have about a project, and to discuss ways to address those concerns to the extent possible. The Board also encourages Indigenous peoples with an interest in the Project to continue to engage with Enbridge.

The Board process acts as a necessary and important check on the consultation conducted by Enbridge by providing Indigenous peoples an additional avenue to explain their concerns about the Project and have those concerns considered by the Board. The Board finds that with Enbridge's commitments and the Board's **Condition 8**, **Condition 9** and **Condition 10** Enbridge will: continue to consult with Indigenous peoples in order to learn more about their interests and concerns; demonstrate how it has considered and addressed information provided in the TLU study into its EPP; and address issues that they may raise throughout the lifecycle of the Project. For example, the Board notes the commitment from Enbridge to provide accommodation measures for Indigenous peoples whose harvesting practices will be inhibited in any way as a result of the project, and the Board expects Enbridge will provide a summary of these discussions in the filings associated with **Condition 9**. As another example, the Board notes the commitment from Enbridge to work with local First Nation communities to co-develop site visits that can be used as learning and partnership building exercises during construction, and the Board expects Enbridge will provide a summary of these efforts in the filings associated with **Condition 9**. Therefore, having assessed all of the evidence, the Board is satisfied with the design and implementation of Enbridge's consultation activities to date.

5.5.2 Capacity Funding, Timing and Resource Constraints

Indigenous peoples raised concerns about capacity funding and resource constraints. For such reasons, the Board administers a Participant Funding Program (PFP) which provides financial assistance to support participation of Indigenous peoples and other affected groups. The Board

also assigned a Process Advisor to support Indigenous peoples and the public who participated in the hearing.

The Board, as a regulatory tribunal, is bound by the common law requirements related to procedural fairness when making decisions that have the potential to impact rights.

The Board further notes that Enbridge entered into a Process Agreement with First Nations in order to carry out technical discussions, community and engagement activities and negotiations, Enbridge provided funding for and participated in an archaeological reconnaissance survey of the Project area with representatives from local First Nations, and Enbridge provided funding to LKFN to complete an Indigenous Knowledge and Land Use Study.

5.5.3 Project Monitoring by Indigenous Peoples

The Board notes the value and unique perspective that Indigenous peoples can provide in determining effectiveness of mitigation measures, partly based on their traditional knowledge. The Board notes Enbridge's commitments to provide Indigenous monitors throughout the various phases of the Project lifecycle as well as LKFN's desire to have conditions that solidify these commitments. Therefore, the Board imposes **Condition 8** and **Condition 9**, requiring Enbridge to develop an Indigenous Monitoring Plan during both construction and post-construction of the Project, and to file Indigenous Engagement Reports. The Board notes that Enbridge has committed to discuss any concerns raised by Indigenous peoples about the monitoring plans, to incorporate relevant feedback from Indigenous peoples into meeting minutes, and to transparently provide an explanation to Indigenous peoples when it does not agree with specific feedback.

5.5.4 Social and Cultural Well-Being

The Board notes that DFN, LKFN, PKFN and SKFN were concerned with Project impacts on the social and cultural well-being of local communities. The Board notes Enbridge's response to provide a suite of mitigation measures and implementation of best management practices, standard operating procedures, and strict site, campsite and workplace training and policies. The Board notes Enbridge's commitment to update its campsite and workplace training and policies; develop a code of conduct to minimize the social impact of workers in the community; engage concerned communities on the content of its Indigenous Awareness training materials; and deliver the training by local Indigenous community members.

The Board has heard the concerns from the First Nations about the safety of community members, particularly Indigenous women and girls. The Board fully expects Enbridge to incorporate gender-specific training into its campsite and workplace training which reflects culturally appropriate approaches and content, and also into its Indigenous Awareness training. This gender-specific training must be locally-sourced, include input from local communities and service providers to ensure that important issues for the communities are addressed, and be delivered to all on-site personnel, including third parties. The Board expects Enbridge will provide a summary of the development and implementation of this gender-specific training, including the opportunities for input from local communities, in the filings associated with **Condition 9**.

5.5.5 Traditional Land and Resource Use

In assessing potential impacts on Aboriginal interests, the Board considered all of the evidence provided. The Board assessed the information provided in Enbridge's ESA on potential impacts on Aboriginal interests, including rights, the concerns raised by Indigenous peoples, and the measures Enbridge has proposed to minimize or eliminate the Project's potential impacts on the interests of Indigenous peoples.

Through the assessment process, Indigenous peoples had the opportunity to make known to Enbridge and the Board their views and concerns about the Project, including what effects it might have on their potential or established interests. DFN, LKFN, PKFN and SKFN expressed their views and concerns about the importance of the land and the water, and how the Project might affect their Aboriginal and Treaty rights, including those relating to hunting, fishing, trapping, the harvesting of plant resources for medicines, and the maintenance of cultural practices within their traditional territories.

For example, concerns were raised relating to the effect of Project noise on hunting and trapping. The Board acknowledges Enbridge's commitment to conduct noise monitoring to determine baseline measurements and develop noise abatement strategies if required. For additional information related to noise impacts on wildlife refer to **Chapter 7**.

The Board notes the importance raised by all Indigenous Intervenors regarding the incorporation of TLU/traditional knowledge information into Project design and construction activities. The Board notes that Enbridge reached an agreement with LKFN regarding the scope of work for their IKLUS for the Project and LKFN has completed this study. In particular, the Board notes that the IKLUS identified 1287 traditional ecological knowledge, land and resource use sites across the regional study area and 626 sites within the local study area surrounding the Project. The Board also acknowledges the statement from LKFN that fishing, hunting, trapping and gathering are not only important subsistence activities, but they are also valued cultural activities that strengthen the social fabric of LKFN.

The Board notes the responses from Enbridge to the recommendations made by LKFN in its IKLUS. In particular, the Board is satisfied that Enbridge has committed to updating the EPP with information from the IKLUS, to engaging with local First Nation communities to understand potential impacts to local land users based on the findings in the IKLUS, to providing opportunities for Indigenous monitors during construction and post-construction of the Project, and to providing accommodation measures for land users whose harvesting practices will be inhibited in any way as a result of the project. However, given the evidence on the record from Indigenous peoples (for example, two broad cultural areas that overlap the Project footprint, a hunting area that overlaps the north section of the north campsite and shoofly, a hunting site and fishing site that overlap the south laydown and storage area, three commercial traplines that overlap the Project footprint, and seven trails that overlap the Project footprint) and the potential for adverse effects on traditional land and resource use, the Board is of the view that additional measures must be taken to protect Aboriginal and Treaty rights.

Therefore, the Board imposes **Condition 8**, **Condition 9**, and **Condition 10** requiring Enbridge to submit monthly Indigenous Engagement reports, a report describing how it will incorporate information described in the IKLUS, as well as Indigenous Monitoring plans for construction and post-construction activities. These conditions will provide Indigenous peoples further

opportunities to address outstanding or unanticipated issues about the potential adverse effects of the Project on the current use of lands and resources for traditional purposes.

The Board acknowledges Enbridge’s commitment to hearing and addressing concerns, as feasible, and ensuring on-going dialogue about the Project, its potential implications and benefits, and seeking information on the exercise of any potential impacts to Aboriginal and Treaty rights in the Project area. Here is an example of how Enbridge’s commitment for ongoing dialogue and the Boards conditions can work together. The Board notes that there is a discrepancy between the positions of Enbridge and LKFN on the code of conduct for Project personnel regarding fishing (in particular, Enbridge proposes that fishing will only be permitted with a local guide and with a catch and release policy to mitigate impacts to fish harvesting, whereas LKFN proposes that non-community members associated with the Project should be prohibited from fishing). Clearly, there is a need for additional discussions to occur between Enbridge and Indigenous peoples on this subject. The Board expects Enbridge will provide a summary of these discussions, including any amendments to the code of conduct, in the filings associated with **Condition 9**. Another example, is consultation between Enbridge and individuals with potentially affected commercial traplines and trails. The Board expects Enbridge will proactively contact those individuals to explain the accommodations available to them, and then provide the Board a summary of these discussions, including any concerns raised and the response from Enbridge, in the filings associated with **Condition 9**.

The Board notes that this is a maintenance project on an existing pipeline that will involve approximately 27.5 acres of temporary workspace outside of Enbridge’s existing easement agreement (refer to **Chapter 6** for additional details). The Board further notes that the Project will occur primarily on previously disturbed land and that there will be temporary interruptions to the access and use of the Project RoW and TWS during construction. Short-term interruptions may occur for maintenance throughout the duration and eventual abandonment of the Project. After these temporary interruptions, the RoW and TWS will be restored and monitored by Enbridge for the life of the Project including its eventual abandonment.

As shown in the table below, the Board finds that effects of the Project on traditional land and resource use will therefore be short-term to long-term in duration, reversible in the long-term, local to regional in geographic extent, and low to moderate in magnitude. Given all of the above, the Board is of the view that the potential adverse effects of the Project on the current use of lands and resources for traditional purposes by Indigenous peoples are not likely to be significant. Appendix II specifies the definitions for criteria used in this evaluation.

Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Short-term to medium-term Adverse Effect	Reversible	Local	Low to moderate
Not likely to be significant				

5.5.6 Ongoing Operation of Line 21

The Board heard the concerns of First Nations about the ongoing operation of Line 21 and also about the original construction of the pipeline in the 1980s. The Board has taken these concerns into account as context for its decision about the Project, but is mindful that it does not have unlimited authority and legislative reach. Refer to **Chapters 1** and **3** for additional information about the Board's decisions on these topics.

5.5.7 Section 35(1), *Constitution Act, 1982*

Submissions were made during the hearing process by DFN, LKFN, SKFN and Mr. Daniel McNeely regarding the adequacy of consultation to meet the requirements of section 35 of the *Constitution Act, 1982* and the need for an assessment of consultation.

The Board notes that two recent Supreme Court of Canada decisions, *Clyde River (Hamlet) v. Petroleum Geo-Services Inc.*, 2017 SCC 40, and *Chippewas of the Thames First Nation v. Enbridge Pipelines Inc.*, 2017 SCC 41, have acknowledged the Crown's ability to rely on the Board's regulatory assessment process to fulfill its duty to consult when the Board is the final decision-maker. The Board is the decision-maker in relation to the Enbridge Line 21 Replacement Project. The Federal Crown strongly encouraged all Indigenous groups whose established or potential Aboriginal or treaty rights could be affected by the Project to apply to participate in the Board's public hearing process.

Regulatory tribunals, through their legislative mandates, are charged with performing duties and exercising the powers that fall within the executive branch of government. Regulatory 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 to enhance benefits.

The framework within which the Board operates and decisions under the NEB Act are made, which includes 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 peoples can request and receive meaningful assurances from the proponent or the Board about project-related effects on Aboriginal interests, including rights. Hearing directly and indirectly about Indigenous peoples' concerns about project-related impacts on their interests 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.

It should be understood that the Board's consideration of what is required in terms of consultation with Indigenous peoples is a fluid 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 an Aboriginal interest and the potential impact on that interest will be considered with a view to determining the procedural opportunities that must be provided and the substantive outcomes that are warranted. For example, such factors may be considered when:

- the proponent determines who may be impacted by its proposed project;
- the Board decides who to send notices to;
- 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 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 peoples (described in **Section 5.2**), it should be understood that the Board's hearing process itself (described in **Section 5.3**), including these reasons, is part of the overall consultative process.

In this Application, while much of the early consultation was performed by Enbridge, the Board process acted as a necessary and important check on that consultation and gave Indigenous peoples an additional avenue to explain their concerns about the Project and have those concerns considered by the Board. The Board is of the view that Enbridge designed and implemented appropriate and effective consultation activities for the Project, and is also of the view that the Board process was appropriate for these circumstances.

The Board has considered the information submitted regarding the nature of potentially affected Aboriginal interests in the Project area, including information on constitutionally protected Aboriginal and Treaty rights. The Board has also considered the anticipated effects of the Project on those interests and the concerns expressed by Indigenous peoples, as discussed in this Chapter and this Decision. In light of the nature of the interests and the anticipated effects, the Board has evaluated the consultation undertaken with respect to this Project, including the mandated consultation performed by Enbridge and the consultation undertaken through the Board's project assessment process. The Board has also considered the mitigation measures proposed to address

the various concerns and potential effects. The Board is of the view that there has been adequate consultation and accommodation for the purpose of the Board's decision on this Project. The Board is of the view that any potential Project impacts on the interests, including rights, of affected Indigenous peoples groups are not likely to be significant and can be effectively addressed.

As a result of the above, considering all of the findings in this Decision, the Board is of the view that the requirements of section 35 of the *Constitution Act, 1982* have been met, such that an approval of this Project is consistent with the honour of the Crown.

Chapter 6

Land Matters

The Board's *Filing Manual* sets out the Board's expectations for lands information to support an application. In general, applicants are expected to provide a description and rationale for the proposed route of a pipeline, 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. This information permits the Board to assess the appropriateness of the proposed route, land requirements and the applicant's land acquisition program. Since the Project relates to an existing, currently operating pipeline, and requires no new RoW, the appropriateness of the proposed route does not apply.

6.1 Land Requirements

The proposed Project requires approximately 27.5 acres of temporary workspace (TWS) outside of Enbridge's existing easement agreement. All lands potentially impacted by the Project are Territorial Crown lands.

TWS will be required for various activities, including, but not limited to: staging construction trailers and equipment, fuel and water storage, material laydown, parking, site access, drill pads, stringing the pipeline, and camp facilities. Some proposed TWS areas are previously cleared and some are to be cleared.

6.2 Land Rights and Land Acquisition

Enbridge stated that the Project may also require an amendment to the existing Easement Agreement to accommodate a straight line drill path for the horizontal directional drilling in order to maximize environmental protection. The pipeline's final location will depend on the successful drill path which will be subject to field conditions during construction. The portion of the replacement pipeline that is anticipated to deviate from the existing right-of-way will be very deep, approximately 40-100 metres as it approaches the Mackenzie River, and will run beneath the slip plane on the south slope. There is no anticipated impact to surface land use as a result of the pipeline deviating from the existing right-of-way in this limited area.

Enbridge stated that, should an additional easement be required, it will comply with the applicable sections of the *National Energy Board Act*, including sections 86 and 87.

Enbridge has been in discussions with the GNWT Lands Department regarding the associated land rights that may be required. The GNWT has advised that an addendum will be attached to the existing Easement Agreement to allow for the temporary use and access of off-right of way Territorial Lands for the purpose of executing this Project. The GNWT has requested that Enbridge file applications to its Territorial and Commissioners Land Divisions and further requested that Enbridge file a lease application for temporary use of the lands identified in its MVLWB application for a land use permit.

Views of Parties

Lúidlij Kúé First Nation

LKFN stated that the proposed project, including the drilling, would occur on unceded LKFN land, which is not subject to any settled land claim, therefore LKFN must be consulted on the Dene land title impact of any permanent easement amendment.

LKFN noted that Enbridge has proposed a drill path under the Mackenzie River that deviates from the existing permanent easement and the final drill path will depend on conditions encountered during drilling, which will not be known until drilling is complete. LKFN further noted that Enbridge is also proposing a permanent easement amendment on the south side of the Mackenzie River to clear a fire break for a relocated valve site.

LKFN identified that, although Enbridge has been in discussions with the GNWT about a permanent easement amendment for these drilling locations, neither Enbridge nor the GNWT has consulted LKFN about a permanent easement amendment. LKFN further stated that Enbridge has presented no evidence that its proposed permanent easement amendment is in conformity with the Dehcho Land Use Plan.

Reply of Enbridge

Enbridge stated that consultation on any amendments to the easement agreement will be dealt with through the Government of Northwest Territories process.

Views of the Board

The Board notes that Enbridge's request for RoW and TWS land requirements are necessary to allow for the construction and operation of the Project in a safe and efficient manner. The Board finds the possible amendment to the existing Easement Agreement and the acquisition process proposed by Enbridge to be acceptable. The Board also finds the anticipated temporary land requirements to be reasonable and justified based on the Project design.

Chapter 7

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 Project throughout the life of the Project. This chapter represents the NEB's environmental assessment.

The Board is of the view that overall, with the implementation of Enbridge's environmental protection procedures and mitigation and the Board's conditions, the Project is not likely to cause significant adverse environmental effects.

7.1 The NEB's Environmental Assessment Methodology

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

This assessment begins with a description of the Project (section 7.2) and a description of the environmental and socio-economic setting (section 7.3).

Based on these, the NEB identified Project-environment interactions expected to occur (section 7.4). If there were no expected Project-environment interactions or interactions would be positive or neutral then no further examination was deemed necessary.

The NEB then assessed the potential adverse environmental and socio-economic effects, as well as the adequacy of Enbridge's proposed environmental protection strategies and mitigation measures. Section 7.4.1 discusses the extent to which standard mitigation is relied on to mitigate potential adverse effects. In section 7.4.2, the NEB provides detailed analysis for issues that are of public concern or of environmental consequence, and that may require additional mitigation. For each issue considered in detail, *Views of the Board* are provided and the Board assesses whether further mitigation is recommended by way of condition on any potential project authorization, in order to ensure any potential environmental and socio-economic effects would not be significant. Where there are any residual effects remaining after proposed mitigation, cumulative effects are considered in Section 7.5. The NEB's conclusion on significance is given in section 7.6.

7.2 Project Details

Chapter 2 of this Report provides a general description of the Project. In addition, the following table provides further details on Project components and activities relevant to the environmental assessment.

Table 7-1: Project Components and/or Activities

Project Components and/or Activities
<p><i>Construction Phase: Winter 2018</i></p> <ul style="list-style-type: none"> ▪ Clearing of vegetation by hand (RoW, temporary workspaces adjacent to RoW, camp areas) ▪ Installation of a clear-span bridge over Manners Creek on the existing RoW ▪ Installation of matting on the RoW that intersects two unnamed water courses for heavy equipment and vehicles access (KP 541 to near the south bank of the Mackenzie River) ▪ Installation of surface casing at the HDD exit pit on the identified unstable south bank of the Mackenzie River (excavator, air hammer, compressor) ▪ Relocation of gate valve KP 530.3 to 90m south of the existing location (excavator, pile driver, bulldozer)
<p><i>Construction Phase: May 2018 to September 2018</i></p> <ul style="list-style-type: none"> ▪ Winter 2018 activities listed above (if not completed) ▪ Installation of matting on work areas for both the north and south project footprints ▪ Installation of matting and upgrade of the existing “shoofly” access trail on the north bank of the Mackenzie river to the north project footprint (levelling, erosion control measures) ▪ Construction (installation of temporary structures for the north and south work camps, stockpiling and use of staging areas, preparation of barge landing site and drill pads) ▪ Mobilization of two crews and equipment for north and south project footprints, working 24 hours a day, seven days a week for the duration of the HDD (summer and fall) ▪ HDD from both banks of the Mackenzie River drilling simultaneously (2500m - approximately KP 528 to KP 530) ▪ Continuous monitoring during drilling for inadvertent loss of drilling fluids, including a combination of foot patrol monitors, aerial surveillance and instrumentation ▪ Stringing, welding, coating and installation of new pipeline segment ▪ Water withdrawal and hydrostatic testing of new pipeline segment ▪ Decommissioning in place approximately 2100m of the existing pipe section, from KP 528.2 to KP 530.3 (using concrete grout) ▪ Sump construction for drilling waste management ▪ Clean up, site restoration/reclamation and demobilization (removal of all temporary structures including clear-span bridge and matting for laydown areas and access)
<p><i>Operation Phase – when normal operations resume</i></p>

Project Components and/or Activities
<ul style="list-style-type: none"> ▪ Vegetation and weed management in accordance with Enbridge’s existing environmental protection program ▪ RoW inspection, monitoring and maintenance (including the new HDD crossing and decommissioned segment left in place) in accordance with Enbridge’s existing O&M Manuals ▪ Post construction monitoring program (7 years)
<i>Abandonment Phase – at the end of the service life of the entire Line 21</i>
<ul style="list-style-type: none"> ▪ Pursuant to the NEB Act, an application would be required to abandon the entire facility (including the decommissioned segment), at which time the environmental effects would be assessed by the NEB

7.3 Environmental Setting

For reference, Enbridge identified three spatial boundaries for use in the ESA:

- The Project Footprint is comprised of 10 distinct or overlapping areas, including:
 - a segment of the existing Line 21 RoW (20m width), from approximately KP 528 to KP 530, with a 5m workspace located adjacent and west;
 - the HDD staging areas on the north and south sides of the Mackenzie River;
 - a “shoofly” access trail located on the North shore of the Mackenzie River; and
 - approximately 27.5 acres of temporary workspace (staging areas and construction camps).
- The Local Study Area (LSA) is comprised of the Project Footprint and the area surrounding the Project Footprint outwards by 1.5km.
- The Regional Study Area (RSA) includes the segment of the existing Line 21 RoW including the existing 5m wide work space adjacent to the RoW; the south access “shoofly” at the north end of the Mackenzie highway ferry parking area; and the community of Fort Simpson.

Land use and Human Occupancy

The Project is located in the traditional territory of the LKFN and within the lands of Treaty 11, which Canada entered into in 1921 with LKFN and other Indigenous peoples.

The Project is located on Territorial Crown land, on and adjacent to Enbridge’s existing RoW, in the Dehcho Region of the Northwest Territories.

The Project Footprint is located approximately 9 kilometers east of the Village of Fort Simpson, which has a population of approximately 1,200. The Project Footprint is also located approximately 9 kilometers northwest of a permanent residence (cabin), which is inhabited by the Mouse family. The existing RoW serves as the primary vehicle access between the cabin and the Mackenzie Highway.

Trapping and recreational activities are known to occur within the LSA along the proposed pipeline route.

The Project Footprint is located in the Jean Marie River -North Special Management Zone, which permits forestry, tourism and agriculture uses. No active forestry, tourism or agriculture uses were identified in the Project Footprint or Local Study Area.

Physical Environment and Soils

The Project is located near the confluence of the Liard and Mackenzie Rivers, in the South Mackenzie Plain Mid Boreal Ecoregion characterized by large valleys with level to gently undulating plains and extensive alluvial terraces along the rivers. Soils are characterized as fine-textured lacustrine plains with many coarse-textured deposits throughout the region. In 2016, increased rates of slope movement were identified by Enbridge on the south bank of the Mackenzie River at approximately KP 530.

The Project straddles the bottom of the extensive discontinuous permafrost zone and the top of the sporadic discontinuous permafrost zone. No permafrost was encountered during Enbridge's recent geotechnical investigations for the Project within the RoW.

Vegetation and Wildlife Habitat

Vegetation is characterized by mature forests with a mix of Trembling Aspen, White Spruce, and Jack Pine stands on uplands, and Black Spruce dominant forests and fen wetlands in low, wet areas. Vegetation was previously cleared in the 1980s as part of original pipeline construction and is limited to relatively newer re-growth.

The landscape and vegetation in the RSA provide habitat for a variety of wildlife species, particularly those inhabiting large intact areas of boreal forest, small areas of open meadow or small open water features.

Surface and Ground Water

The Mackenzie River is the largest river in Canada and is naturally highly turbid. The Project HDD crosses under the Mackenzie River which at that point is approximately 1100m wide ranging in water depth from approximately 7m on the north shore, to 3m in the middle and 10m along the south shore.

The HDD crossing is approximately 10 km upstream (to the east) of the Village of Fort Simpson fresh water intake for drinking water.

The Liard River forms a confluence with the Mackenzie River immediately east of the Village of Fort Simpson. Access to the Project Footprint crosses three Liard tributaries (Manners Creek and two unnamed watercourses).

Fish and Fish Habitat/Wetlands

Various cold water fish species have habitat in the Mackenzie River, Liard River and Manners Creek. Representative species include Northern Pike, Arctic Grayling and Burbot. The two unnamed tributaries are small and shallow with limited seasonal flow. Given their close proximity and connectivity to the Liard River there is potential that fish species from the Liard River may seasonally utilize one or both of the watercourses.

There are three peat covered wetlands (horizontal fens) occurring in the LSA.

Wildlife Species at Risk

Ten species listed on Schedule 1 on the *Species at Risk Act* (SARA) have potential to occur in the Project area:

- Woodland Caribou, Boreal (Endangered);
- Little Brown and Northern Myotis (Endangered);
- Common Nighthawk (Threatened);
- Olive Sided Flycatcher (Threatened);
- Horned Grebe (Special Concern);
- Peregrine Falcon (Special Concern);
- Rusty Black Bird (Special Concern);
- Short eared Owl (Special Concern); and
- Yellow Rail (Special Concern).

The Project Footprint, LSA and RSA overlap with critical habitat for the Northwest Territory herd of Woodland Caribou (Boreal) whose population is considered as Self-Sustaining. Woodland Caribou are listed as threatened under both the Territorial *Species at Risk (NWT) Act* and the Federal SARA. The Little Brown and Northern Myotis typically hibernate in caves or abandoned mines, which were not identified in the RSA. However, the species utilize loose bark and tree cavities in mature trees for roosting habitat during the summer. Therefore, the species may be present during the construction activities where trees remain.

Atmospheric and Acoustic Environment

The Project Footprint is located in potential wildlife habitat and noise from construction activities may affect wildlife in the Project Footprint or Local Study Area.

Navigation and Navigation Safety

The Mackenzie River is listed in the *Navigation Protection Act* Schedule of Navigable Waters.

Heritage Resources

An Archeological Overview Assessment did not identify archeological or cultural sites within the Project areas and did not recommend the completion of an Archaeological Impact Assessment.

Current Traditional Land and Resource Use

The area supports traditional land and resource uses. Fishing, hunting, trapping and gathering are not only important subsistence activities, they are valued cultural activities that strengthen the social fabric of Indigenous peoples. Any impacts to the ecological health of the land and water, or restricted access to areas used for harvesting will negatively impact the health and overall well-being of Indigenous communities.

There are 626 traditional ecological knowledge, land and resource use sites mapped within a 1.5km buffer around all Project components, 8km downstream and 1km upstream of the Project in the Mackenzie River, as well as a buffer of 500m on the riverbanks edging this area within the Mackenzie River.

7.4 Environmental and Socio-Economic Effects Analysis

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

- Physical Environment and Soil
- Vegetation and Wildlife Habitat
- Surface and Ground Water
- Fish and Fish Habitat/Wetlands
- Wildlife Species at Risk
- Atmospheric and Acoustic Environment
- Human Occupancy and Resource Use
- Navigation and Navigation Safety
- Heritage Resources
- Current Traditional Land and Resource Use

The Board also considered the potential accidents and malfunctions that may occur due to the Project, and any change to the Project that may be caused by the environment. For those elements where Project interactions were predicted, the Board then considered any potential adverse effects.

The majority of bio-physical and socio-economic interactions and effects, 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 7.4.1 below.

A 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 5**.

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, then a detailed analysis is presented in Section 7.4.2 - Detailed Analysis of Key Environmental and Socio-Economic Issues.

7.4.1 Standard Mitigation

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

Views of Enbridge

Enbridge's mitigation measures are contained in its Application, Environmental Protection Plan (EPP) and subsequent filings and were developed in accordance with the Board's Filing Manual.

Industry-standard specific mitigation, specific requirements of regulatory agencies, and input from Enbridge's consultation/engagement program were also used to develop its proposed mitigation measures. For species at risk, Enbridge is relying on standard mitigation identified for wildlife species/habitat and vegetation.

Enbridge conducted an on-site biophysical assessment and a Project-specific wildlife reconnaissance survey in 2017. Mitigation recommendations provided in the ESA, the EPP and subsequent filings are supported by observations made during these activities. Enbridge stated it will be responsible for ensuring the mitigation measures identified in the ESA are implemented during project activities where applicable.

Enbridge further stated that the Project EPP will serve as the primary document providing the Project-specific environmental mitigation measures to be followed during the construction and post construction phases of the Project. Enbridge provided a draft EPP with its Application and committed to providing an updated version prior to construction, including incorporating the following commitments made through its final argument:

- incorporate the LKFN Indigenous Knowledge and Land Use Study into the draft EPP;
- conduct a directed fish and fish habitat assessment downstream of the HDD;
- include mitigation measures regarding the barge landing site and barge operations after securing a barge company; and,
- adhere to the Alberta Energy Regulator Directive 50: *Drilling Waste Management* guideline for Mix-Bury-Cover (section 13) with regards to sump construction.

Among the mitigation strategies to avoid or minimize the effects of the Project, Enbridge is relying in part on the following three strategies:

1. *Minimizing Footprint*

Enbridge proposed to minimize the disturbance footprint of the Project through completing construction activities located mainly within the RoW, restricting clearing for temporary work space to lands adjacent to the existing disturbance of the RoW; and matting work areas and the RoW to minimize surface disturbance.

2. *Scheduling Activities to Avoid Sensitive Periods*

Enbridge committed to complete some activities in the winter of 2018. Temporary workspaces would be cleared in the winter outside of the migratory bird nesting period for the region (May 1 - August 15), the Woodland Caribou (Boreal population) calving period (mid-May to mid-June) and the summer roosting period for bat Species at Risk (*Myotis*). In the event that clearing is not completed during the winter period, Enbridge committed to conduct bird nest sweeps and complete wildlife surveys prior to start of work.

3. *Monitoring*

Enbridge committed to provide opportunities for local Indigenous communities to act as cultural, wildlife, turbidity and environmental monitors during construction. Enbridge has also committed to having an environmental inspector onsite during construction ensuring compliance with all permits, contract documents, Enbridge environmental standards and guidelines and commitments made during the planning and application process.

Following construction, Enbridge committed to implementing a Post-Construction Environmental Monitoring Program. Enbridge further stated it intends to continue monitoring the Line 21 RoW, including the Mackenzie River crossing, in accordance with its O&M Manuals and will continue to monitor movement on the south slope.

Enbridge also expressed willingness to involve Indigenous communities on post-reclamation monitoring for the Project. Participation in both construction and post-construction monitoring is discussed further in **Chapter 5**.

In addition to the three strategies used to avoid or minimize the effects of the Project, Enbridge provided details regarding its standard mitigation and approaches to addressing Navigation and Navigation Safety and Heritage Resources. A complete description of the potential impacts of the Project on Aboriginal interests including Traditional Land and Resource Use is provided in **Chapter 5**.

Navigation and Navigation Safety

HDD activities are not anticipated to interact with navigation or navigation safety during construction or operation because construction will utilize HDD under the bed of the Mackenzie River and the replacement segment of pipeline will be installed below the bed of the river in the existing RoW.

Barges temporarily anchored along the north shore of the Mackenzie River, or to a temporary floating dock in the Project Footprint may interact with navigation and navigation safety. However, barge traffic increases would be concentrated during mobilization and demobilization periods of the Project for the north work site, and barge usage during the drilling operations will be low and restricted to areas between the pipeline crossing and Fort Simpson. Since the barge traffic increase will be of short duration and concentrated at the barge landing sites at the north work site and an existing permanent landing in Fort Simpson, the impact to navigation and navigation safety is expected to be minimal.

Heritage Resources

In addition to the Archaeological Overview Assessment, as part of ongoing engagement with local First Nation communities, Enbridge also provided funding for and participated in an archaeological reconnaissance survey of the Project area with representatives from local First Nations. No cultural heritage sites within the Project area were identified during the survey.

If heritage resources, sites or artifacts are discovered during construction, Enbridge has set out a process to stop work.

Views of Parties

Lúdljį Kúé First Nation

LKFN argued that prior to the commencement of the Project, Enbridge should:

- be required to update the ESA in order to integrate the data and findings of the LKFN Indigenous Knowledge and Land Use Study;
- file with the NEB and affected Dene communities updated EPPs for every aspect of the Project that poses a risk to the environment;

- file a detailed decommissioning EPP and a detailed assessment of the feasibility for removing the decommissioned segment of pipeline;
- provide LKFN with these updated EPPs and related information well in advance of the proposed start date for construction;
- thoroughly clean all equipment and vehicles before entering LKFN land; and
- be required to restrict all Project activity to the existing Line 21 right of way, including HDD activities.

Dehcho First Nations

DFN and LKFN requested that Enbridge evaluate and develop a winter construction schedule in close collaboration with the LKFN to further protect ungulate calving periods and restricted activity periods for migratory birds. Both parties further requested that Enbridge be prohibited from using sumps and be required to remove and transport all wastes to registered receiving facilities.

Sambaa K'e First Nation

SKFN argued that Enbridge should:

- provide all First Nation Parties and the GNWT with data regarding the receiving soils and the drill mix taken as per Directive 50 as it is submitted to the NEB;
- develop a permafrost monitoring plan;
- have ground water monitoring above and below sumps;
- submit a revised waste management plan with an opportunity for third Party review;
- develop a site-specific erosion monitoring and mitigation plan (as part of the EPP); and
- allow review and comment on the waste management plan prior to NEB acceptance.

SKFN argued that Enbridge should develop a site reclamation plan and be required to monitor site reclamation for a period of no less than five years, with an adaptive approach outlined in the reclamation plan such that the period would be extended if reclamation goals are not met.

Government of Northwest Territories

GNWT argued that the EPP and construction progress reports should be placed on a public registry or, if that is not possible, the EPP should be provided to the GNWT.

Views of the Board

The Board is of the view that Enbridge has committed to sufficient and appropriate routine design and standard mitigation measures to mitigate the potential adverse environmental effects identified. Additional mitigation measures are discussed in Section 7.4.2 for potential effects which merit further analysis. To maintain oversight of Enbridge's commitments, including confirmation that all general and site-specific mitigation measures

are appropriate and will be implemented according to their intent, the Board has imposed additional conditions.

The Board notes that Enbridge has filed a preliminary Project-specific EPP with the Application, and has committed to having and implementing the EPP on-site. However, as Enbridge has made a number of additional commitments since the preliminary EPP was filed, the Board has imposed **Condition 6**, requiring Enbridge to file an updated Project-specific EPP (for both winter and summer). In order to ensure consideration of concerns raised by local First Nations in the hearing regarding the EPP, the Board expects Enbridge to consult these parties on its revised measures and to include the results of this consultation in its Indigenous Engagement Report as required in **Condition 9**.

The purpose of the EPP is to communicate all environmental protection procedures and mitigation measures to employees, contractors and regulators. The commitments should be as clear and unambiguous as possible to minimize errors of interpretation. In cases where there may be multiple ways of achieving the desired outcome, it is helpful to state the goal, mitigation options, and clear decision-making criteria for choosing which options to apply under what circumstances.

The Board notes that both the temporary barge landing site and construction of sumps off the RoW are regulated under the Mackenzie Valley Land and Water Board land use permit. If a sump location is chosen on the RoW, it is the Board's expectation that Alberta Energy Regulators' Directive 50 will be adhered to as best practice.

The Board notes that Enbridge committed to two years of post-construction environmental monitoring. The Board is of the view that a robust post-construction monitoring program is a fundamental tool and key to ensuring that potential adverse effects have been effectively mitigated and where issues are identified, adaptive management implemented to address them. To be satisfied that post-construction environmental monitoring is thorough and effective and that Post-Construction Environmental Monitoring Reports will be developed and filed, the Board has imposed **Condition 17** for seven growing seasons.

The Board notes that several Parties proposed additional conditions for the Project; all comments received were considered by the Board before finalizing and setting out the terms and conditions of its approval. For purposes of transparency, the Board has included Appendix V – Comments on Conditions.

7.4.2 Detailed Analysis of Key Environmental and Socio-Economic Issues

There are two issues explored in detail in the following subsections. Appendix II specifies the definitions for criteria used in evaluating the significance of residual effects.

7.4.2.1 Potential Impacts on Aquatic Resources due to Inadvertent Loss of Drilling Fluids

Views of Enbridge

Enbridge stated that avoiding construction in the Mackenzie River through HDD is the primary mitigation measure for potential impacts to aquatic resources. In Enbridge's submission, the risk of an inadvertent loss of drilling fluids to surface is considered remote given the depth of installation and fracture composition (no fractures or fissures that create an open pathway to the

surface). In addition, Enbridge filed a sediment dispersion study to investigate the potential impacts of a hypothetical inadvertent loss of drilling fluids into the Mackenzie River. Enbridge stated that the consequence of this would be low due to the nature of the drilling fluid (a water-bentonite mixture) and the volume of water flowing in the Mackenzie River.

Mitigation

Enbridge committed to conducting a directed fish and fish habitat assessment downstream of the HDD and using the results of the assessment to further inform the existing mitigation measures in the final revised EPP.

Enbridge filed a Preliminary Drilling Execution Plan which provided the procedures for responding to an inadvertent loss of drilling fluid to the surface. Enbridge also developed plans to monitor for inadvertent loss of drilling fluids, including a combination of foot patrol monitors, aerial surveillance and instrumentation.

Monitoring

Enbridge filed a draft Turbidity Monitoring Plan which includes provision for a watercourse monitor to be on-site during HDD activities, sampling locations upstream and downstream of the drill path, and steps to be taken if a suspected inadvertent loss is confirmed. Enbridge committed that this plan will be made available to LKFN prior to the start of construction and has also committed to hire local indigenous turbidity and environmental monitors.

Enbridge has committed to further developing the communication protocol outlined in the Turbidity Monitoring Plan to be implemented during an inadvertent loss including notifying local First Nation communities.

Views of Parties

Lúdljì Kùé First Nation

In the event an inadvertent loss, LKFN raised concerns regarding notification protocols for local harvesters and the impacts on aquatic resources, specifically, the presence of Arctic Grayling spawning habitat 800 m downstream of the proposed drill path.

In its final argument LKFN requested that Enbridge be required to:

- provide the NEB a copy of the aquatic impacts mitigation agreement between Enbridge and affected Dene communities;
- develop and conduct a detailed fish and fish habitat assessment for the Project;
- develop and provide the Turbidity Monitoring Plan to the LKFN; and,
- update the ESA in order to integrate the data and findings of the LKFN Indigenous Knowledge and Land Use Study, along with the assessment of impacts to fish and fish habitat, to further inform the ESA and mitigation tables.

Dehcho First Nations

In the event of an inadvertent loss of drilling fluids, the DFN raised concerns about the significance of fish habitat and fish harvesting sites immediately downstream of the HDD drill. DFN argued that Enbridge should be required to:

- notify the local First Nation office of an inadvertent loss within 3 to 4 hours;
- update the EPP with a sediment study that includes knowledge of local First Nations;
- enter into an agreement with local impacted First Nations that considers the development of the aquatic mitigation strategy;
- complete a detailed site-specific, species specific fish and fish habitat assessment that includes traditional knowledge, local concerns and factors supporting sediment modeling report; and
- cease all drilling during the Arctic Grayling spawning period.

Sambaa K'e First Nation

SKFN raised concerns regarding chemical compositions and toxicity of drilling fluids and timelines for intervenor review of the Turbidity Monitoring Plan. SKFN further requested that Enbridge provide a detailed contingency plan.

Government of Northwest Territories

GNWT provided information to SKFN stating that based on the information provided through both the NEB and the MVLWB regulatory processes, GNWT believes the potential risk of a frac-out to be low and any associated impact to the Mackenzie River from HDD activities associated with replacement of a segment of pipeline to be minimal. Specifically, in response to SKFN, GNWT stated that “the Mackenzie River is naturally a highly turbid river and would likely require a significant input of suspended solids to affect aquatic organisms in the area. Additionally, effects of turbidity and total suspended solids are a function of not only concentrations but also duration of exposure. Therefore, if any turbidity issues were to arise at the Enbridge site and the duration of the event was limited, risk to the aquatic environment should be minimal. As such, the development of an adequate monitoring protocol with clear thresholds and an adaptive management response would provide additional certainty that adverse conditions from the Project can be minimized or completely avoided”.

Views of the Board

The Board notes that Enbridge has filed a preliminary Project-specific EPP with the Application and has committed to having and implementing the EPP on-site. However, as Enbridge has made a number of additional commitments since the preliminary EPP was filed, and to ensure the appropriateness and sufficiency of the mitigation measures for aquatic resources, the Board has imposed **Condition 6**, requiring Enbridge to file an updated Project-specific EPP at least 30 days prior to commencement of construction.

The Board reminds Enbridge of their commitment to include a transect on the Liard River when updating their final Turbidity Monitoring Plan in order to establish baseline turbidity

levels in the Mackenzie River. It is also the Board’s expectation that the directed fish and fish habitat assessment as committed to by Enbridge be completed prior to the start of drilling activities.

In order to ensure consideration of concerns raised by local First Nations in the hearing around the inadvertent loss of drilling fluids and the potential resulting impacts on aquatic resources in the Mackenzie River, the Board expects Enbridge to consult these parties on its revised measures and to include the results of this consultation in its Indigenous Engagement Report as required in **Condition 9**.

With respect to contingency planning, the Board notes that Enbridge submitted that the HDD is the most technically feasible long term solution. Enbridge further submitted that if the HDD is unsuccessful, the Project and path forward will be re-evaluated in accordance with all applicable regulatory requirements.

As shown in the table below, the Board is of the view that with Enbridge’s proposed mitigation measures and with the Board imposed conditions, there are not likely to be significant adverse effects on aquatic resources resulting from the Project activities. With regards to concerns raised by Parties, the Board is of the view that any potential project impacts on aquatic resources are likely to be minimal and can be effectively addressed through Enbridge’s proposed mitigation and the Board’s imposed conditions.

Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Short-term	Reversible	RSA	Moderate
Adverse Effect				
Not likely to be significant				

7.4.2.2 Noise Management Plan

View of Enbridge

Enbridge stated that there would be residual effects associated with the acoustic environment (noise), and stated that it did not consider the effects significant. Enbridge argued that the Project is located approximately 9 km from the nearest community (Fort Simpson) and approximately 9 km from the nearest permanent residence (cabin). However, Enbridge indicated that temporary increased noise levels may impact local wildlife in the project area. Enbridge committed to conducting noise monitoring to determine baseline measurements and develop noise abatement strategies if required.

Views of Parties

Lúidlij Kúé First Nation

LKFN submitted that Project-related activity and potential impacts resulting from the Project, including the increase of access, activity and noise along the RoW and in construction and storage areas, as well as any possible accident or malfunction, could adversely impact the abundance and availability of mammals and small game in the LSA and inhibit LKFN’s ability to safely utilize these areas for harvesting purposes.

Prior to the commencement of the Project, Enbridge should be required to file with the NEB a site-specific Noise Management Plan that includes, among other elements:

- baseline daytime and nighttime ambient sound levels at noise sensitive areas within 500m of the HDD entry and exit sites;
- predicted noise levels caused by HDD at the most affected receptors without mitigation measures implemented;
- proposed HDD noise mitigation measures, including all technologically and economically feasible mitigation measures;
- predicted noise levels at the most affected receptors with mitigation measures implemented, including noise contour map(s) showing potentially affected receptors;
- an HDD noise monitoring program, including locations, methodology, and schedule;
- a description of the public and Indigenous communication and complaint response process; and,
- a contingency plan that contains proposed mitigation measures for addressing noise and complaints, which may include the temporary relocation of specific residents.

Sambaa K'e First Nation

SKFN is concerned about the impact of project noise on wildlife, particularly caribou and on human health. SKFN has requested that Enbridge be required to complete a comprehensive noise management plan for the project, which should include:

- an evaluation of the sound levels that will be generated on the project (in weighted decibels at 10, 50, 100, 250 and 500 metres from the sound source);
- a peak acceptable sound level for the project at the specific distances specified above;
- an evaluation of sensitive time periods for caribou, including calving as well as other “sensitive receptors” including other species at risk with high or medium likelihood of being in the project area;
- a literature review of how expected noises, and at which distances, will affect sensitive receptors, particularly boreal woodland caribou;
- a commitment to complete work outside of the time sensitive windows for sensitive receptors, particularly boreal woodland caribou, if warranted by the research and evaluation above;
- a list of sound mitigation measures that will be used for the project, including movable sound barriers;
- details about the efficacy of the mitigation measures, including estimated peak noise levels before and after mitigations are implemented;
- a sound level monitoring plan; and,
- a contingency plan in case peak acceptable sound levels are exceeded.

SKFN further requested that the Parties have an opportunity to review and comment on the plan prior to it being accepted as final by the National Energy Board.

Views of the Board

The Board notes that there are likely to be Project related effects associated with noise levels due to the use of vehicles and equipment during construction, and particularly from the HDD. There is potential that noise may disturb or displace wildlife, which in turn may impact the current and traditional use of the area by Indigenous peoples.

In order to ensure consideration of concerns raised by local First Nations in the hearing, the Board has imposed **Condition 13** requiring Enbridge to file a Noise Assessment and Mitigation Plan at least 30 days prior to start of the HDD activity. The Board expects Enbridge to consult these parties and to include the results of this consultation in its Indigenous Engagement Report as required in **Condition 9**.

As shown in the table below, the Board is of the view that the associated effects of construction-related noise level increases are temporary (in the order of a few months) and would be relatively localized. Levels would return to the current baseline following completion of construction.

Any interactions of these effects with noise levels from other projects and activities in the vicinity would also be temporary. Such unavoidable, temporary and relatively minor construction-related noise emissions would not be likely to meaningfully contribute to cumulative effects. Further discussion is also provided in **Chapter 5**.

Evaluation of Significance of Residual Effects	Temporal Extent	Reversibility	Geographical Extent	Magnitude
	Short-term	Reversible	LSA	Moderate
	Adverse Effect			
	Not likely to be significant			

7.5 Cumulative Effects Assessment

The Project can reasonably be expected to affect several bio-physical and socio-economic elements for the duration of the Project, even after Project mitigation. The Project can also reasonably be expected to have effects that will remain after mitigation and after construction. Longer lasting effects that could cumulate with residual effects from other projects or activities would affect the following elements:

- Physical Environment and Soil
- Vegetation and Wildlife Habitat (including for Species at Risk)
- Greenhouse Gases
- Heritage Resources
- Current Traditional Land and Resource Use

Enbridge stated that it performed a cumulative effects assessment for potential projects in the Fort Simpson area and that most elements are not anticipated to have residual effects. Key areas

of interactions between the residual effects of the Line 21 Project and other projects and activities in the region over time include incremental cumulative clearing of land with the consequent loss of vegetation, wildlife habitat and access to traditional use.

The loss of vegetation and wildlife habitat through the use of TWS combined with the increased prevalence of forest fires in the Northwest Territories contributes incrementally to habitat loss, in particular for the Woodland Caribou (Boreal Population). In assessing Project-related direct and indirect disturbance to identified critical habitat, Enbridge explained that the construction and operation activities on the existing RoW would impact approximately 6.62 ha, the access routes and barge landing areas would impact approximately 28.85 ha, and the north and south camp and staging areas would impact approximately 4.41 ha. Collectively, the Project would impact 0.0000009% of the total critical habitat and 0.0000013% of the total undisturbed critical habitat identified in Environment and Climate Change Canada's *Recovery Strategy for Woodland Caribou, (Ranger tarandus caribou), Boreal population, in Canada*. Following the completion of construction activities, TWS will be reclaimed and allowed to naturally vegetate.

Views of Parties

Lúdljì Kùé' First Nation

LKFN submitted that the Project presents risks to the LKFN's Indigenous rights and its community members' wellbeing because of numerous Project activities and interactions with the surrounding ecological and human environment. These new impacts are anticipated to add to the ongoing and growing cumulative effects being experienced by the LKFN members, as the Dene people have historically been, and continue to be, overlooked, dismissed and disrespected with regards to third party industrial natural resource development in their territories.

Specifically, through presentation of oral traditional evidence to the Board, LKFN stated:

Elder Jonas Antoine

And from day one of the pipeline this, the pipeline has contributed greatly to cumulative effects on the land. One may argue that oh, we'll let it go back and it's going to go back to it being a wilderness again. But the scar is there. It will never happen to be -- to go back to being a wilderness again because way to the right of this picture, way back about 40 kilometers away, there's an old winter road that was put in there back in the 19 -- around 1950. And that long ago is long ago. And to this day you can still see that old winter road. It was a winter road and you can still see it. And it's a permanent mark on the surface of the earth. So something like the pipeline will never, ever be -- never go back to being a complete normal wilderness again.

Sambaa K'e First Nation

SKFN stated that oil and gas development, including the Enbridge pipeline has had cumulative effects over time, negatively impacting the land and water and SKFN's relationship to it. These effects are both local and regional in scope. SKFN believe that fish in the Dehcho are at increased risk to negative impacts of turbidity because of cumulative effects over time. SKFN is also concerned about the impact of project noise on wildlife, particularly caribou and on human health.

Views of the Board

The Board notes that the Project is a replacement of a 2.5 km segment on an existing pipeline and RoW. As such the Board finds that while residual effects of the proposed works and activities may cumulate with other nearby activities ongoing at the time of construction, the Project is not likely to contribute much if anything to longer term effects above and beyond the already existing effects of the current pipeline and RoW. The Board also finds that the incremental impacts to identified critical caribou habitat would not be significant. If anything, the project can be expected to improve the safety of the pipeline under the Mackenzie River and as such, it likely avoids or reduces any potential cumulative impacts associated with an accident.

Nonetheless, the Board acknowledges the concerns expressed by First Nations parties to the hearing and recognizes how ongoing and potential cumulative effects can have lasting cultural implications on northern communities and peoples. With this in mind the Board reminds Enbridge that in its preparation of condition filings for **Conditions 9 and 10**, the Board expects Enbridge to conduct its project-related consultations in a timely and meaningful way.

7.6 Environmental Assessment – Conclusion

The Board is of the view that overall, with the implementation of Enbridge’s environmental protection procedures and mitigation and the Board’s conditions, the Project is not likely to cause significant adverse environmental effects.

7.6.1 Mackenzie Valley Resource Management Act

As explained in Section 2.3 of this Report, the Board is a Designated Regulatory Agency under the *Mackenzie Valley Resource Management Act* and the associated *Preliminary Screening Requirement Regulations* when it issues an authorization under subsection 58(1) of the NEB Act. As such, it would normally be required to conduct a preliminary screening to determine if the Project might have a significant adverse impact on the environment.

On 3 August 2017, the MVLWB released a letter concluding that section 157.1⁹ of the *Mackenzie Valley Resource Management Act* applies to this Project and, as such, the Line 21 Replacement Project is exempt from preliminary screening. Although no preliminary screening is required under that Act, the Board made the above conclusion on its environmental assessment for the purposes of the NEB Act.

⁹ *MVRMA Section 157.1*

Part 5 does not apply in respect of any licence, permit or other authorization related to an undertaking that is the subject of a licence or permit issued before June 22, 1984, except a licence, permit or other authorization for an abandonment, decommissioning or other significant alteration of the project.

Chapter 8

Infrastructure, Services, Employment and Economy

The Board's *Filing Manual* sets out the Board's expectations of applicants regarding direct socio-economic impacts caused by the existence of a project. Applicants are expected to identify and consider the impacts a project may have on infrastructure, services, employment and economy. Applicants are also expected to provide mitigation of negative impacts and the consideration of positive benefits of the project.

Potential socio-economic effects that are caused by changes to the environment are included in **Chapter 7**, Environment and Socio-Economic Matters. Other economic effects are addressed in **Chapter 9**, Economic Feasibility. Direct socio-economic effects caused by the existence of the Project itself are discussed below. Employment matters, as it relates to Indigenous peoples, are discussed in **Chapter 5**, Indigenous Matters.

8.1 Infrastructure and Services

Views of Enbridge

Enbridge noted that the only infrastructure in the Local Study Area and Project Footprint, other than the existing Enbridge pipeline, are the existing access roads and trails. Infrastructure in the Regional Study Area includes the village of Fort Simpson. Enbridge also stated that for use of the ferry crossing on the Mackenzie Highway over the Liard River and other traffic considerations, the project has engaged with the Department of Transportation administrators to discuss potential impacts with consideration of extended ferry service scheduling so as to minimize impacts to local traffic.

Enbridge stated that operation of the replacement segment of pipeline is not anticipated to interact with infrastructure or services. Enbridge further stated that a Traffic Management Plan for both slopes will be developed in consultation with LKFN.

Enbridge committed to working with the Mouse family, a member of LKFN, in order to establish a safe lane of traffic for them to address their concerns, which may include installing a controlled crossing point on the RoW to safely get across. Enbridge also stated that with its proposed mitigation (specifically, paramedics on both sides of the river during the Project during day and night), it believes the Project will have a minimal impact on local health systems.

Traffic

Enbridge stated that no new access roads will be constructed but rather the existing right of way will be used to access the work sites. Enbridge further stated there will be a temporary increase in traffic on existing roads during construction, which is expected to take place from approximately mid-May to September.

Medical and Emergency Services

Enbridge stated that paramedics will be available for emergency response on a 24 hours basis, on both slopes, throughout the Project. Enbridge further stated that for non-emergency related health

concerns or for medical issues beyond the capacity of paramedics, workers will be utilizing existing facilities.

Accommodation

Enbridge stated that the use of accommodations in the community will be limited so as to not negatively impact regular business or restrict availability of facilities.

Views of Parties

Lúdljì Kúé First Nation

LKFN stated it is concerned that Enbridge does not recognize the full scope of the potential interactions between the Project and the community health and socio-economic health of its members. LKFN also stated that the inherent connections between social, economic and cultural values, potential impacts are complex and inter-dependent. LKFN further noted the human or social elements pertaining to employment, income, human interactions through workforce requirements and indirect effects from human activities related to an influx in temporary workers, such as negative pressures on the use of community services and infrastructure.

LKFN further stated that specific commitments to ensure that impacts are mitigated and that potential benefits are realized are often included in life-of-project agreements between Indigenous communities and developers, however no such measures have been proposed by Enbridge to LKFN for this Project.

Sambaa K'e First Nation

SKFN stated that studies also indicate that transient worker camps can overwhelm health and other services available in a host community. SKFN further stated it has concerns on the effects on services that are available to them or whether there has been consideration of the effects of 120 additional people accessing services in Fort Simpson.

SKFN stated it does not believe that Enbridge has provided sufficient evidence that effects on local services would be minimal. SKFN also stated that Enbridge's own worker estimates include up to 120 people at camps and an additional 40 people living in town; the estimates represent an increase of approximately 13% to Fort Simpson's population. SKFN further stated that is reasonable to assume that such a sudden increase in population would affect local service capacities, capacities that are relied on by communities throughout the region.

Views of the Board

The Board recognizes the possibility of increased traffic on local roads, limited availability of local accommodation, and an increased demand on medical and emergency services during the construction phase of the Project. These impacts are anticipated to be temporary and low in magnitude. The Board also provided views on the safety aspects of increased traffic in **Chapter 3**. Even though Enbridge has committed to implementing mitigation and management plans, including a Construction Safety Manual, a Traffic Management Plan, and a Camp Management Plan, the Board has imposed **Conditions 5, 11, and 12** requiring Enbridge to file these Plans on the public record. The Board further notes Enbridge's mitigation measures to reduce the impact of the workforce on community infrastructure and

services, including efforts to have workers reside in closed camps by the Project site and the presence of paramedics on both slopes throughout the Project.

The Board is of the view that the measures planned by Enbridge would adequately address the potential impacts of the Project on community infrastructure and services.

8.2 Employment and Economy

Enbridge has committed to working 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.

Enbridge has committed to opportunities for 14 monitoring positions for individuals from local Indigenous communities to act as turbidity, wildlife, cultural and environment monitors during construction, in addition to a community liaison position. Enbridge stated that the Project is anticipated to involve a small temporary workforce and is seeking to source as many local non-specialized labour resources as possible. These positions will include the monitoring positions, as well as additional positions, such as trucking, labourers, etc. Enbridge further stated that although these positions will be sourced locally where feasible, no new permanent jobs in the Regional Study Area will be created as a result of the Project. Enbridge has committed to sourcing some commercial goods and services for the Project from providers in Fort Simpson.

Enbridge also stated that there have already been significant economic benefits to the local community as a result of the Project, such as the Line 21 spending in the Fort Simpson area from November 2016 to April 2017, which was greater than \$ 12 million. For example, 80 people from Nogha Enterprises, LKFN's commercial arm, were involved in the borehole drilling program in the winter of 2017.

Enbridge committed to working with the general contractor to hire local personnel where practical, in order to minimize the number of temporary workers entering the region. Enbridge further stated that the project may provide positive interactions and benefits to the community of Fort Simpson.

Lastly, Enbridge acknowledges that there are some potential temporary adverse impacts arising from the Project. However, after its mitigation measures, environmental protections and commitments are applied, Enbridge stated the Project is not likely to cause significant adverse effects.

Views of Parties

Dehcho First Nations

DFN stated they want employment opportunities for Dehcho members, including monitoring positions as part of the Dehcho K'ehodi Stewardship Program.

Lúdljì Kùé First Nation

LKFN stated that the negative impacts may be offset to a certain extent by measures that promote positive effects or socio-economic benefits that may contribute to community well-being; including employment during construction and operations, business opportunities to

provide goods and services to Enbridge or its contractors and support for community programs that support Dene livelihoods and cultural identity.

Sambaa K'e First Nation

SKFN stated that it would like to be given the opportunity to share in the benefits of the project, through training and employment, as well as other Dehcho Nations.

Government of Northwest Territories

GNWT stated that the pipeline contributes significantly to the economy of the Northwest Territories and provides important services and opportunities for Northern residents.

Imperial Oil Resources N.W.T Limited

Imperial stated that the pipeline is the only available transportation option for oil produced at its Norman Wells operation and that this operation is a significant economic contributor to the local community, providing both direct and indirect benefits. Imperial further stated that the excess generation of electricity produced by the operation is sold to the Northwest Territories Power Corporation which supplies the town of Norman Wells.

Letters of Comment

Fort Simpson Chamber of Commerce, MLA Sahtu-Northwest Territories, Norman Wells and District Chamber of Commerce, Norman Wells Land Corporation, North West Territories Chamber of Commerce, Town of Norman Wells, Tulita Land and Financial Corporation, Village of Fort Simpson

A number of Commenters expressed concerns about the significant and adverse economic and social impacts relating to job losses, losses in shared resource revenue and business losses, both locally and in the larger Sahtu Region, since the pipeline has been shut down.

Views of the Board

The Board is of the view that the Project would benefit local, regional and territorial economies. The Board notes that the socio-economic benefits related to the construction phase of the Project are primarily local, through both direct and indirect employment, procurement and contracting opportunities. The Board is also mindful of the socio-economic benefits related to the existing Line 21 along with the regional benefits associated with continued production at the Norman Wells Facility. More information about the community of Norman Wells is provided in **Chapter 2**.

The Board notes Enbridge's Indigenous Peoples Policy, and its commitment to working 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 notes Enbridge's commitment to provide job descriptions that are commensurate with the necessary skills or education required for each position. The Board further notes the success Enbridge has had on past projects and encourages Enbridge to continue to fully pursue these opportunities on this Project.

The Board expects Enbridge will work with local First Nation communities to clearly communicate job descriptions and necessary skill requirements for each job, for all aspects of construction for this Project. The Board also expects Enbridge to fully explore opportunities for training and education so that Indigenous peoples are not arbitrarily and unfairly screened out from these economic opportunities.

Chapter 9

Economic Matters

When assessing an application for a physical project, the Board considers a variety of issues including the economic feasibility of the project. The Board's economic assessment considers issues of supply, markets, alternatives and financial matters. The Board's level of analysis of these issues is generally commensurate with the scope and impact of the applied-for project.

The Board finds, for the reasons give below, that the Project is economically feasible.

9.1 Economic Feasibility

Views of Enbridge

Enbridge submitted that the sole purpose of the Project is to resume operation of the Norman Wells Pipeline (Line 21). Enbridge indicated the Project would enable Line 21 to operate under the same conditions that existed prior to its shutdown, and it is not proposing to increase the diameter of the pipeline, its operating pressure or its capacity. Enbridge further submitted that the Project would restore service to Imperial Oil Limited (Imperial), Enbridge's primary customer and the only shipper impacted by the shutdown of the pipeline.

Enbridge indicated that adequate supply and markets exist to support the applied-for-facilities and that Enbridge expects the applied-for-facilities to be used at a reasonable level over their economic life. Further, Enbridge noted that Imperial had confirmed that, following the resumption of service, sufficient reserves exist to support Imperial's continued operation of its Norman Wells production and processing facilities. The Norman Wells Pipeline agreement, Enbridge added, also allows extension rights to 2035 or later, to support transportation of customer reserves.

Enbridge estimated the cost to install the applied-for-facilities at \$53 million and the cost to decommissioning the existing facilities at \$0.5 million. Enbridge submitted that it is able to finance as well as safely operate, maintain and abandon the applied-for-facilities.

Views of Parties

Imperial Oil Resources N.W.T Limited

Imperial submitted that its Norman Wells production and processing facilities rely exclusively on Line 21 to transport the production from Norman Wells south to Alberta and to markets beyond. Imperial stated that these facilities can only resume operation when Line 21 resumes operation.

Imperial noted that the Project does not involve building a new pipeline or expanding the capacity of an existing pipeline, but rather is a maintenance project to replace a small segment of an existing pipeline in order to ensure the safe operation of Line 21. Imperial further submitted that the oil supply and the oil markets that existed before Line 21 was shut down will continue to exist once Line 21 resumes service.

Imperial explained that Enbridge will recover the costs of the Project through tolls, much of which is charged to Imperial. Imperial submitted that it would not accept this obligation unless it intended to continue shipping the Norman Wells oil production on Line 21, which demonstrates that the Project will be used and useful.

9.2 Abandonment Matters

Views of Enbridge

Enbridge submitted that it is not proposing to fund the decommissioning with amounts set aside in its abandonment trust. Enbridge explained that as the pipe being installed is of similar length to the pipe being decommissioned, the Project will not result in material changes to Enbridge's Abandonment Cost Estimate, the estimated timing for the abandonment of the system or the plans to fund future abandonment costs.

As a result of the shutdown, Enbridge noted that it does not expect to deposit the full 2017 Annual Collection Amount (ACA) into its abandonment trust. Enbridge explained that the shutdown has prevented it from collecting abandonment surcharges from Line 21's most significant shipper.

Enbridge submitted that the loss of a significant amount of abandonment recoveries is not expected to result in an under-recovery of abandonment funding. Enbridge expects to adjust its ACA to take into account the missed abandonment recoveries, along with any revised Abandonment Cost Estimates, collection period and/or any other assumption factoring in to the ACA. Enbridge further submitted that it is also currently exploring options for collection of the ACA while the line is shut down or not fully operational.

Views of the Board

The Board is of the view that the applied-for-facilities are economically feasible and has no concerns with Enbridge's ability to finance the Project. In considering the evidence, the Board noted that no Participant contested the economic feasibility of the Project, Enbridge's ability to finance the Project or abandonment funding matters relating to the Project.

The Board reminds Enbridge, as stated in the MH-001-2013 Reasons for Decision, pipeline companies are ultimately responsible for the costs of abandoning their pipelines and for ensuring that appropriate funds are estimated, collected and set aside for such purposes. The Board notes that Enbridge indicated that it expects to revise its ACA to account for the under-collection in 2017 and Enbridge is also exploring options to collect the ACA for the periods in which Line 21 was shut down or not fully operational.

It is the Board's expectation that pipeline companies continue to set aside their ACA, regardless of their ability to recover the cost of abandonment from the users of their systems.

Appendix I

List of Issues

The Board has identified the following issues for consideration with respect to the proposed Line 21 Segment Replacement Project (Project):

1. The need for the Project
2. The economic feasibility of the Project.
3. The potential commercial impacts of the Project.
4. The potential environmental and socio-economic effects of the Project, including those detailed in the NEB's Filing Manual*
5. The appropriateness of the general route and land requirements for the Project.
6. The suitability of the design of the Project.
7. Potential impacts of the Project on Aboriginal interests.
8. Potential impacts of the Project on land users.
9. Contingency planning for product release, accidents or malfunctions, during construction and operation of the Project.
10. The suitability of the decommissioning plan for the existing Line 21 pipeline, including whether the decommissioning is appropriately an interim step to eventual abandonment or whether it is the final step in the pipeline's lifecycle.
11. Safety and security during construction and operation of the Project, including emergency response planning and third-party damage prevention.
12. The terms and conditions to be included in any decision the Board may issue.

*The Mackenzie Valley Land and Water Board is also considering the potential environmental and socio-economic effects of the Project under the *Mackenzie Valley Resource Management Act*.

Appendix II

Criteria, Ratings and Definitions Used in Evaluating the Likelihood of Significant Effects

Criteria	Rating	Definition
All criteria	Uncertain	When no other criteria rating descriptor is applicable due to either lack of information or inability to predict.
Temporal Extent	Short-term	An effect, either resulting from a single project interaction or from infrequent multiple ones, whose total duration is usually relatively short-term and limited to or less than the duration of construction, or one that usually recovers immediately after construction. An effect usually lasting in the order of weeks or months.
	Medium-term	An effect, either resulting from a single or infrequent project interaction or from multiple project interactions each of short duration and whose total duration may not be long-term but for which the resulting effect may last in the order of months or years.
	Long-term	An effect, either resulting from a single project interaction of long lasting effect; or from multiple project interactions each of short duration but whose total results in a long lasting effect; or from continuous interaction throughout the life of the project. An effect usually lasting in the order of years or decades.
Reversibility	Reversible	An effect expected to, at a minimum, return to baseline conditions within the lifecycle of the Project.
	Permanent	An effect that would persist beyond the lifecycle of the project, or last in the order of decades or generations. Some social or cultural effects that persist beyond a single generation may become permanent.
Geographic Extent	Project Development Area (PDA)	Effect would be limited to the area directly disturbed by the Project development, including the width of the RoW and the TWS.
	Local	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.
	Regional	Effect would be recognized beyond the Local area and that might be affected on the landscape level. This area also varies relative to the receptor being considered.

Criteria	Rating	Definition
Magnitude	Low	Effect is negligible, if any; restricted to a few individuals/species or only slightly affects the resource or parties involved; and would impact quality of life for some, but individuals commonly adapt or become habituated, and the effect is widely accepted by society.
	Moderate	Effect would impact many individuals/species or noticeably affect the resource or parties involved; is detectable but below environmental, regulatory or social standards or tolerance; and would impact quality of life but the effect is normally accepted by society.
	High	Effect would affect numerous individuals or affect the resource or parties involved in a substantial manner; is beyond environmental, regulatory or social standards or tolerance; and would impact quality of life, result in lasting stress and is generally not accepted by society.
Evaluation of Significance	Likely to be significant	Effects that are either: (1) of high magnitude; or (2) long-term, permanent, and of beyond the RAA.
	Not likely to be significant	Any adverse effect that does not meet the above criteria for “significant”.

Appendix III

Section 58 Order Conditions

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

Conditions for the Section 58 Order

General

1. Condition Compliance

Enbridge shall comply with all the conditions contained in this Order unless the Board otherwise directs.

2. Design, Construction and Operation

Enbridge shall cause the Project to be designed, located, constructed, installed, operated and decommissioned in accordance with the specifications, standards, commitments made, and other information referred to in its application or in its related submissions.

3. Implementation of Environmental Protection

Enbridge shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendations, procedures and its commitments for the protection of the environment included in or referred to in its application, subsequent filings or as otherwise agreed to during the hearing process.

Prior to Winter Construction

4. Construction Schedule

Enbridge shall file with the Board, at least 15 days prior to commencing winter construction, for both frozen and unfrozen ground conditions, a detailed construction schedule identifying major construction activities, and shall notify the Board of any modifications to the schedule as they occur. This schedule must also clearly identify construction activities by season (e.g. winter or summer).

5. Construction Safety Manual

Enbridge shall file with the Board, at least 15 days prior to commencing winter construction, an updated Construction Safety Manual pursuant to section 20 of the *Onshore Pipeline Regulations*.

6. Environmental Protection Plan

Enbridge shall file with the Board for approval:

- A. **At least 15 days prior to commencing winter construction**, an updated project specific Environmental Protection Plan (EPP) for frozen ground conditions. The EPP shall describe all environmental protection commitments, procedures, and mitigation and

monitoring commitments, as set out in the Application, Enbridge's subsequent filings, or as otherwise agreed to in Enbridge's related submissions. The EPP shall also include:

- a) the environmental protection procedures applicable to winter construction and activities (including site-specific plans such as erosion and sediment control, wildlife management, and others);
- b) the criteria for implementing these procedures;
- c) the mitigation measures and monitoring plans applicable to winter construction and activities of the Project;
- d) the Waste Management Plan; and
- e) the Spill Contingency Plan.

B. At least 30 days prior to commencing summer construction, an updated project specific EPP for unfrozen ground conditions. The EPP shall describe all environmental protection commitments, procedures, and mitigation and monitoring commitments, as set out in the Application, Enbridge's subsequent filings, or as otherwise agreed to in Enbridge's related submissions. The EPP shall also include:

- a) the environmental protection procedures applicable to summer construction and activities (including site-specific plans such as erosion and sediment control, wildlife management, and others);
- b) the criteria for implementing these procedures;
- c) the mitigation measures and monitoring plans applicable to all Project phases and activities of the Project;
- d) the updates to barging impacts and mitigation;
- e) the Turbidity Monitoring Plan; and,
- f) updates to the Waste Management Plan and Spill Contingency Plan submitted under section A of Condition 6.

7. Archaeological and Heritage Resources

Enbridge shall file with the Board, at least 15 days prior to commencing winter construction, the following:

- a) confirmation, signed by the Accountable Officer of the company, that it has obtained all of the required archaeological and heritage resource permits and clearances from the Prince of Wales Northern Heritage Centre;
- b) a description of how Enbridge will meet conditions and respond to comments and recommendations contained in the permits and clearances referred to in a); and
- c) a description of how Enbridge has incorporated additional mitigation measures, as applicable, into its Environmental Protection Plans as a result of conditions or recommendations referred to in b).

8. *Indigenous Monitoring Plan*

Enbridge shall file with the Board, and serve a copy on those Indigenous groups identified in a), at least 15 days prior to commencing winter construction, a plan describing participation by Indigenous peoples in monitoring during construction and post-construction of the Project. The plan shall include:

- a) a list of the Indigenous groups consulted concerning participation in monitoring during construction and/or post-construction;
- b) a list of those Indigenous groups, if any, who have reached agreement with Enbridge to participate as monitors during construction and/or post-construction; and
- c) a description of the scope, methodology, and measures for monitoring activities to be undertaken by each participating Indigenous group identified in b), including:
 - i. a summary of consultations undertaken with participating Indigenous peoples to determine the proposed scope, methodology, and measures for monitoring;
 - ii. those elements of construction and geographic locations that will involve Indigenous monitoring, including the Project Footprint;
 - iii. a description of how information gathered through the participation of Indigenous monitors will be used by Enbridge;
 - iv. a summary of consultations undertaken with participating Indigenous peoples to ascertain the success of participation in monitoring during construction and/or post-construction of the Project;
 - v. a summary of the lessons learned during the development of the plan, including any issues that were addressed and opportunities for improvement; and
 - vi. a description of how information gathered through the participation of Indigenous monitors will be provided to participating Indigenous groups.

9. *Indigenous Engagement Reports*

Enbridge shall file with the Board and serve a copy on Indigenous groups that have expressed an interest to Enbridge in receiving these filings, no more than 30 days after the date of this Order, and at the end of every month thereafter until post-construction activities are completed, a report summarizing Enbridge's consultation activities undertaken with all potentially affected Indigenous peoples. These reports shall include:

- a) a summary of the concerns raised by Indigenous peoples, including but not limited to:
 - i. Disruptions to the harvesting practices of Indigenous peoples as a result of the Project;
 - ii. Disruptions to potentially affected commercial traplines and trails as a result of the Project;
 - iii. Co-development of site visits that can be used as learning and partnership building exercises during construction;
 - iv. Development and implementation of gender-specific training;

- v. Concerns received regarding the updated EPP;
 - vi. Concerns received regarding noise due to HDD operations
 - vii. Concerns received regarding an inadvertent loss of drilling fluids; and
 - viii. Revisions to Enbridge's code of conduct for Project personnel regarding fishing.
- b) a summary of any feedback provided by Indigenous peoples on the Indigenous Engagement Report from the previous month;
 - c) a description of how Enbridge has addressed or will address the concerns and feedback raised;
 - d) a description of any outstanding concerns; and,
 - e) a description of how Enbridge intends to address any outstanding concerns, or an explanation as to why no further steps will be taken.

10. Indigenous Knowledge and Land Use Study Update

Enbridge shall, at least 15 days prior to commencing winter construction, file with the Board for approval, and serve a copy on Indigenous groups that have expressed an interest to Enbridge in receiving this filing, a report demonstrating how the information from the Indigenous Knowledge and Land Use Study (IKLUS) has been incorporated into the Project. The report must include, but is not limited to:

- a) a description of how Enbridge has considered and addressed information provided in the IKLUS study on which it did not report during the MH-001-20017 proceeding;
- b) a description of any outstanding concerns raised by potentially-affected Indigenous peoples regarding potential effects of the Project on the current use of lands and resources for traditional purposes, including a description of how these concerns have been or will be addressed by Enbridge; and,
- c) a description of how Enbridge has incorporated any revisions necessitated by the TLU studies or follow-up activities into the Environmental Protection Plan for the Project.

Prior to Summer Construction

11. Traffic Management Plan

Enbridge shall file with the Board, at least 30 days prior to commencing summer construction, a Traffic Management Plan which addresses any concerns, issues or requests raised in consultation with Łídlíj Kúé First Nation, Village of Fort Simpson, and regional and territorial authorities, including a work plan on ongoing mitigation of the impacts due to:

- a) identifying and establishing a safe lane of traffic and a controlled crossing location for the Mouse family;
- b) barge and water taxi traffic and docking, including:
 - i. impacts related to reduced access to the shore and navigation channels in the Mackenzie River, and

- ii. impacts to fishing, hunting, and gathering.
- c) increased traffic and heavy equipment traffic restricting public access on roads and highways.

12. Camp Management Plan

Enbridge shall file with the Board, at least 30 days prior to commencing summer construction, a Camp Management Plan, including:

- a) the measures Enbridge will take to comply with any applicable legislated requirements;
- b) camp rules on access and conduct at the camp, including:
 - i. whether it is open or closed to persons outside of those involved in the construction project;
 - ii. how these rules will be communicated to all persons involved;
 - iii. and how compliance to these rules will be enforced;
- c) the measures Enbridge will take to restrict access and to otherwise ensure safety, including security of persons staying in the camps; and,
- d) a layout of the camp facilities to include location of fencing and controlled access points, as well as office and first aid facilities.

13. Noise Assessment and Mitigation Plan

Enbridge shall file with the Board, at least 30 days prior to commencing summer construction, a Noise Assessment and Mitigation Plan for daytime and nighttime HDD operations. The plan shall include, but not be limited to:

- a) a noise impact assessment, including a baseline noise monitoring and noise abatement strategies;
- b) confirmation that locally impacted residents, commercial trapline holders, and harvesters, have been consulted on the noise abatement strategies prior to submission to the Board;
- c) confirmation that locally impacted residents, commercial trapline holders, and harvesters potentially affected by noise due to HDD operations will receive notice from Enbridge at least 14 days prior to starting the HDD activities; and,
- d) a description of how Enbridge plans to address any complaints received regarding noise due to HDD operations.

During Construction

14. Construction Progress Reports

Enbridge shall file progress reports with the Board on the 1st and 16th of each month during construction of the Project. Each report shall include the following:

- a) information on the activities carried out during the reporting period;

- b) an update on the extent to which construction activities overlap with applicable critical timing periods for wildlife and any mitigation measures required and implemented to reduce the risk of adverse impacts during the environmentally sensitive periods;
- c) any environmental, socio-economic, safety and security issues and issues of non-compliance; and
- d) the measures undertaken for the resolution of each issue and non-compliance for environmental, socio-economic and safety issues, and confirmation that identified security issues have been addressed.

15. Horizontal Direction Drilling Failed Attempt Reports

Enbridge shall file a summary report with the Board within 5 days of any failed HDD attempts. A failed attempt would not include pull back to allow for minor adjustments in steering but rather be defined as including, but not limited to, the drilling company having to trip back significant drill string to allow for major changes in drill path. The summary shall include;

- a) Reasons or rationale for the failed attempt;
- b) Lessons learned in failed attempt;
- c) Description of changes or modifications for next attempt;
- d) Impacts or changes to the original drill path.

16. Leave to Open

Enbridge shall file with the Board its Leave to Open application in accordance with all applicable regulations, codes and standards at least 10 days before requesting return to service. Enbridge must also serve the Parties of MH-001-2017 with this filing.

Post-construction and Operation

17. Post-Construction Environmental Monitoring Reports

For both on and off Right-of-Way activities, on or before the 31st of January following the first, third, fifth and seventh complete growing seasons after completing final clean-up, Enbridge shall file with the Board a post-construction environmental monitoring report that:

- a) describes the methodology used for monitoring;
- b) identifies any modifications for the criteria established for evaluating reclamation success described in its EPP and the rationale for any modifications;
- c) identifies the issues to be monitored, including but not limited to unexpected issues that arose during construction, and their locations (e.g. on a map or diagram, in a table);
- d) describes the current status of the issues (resolved or unresolved), any deviations from plans and corrective actions undertaken;
- e) assesses the effectiveness of mitigation measures (planned and corrective) against the criteria for success;

- f) includes details of consultation undertaken with appropriate territorial authorities;
and
- g) provides proposed measures and the schedule that Enbridge would implement to address ongoing issues or concerns.

18. Condition Compliance by the Accountable Officer

Within 30 days of the date that the construction of the Project is completed, Enbridge must file with the Board a confirmation that the Project was completed and constructed in compliance with all applicable conditions in this Order. If compliance with any of these conditions cannot be confirmed, Enbridge 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 Enbridge, appointed as Accountable Officer pursuant to section 6.2 of the National Energy Board Onshore Pipeline Regulations.

19. Sunset Clause

This Order shall expire on 25 January 2021 unless construction in respect of the Project has commenced by that date.

Appendix IV

Decommissioning Order Conditions

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

Conditions for the Decommissioning Order

1. Enbridge shall comply with all of the conditions contained in this Order unless the Board otherwise directs.
2. Enbridge shall decommission and maintain the Line 21 Segment Replacement Project in its decommissioned state in accordance with the specifications, standards, commitments made and other information referred to in its application or in its related submissions.
3. Enbridge shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendations, procedures and its commitments for the protection of the environment included in or referred to in its application or in its related submissions.
4. Enbridge shall file with the Board a report on the feasibility of removing sections of pipe within 6 months after completion of the Project. The report shall include but not limited to:
 - a) Diagram showing sections of pipe that could possibly be removed;
 - b) Detailed process/steps for removing indicated sections;
 - c) Potential hazard and impacts to environment and worker safety; and
 - d) Complications or challenges anticipated.
5. Enbridge shall include the decommissioned section of pipeline in the future Line 21 Abandonment application.
6. Within 30 days of the date that the decommissioning is completed, Enbridge shall file with the Board a confirmation that the Project was completed in compliance with all applicable conditions in this Order. If compliance with any of these conditions cannot be confirmed, Enbridge shall file with the Board details as to why compliance cannot be confirmed. The filing required by this condition shall include a statement confirming that the signatory to the filing is the accountable officer of Enbridge, appointed as Accountable Officer pursuant to s. 6.2 of the OPR.
7. This Order shall expire on 25 January 2021 unless the Project has commenced by that date.

Appendix V

Comments and Conditions

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
Potential Conditions Provided for Comment 29 June 2017 [A84704-1]		
1. Condition Compliance	• N/A	• N/A
2. Implementation of Environmental Protection	• N/A	• N/A
3. Construction Safety Manual	• N/A	• N/A

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
4. Environmental Protection Plan (EPP)	<p>GNWT recommended the EPP be made publically available.</p> <p>LKFN recommended that the EPP include mitigation for invasive vegetative species and all project activities be restricted to the Line 21 RoW.</p> <p>As part of the EPP, SKFN recommended that Enbridge develop a site-specific erosion monitoring and mitigation plan.</p> <p>SKFN and LKFN recommended that Enbridge consult with First Nations on the final EPP.</p> <p>LKFN recommended that that the EPPs include details on decommissioning, feasibility of pipeline segment removal, contamination, ice break up and permafrost.</p>	<p>The Board notes that the final EPP will be available on the NEB public registry.</p> <p>The Board has imposed Condition 6, requiring Enbridge to file an updated project-specific EPP (including details on pipeline segment decommissioning, vegetation mitigation, erosion and sediment control).</p> <p>To address First Nations concerns regarding consultation on the EPP, the Board has imposed Condition 9.</p> <p>The Board agrees with the LKFN comments on decommissioning and has imposed Decommissioning Order Condition 4 for a pipe removal study and Decommissioning Order Condition 5 on future abandonment.</p>
	<p>Aquatic Resources</p> <p>LKFN recommended that Enbridge update the ESA with the fish habitat assessment, barge mitigation and the LKFN Indigenous Knowledge and Land Use Study. LKFN also recommended that Enbridge consult with First Nations on the Turbidity Monitoring Plan.</p> <p>DFN recommended the EPP incorporate a sediment study that includes local knowledge by First Nations.</p> <p>LKFN and DFN recommended that Enbridge notify First Nations within 3 to 4 hours of an inadvertent loss.</p>	<p>The Board notes that Enbridge filed a sediment modelling report and committed to incorporate the LKFN Indigenous Knowledge and Land Use Study, additional barge mitigation and the results of the fish habitat assessment into the final EPP.</p> <p>The Board notes that Enbridge committed to working with Indigenous communities regarding notification protocols for inadvertent losses and committed to using non-hazardous drilling materials.</p> <p>The Board notes that the Arctic Grayling spawning (May-June) will not overlap with HDD activities (summer/fall).</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
	<p>LKFN, DFN and SKFN recommended that Enbridge should use non-hazardous drilling materials.</p> <p>LKFN and DFN recommended that HDD drilling activities not occur during the Arctic Grayling spawning period.</p> <p>LKFN and DFN recommended that Enbridge provide the NEB a copy of an Aquatic Impacts Mitigation Agreement between Enbridge and First Nations.</p> <p>Sumps and Waste Management</p> <p>LKFN and DFN recommended that sumps be prohibited for this project.</p> <p>If a receiving facility is used for drilling waste management, SKFN recommended that Enbridge provide First Nations and GNWT with details on product disposal.</p> <p>SKFN recommended that Enbridge consult SKFN on a revised waste management plan including provisions for ground water monitoring for sumps.</p>	<p>The Board does not require that an Aquatic Impact Mitigation Agreement be filed for this project.</p> <p>The Board has imposed Condition 6, requiring Enbridge to file an updated project-specific EPP (including the Turbidity Monitoring Plan)</p> <p>To address First Nations concerns regarding consultation on the Turbidity Monitoring Plan, the Board has imposed Condition 9.</p> <p>The Board notes that Enbridge committed to adhering to the Alberta Energy Regulator Directive 50: <i>Drilling Waste Management</i> guideline.</p> <p>The Board has imposed Condition 6, requiring Enbridge to file an updated project-specific EPP (including a Waste Management Plan).</p> <p>To address First Nations concerns regarding consultation on the Waste Management Plan, the Board has imposed Condition 9.</p>
5. Archaeological and Heritage Resources	<ul style="list-style-type: none"> N/A 	<p>The Board has imposed Condition 7 requiring Enbridge to file confirmation that it has obtained all permits and clearances from Prince of Wales Northern Heritage Centre.</p>
6. Construction Progress Reports	<p>GNWT recommended the construction progress reports be made publically available.</p> <p>LKFN recommended that Enbridge file with the NEB and First Nations every aspect of the project that poses a risk to the environment.</p>	<p>The Board has imposed Condition 14, requiring Enbridge to file construction progress reports that will be available on the NEB public registry.</p> <p>These reports require Enbridge to submit information regarding mitigation, risks, compliance and non-compliance with environmental issues.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
7. Construction Schedule	LKFN and DFN recommended that Enbridge develop a winter construction schedule in close collaboration with LKFN.	The Board has imposed Condition 4 requiring construction schedules for both winter and summer periods.
8. Accountable Officer Reporting	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A
9. Sunset Clause	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A
Conditions Resulting From Concerns Raised		
Post-Construction Environmental Monitoring Report	SKFN recommended that Enbridge develop a site reclamation plan including monitoring for five years.	The Board has imposed Condition 17 , Post Construction Environmental Monitoring for seven growing seasons.
Leave to Open	LKFN, DFN, and SKFN recommended that the Board ensure that the leave to open process includes a full, public oral hearing including opportunities for Parties to submit information requests.	The Board is satisfied that Enbridge will apply for Leave to Open the Project. The Board also notes that this is not an open public process in whereby evidence or procedures are tested and that the Leave to Open application is filed on the Board's public website and can be viewed by the general public. However, to address the Intervenors' concerns, the Board has imposed Condition 16 .
Horizontal Directional Drilling Plan	<p>LKFN recommended that Enbridge should be required to file a detailed plan on HDD that includes contingencies that will be used in the event of a failed HDD crossing. The plan should include details of what will be done in the event the HDD is abandoned. LKFN also recommended that all HDD activities be restricted to the RoW.</p> <p>LKFN recommended that Enbridge should be required to cease HDD attempts after a certain number of failed attempts, or in the event of a release of drilling fluids</p>	The Board has imposed Condition 15 , in which Enbridge will file with the Board the results of failed attempts, the modifications for the next attempt and any learnings applied for subsequent HDDs

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
	<p>into the Mackenzie River.</p> <p>DFN recommended that Enbridge provide a risk assessment of a blowout during the HDD drill.</p> <p>DFN recommended that Enbridge should be required to file a detailed plan on HDD that includes contingencies that will be used in the event of a failed HDD crossing.</p>	
Decommissioning Report	<p>LKFN recommended that Enbridge should be required to provide an analysis of removal options to establish that decommissioning in place and abandonment is the best available option. LKFN also recommends that should the pipe be left in place and that the slopes of the Mackenzie River and RoW be monitored for geohazard concerns.</p> <p>LKFN and DFN recommended a monitoring program should be established and implemented during decommissioning and should continue at least five years after decommissioning and abandonment is complete.</p>	<p>The Board is satisfied that the decommissioned segment of pipeline will be incorporated in Enbridge existing Integrity Management Plan. The Board also imposes Condition 4 of the Decommissioning Order for a pipe removal study.</p>
Community Notification	<p>SKFN would like Enbridge to work with SKFN and other affected Third Parties to ensure that coordinated emergency response systems are in place and practiced. This will include, but may not be limited to:</p> <ul style="list-style-type: none"> • routine, recurring full-scale emergency response exercises along the Project, with the involvement of First Nations partners and local ground monitors. The objective of the emergency response exercises must be to test the effectiveness and adequacy of the response system. There should be a 	<p>Enbridge must meet the requirements of sections 32 to 35 of the OPR to address emergency management liaison, continuing education and consultation requirements with affected and potentially impacted parties.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
	<p>collaborative project to debrief the response exercise.</p> <ul style="list-style-type: none"> development of a region-specific Emergency Procedures Manual; training of both community and company personnel; details of communications systems; coordination of emergency response activities with responders, mutual aid partners and other agencies; details of response equipment – location, accessibility and details on who is authorized and/or trained to use the equipment. 	
Communications and Engagement Plan	<p>SKFN requested that Enbridge develop an updated communications and engagement plan in collaboration with SKFN, DFN, LKFN, PKFN and other affected First Nations, individuals, or groups to be updated annually.</p> <p>SKFN further requested that Enbridge maintain records that chronologically track complaints by Indigenous groups and landowners, including municipal and regional governments, relating to the Project beginning with the commencement of construction and continuing through operations.</p>	<p>Enbridge committed to updating the Project Engagement Plan, in collaboration with Dehcho First Nation communities. Enbridge has also committed to tracking records of engagement throughout the life of the Project, including dates, descriptions, actions taken, and status.</p> <p>The Board has imposed Condition 9 requiring Enbridge to provide monthly reports summarizing Enbridge’s consultation activities undertaken with all potentially affected Indigenous peoples until post-construction activities are completed.</p>
Camp Management Plan	<p>LKFN requested that Enbridge be required to prohibit its outside workers from bringing drugs and alcohol to the camps. This should include filing plans with details on prevention and enforcement.</p> <p>LKFN requested that Enbridge be required to consider searching the luggage of its outside workers for drugs and alcohol when they arrive at the work camps.</p>	<p>The Board has imposed Condition 12, requiring Enbridge to file a Camp Management Plan. To address First Nations concerns regarding consultation on the Camp Management Plan, the Board has imposed Condition 9.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
	<p>LKFN requested that Enbridge be required to strictly prohibit its outside workers from hunting, fishing, and gathering while staying at the work camps. Furthermore, outside worker access to the land adjacent to the work camps and project area should be prohibited or strictly controlled in collaboration with LKFN.</p> <p>DFN requested that Enbridge provide a detailed and comprehensive plan of how to mitigate potential social impacts due to the 120- person work camp on the community of Fort Simpson and potential mitigation measures in collaboration with local communities (including SKFN and LKFN).</p> <p>DFN requested that Enbridge should be required to work with LKFN and DFN to hire as many local workers as possible.</p>	
Women’s Advisory Council	<p>LKFN argued that transient work camps correlate with increased violence against women and girls. Enbridge must commit to ensuring the workers they bring in will not harm women and girls in Fort Simpson or surrounding communities and areas. Enbridge should be required to work with LKFN and other Dehcho First Nations to monitor, prevent, report, and address any violence towards women and girls.</p> <p>LKFN requested that Enbridge be required to fund a Women’s Advisory Council that is led by LKFN and DFN, with the purpose of ensuring the safety of women and girls and maximizing women’s training and employment opportunities.</p>	<p>The Board expects Enbridge to incorporate gender-specific training into its campsite and workplace training which reflects culturally appropriate approaches and content, and also into its Indigenous Awareness training. This training must be locally-sourced, include input from local communities and service providers to ensure that important issues for the communities are addressed, and be delivered to all on-site personnel, including third parties.</p> <p>The Board has imposed Condition 12, requiring Enbridge to file a Camp Management Plan.</p> <p>The Board has imposed Condition 9 requiring</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
	LKFN and SKFN requested that Enbridge, as part of its commitment to Dehcho K'ehodi funding, include development of a women's advisory panel to develop and to implement approaches to safeguarding women's health and well-being as well as encouraging their participation in the workforce.	Enbridge to provide monthly reports summarizing Enbridge's consultation activities undertaken with all potentially affected Indigenous peoples until post-construction activities are completed.
Training and Employment	SKFN requested that, upon approval, Enbridge must work with affected First Nations to determine what services may be provided in the work camp that will support sustained Indigenous employment for the duration of the project. Enbridge must collaborate with each individual affected First Nation to discuss and provide training opportunities for members to ensure that they are able to access job opportunities during project construction and pipeline monitoring. Enbridge must commit to specific targets for local, Indigenous and female work force composition. If targets can't be met, Enbridge should commit to provide funding for jobs in lieu through the Dehcho K'ehodi.	Enbridge committed to working with Indigenous peoples to achieve benefits for them, including opportunities in training and education, employment, procurement, business development, and community development. The Board expects Enbridge to clearly communicate job description and necessary skill requirements for each job. The Board also expects Enbridge to fully explore opportunities for training and education so that Indigenous peoples are not arbitrarily and unfairly screened out from these economic opportunities.
Project-Specific Community-Based Monitoring	LKFN requested that Enbridge be required to fund community-based environmental monitoring initiatives during the decommissioning and construction, including the HDD, stages of the project, and for several years after decommissioning is completed. DFN and SKFN requested that Enbridge be required to fund community-based environmental monitoring initiatives and establish binding agreements for	Enbridge committed to provide opportunities for local Indigenous communities to act as cultural, wildlife, turbidity and environmental monitors, and to co-develop monitoring programs that can be used as learning and partnership building exercises during construction. The Board has imposed Condition 8 requiring Enbridge to develop a Monitoring Plan describing participation by Indigenous peoples in monitoring

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
	meaningful, independent monitoring where funding, training and equipment is delivered through the existing Dehcho K'ehodi program, for the life of the pipeline.	during construction and post-construction activities for the Project.
Noise Management Plan	LKFN, DFN and SKFN requested that Enbridge file a Noise Management Plan.	The Board has imposed Condition 13 , requiring Enbridge to file a Noise Assessment and Mitigation Plan.
Traffic Management Plan	LKFN requested that Enbridge be required to work with LKFN on ongoing mitigation and impacts due to barge and water taxi traffic and docking. This includes impacts related to reduced access to the shore and navigation channels in the Mackenzie River, and impacts to fishing, hunting, and gathering by LKFN members.	The Board has imposed Condition 11 requiring Enbridge to provide a Traffic Management Plan that addresses any concerns, issues or requests raised in consultation with LKFN, municipalities, and regional and territorial authorities, including a work plan on ongoing mitigation of impacts.
Indigenous Knowledge and Land Use Study Update	<p>LKFN requested that Enbridge be required to work with LKFN on ongoing mitigation of impacts related to reduced access to the shore and navigation channels in the Mackenzie River, and impacts to fishing, hunting, and gathering by LKFN members.</p> <p>LKFN requested that non-community members associated with the Project be prohibited from hunting and fishing within the Project area during construction without the express permission of LKFN.</p>	<p>Enbridge has committed to engaging with local First Nation communities to understand potential impacts to local land users based on the findings in the IKLUS and reassess proposed mitigation measures to ensure they are appropriate</p> <p>Enbridge committed that hunting by Project personnel will not be permitted and fishing will only be permitted with a local guide, and with a catch and release policy to mitigate impacts to fish harvesting.</p> <p>Enbridge further committed to provide accommodation measures for land users whose harvesting practices will be inhibited in any way as a result of the project.</p> <p>The Board has imposed Condition 8 requiring</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
		<p>Enbridge to develop a Monitoring Plan describing participation by Indigenous peoples in monitoring during construction and post-construction activities for the Project.</p> <p>The Board has imposed Condition 9 requiring Enbridge to provide monthly reports summarizing Enbridge’s consultation activities undertaken with all potentially affected Indigenous peoples until post-construction activities are completed.</p> <p>The Board has imposed Condition 10 requiring Enbridge to file a report demonstrating how the information from the IKLUS has been incorporated into the Project.</p> <p>The Board has imposed Condition 12 requiring Enbridge to file a Camp Management Plan which describes camp rules on access and conduct at the camp for Project personnel.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
Commitment Tracking Table	DFN and SKFN would like to see that conditions are tracked in a centralized and accessible format. Combining conditions related to past authorizations would provide clarity and confidence to Third Parties while also avoiding duplication for Enbridge and regulators.	<p>The Board encourages Enbridge to provide a comprehensive list of all project-related conditions, regardless of regulatory body, on its website.</p> <p>As discussed in Chapter 2, details regarding compliance to conditions imposed on the Line 21 pipeline can be found on the NEB website under Safety & Environment, Compliance and Enforcement, Condition Compliance Table, and search for Enbridge Pipelines (NW) Inc. http://www.neb-one.gc.ca/sftnvrnmnt/cmplnc/cndtns/cndtncmplncls/t/index-eng.html</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
<p>Leak/Spill Detection and Response During Operation</p>	<p>LKFN recommended that Enbridge should be required to demonstrate comprehensive and robust leak detection, leak prevention, and that spill response systems are in place. This includes appropriate valve placement to mitigate the volume of potential spills into or near the Mackenzie River.</p> <p>DFN recommended that Enbridge file with the Board, at least 60 days prior to applying for Leave to Open, a spill response plan and emergency response plan for the Line 21 replacement project (Mackenzie River) that includes both the construction and operation phases. DFN requested that Enbridge outline the major spill response equipment staging area locations to deal with a release in the Mackenzie River, and the anticipated time for such equipment to reach this site if ever needed.</p> <p>DFN and SKFN recommended that Enbridge file with the Board, the Leak Detection System manual for the Project</p> <p>DFN and SKFN recommended that Enbridge file with the Board, the Leak Detection System test results.</p> <p>SKFN requested that, annually following approval, Enbridge must prepare Pipeline Integrity reports including all data related to the integrity management program including location of required integrity digs in the Dehcho Territory, the reason each dig was undertaken, and any further action that was required.</p>	<p>The Board is satisfied that Enbridge has measures in place to address spill response for Line 21, as per Enbridge’s existing and regulated Northern Region Integrated Contingency Plan and Northern Region Field Response Plan.</p> <p>Enbridge must meet the requirements of sections 32 to 35 of the OPR to address emergency management. Through the NEB’s full lifecycle oversight, it will continue to monitor, assess and review the pipeline’s operations as long as it is in service.</p> <p>The Board is satisfied that the Project will be incorporated into Enbridge existing leak detection system. Board also notes that Enbridge is employing new technologies in an effort to reduce the possibility of not identifying small leaks that have occasionally gone unnoticed in the past.</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
Permafrost Study	<p>LKFN recommended that Enbridge should be required to file plans detailing how permafrost melt and degradation will be mitigated and monitored in all areas where trees and shrubs will be cleared, as these activities accelerate permafrost melt and degradation.</p> <p>DFN recommended upon approval, Enbridge must develop and provide a monitoring program designed to increase understanding of the permafrost regime along the pipeline as well as any changes to that regime over time.</p> <p>SKFN recommended that upon approval, Enbridge must develop and provide a monitoring program designed to increase understanding of the permafrost regime along the pipeline as well as any changes to that regime over time.</p>	<p>The Board is satisfied that Enbridge already monitors permafrost on the entire Line 21 as part of its ongoing operations. The Board also notes that Enbridge has indicated no permafrost was encountered in the Project RoW during geotechnical investigations completed as part of the HDD feasibility study. Enbridge nevertheless committed to implement measures to reduce potential impacts of the Project on permafrost.</p>
Community-Based Monitoring for the Ongoing Operation of Line 21	<p>LKFN requested that Enbridge be required to fund an LKFN and Dehcho First Nation led community-based monitoring program, such as the Dehcho K'ehodi, that will monitor Line 21 through LKFN and Dehcho territory in perpetuity.</p>	<p>The Board has taken these concerns into account as context for its decision about the Project. Refer to Chapters 1 and 3 for additional information about ongoing operation of Line 21.</p>
Notifications to communities	<p>DFN that Enbridge be required to accept the following approval conditions:</p> <ul style="list-style-type: none"> • Provision of data in digital formats readily acceptable. • Any additional plans that are required and submitted by Enbridge are reviewed by communities with reasonable timelines. • Enbridge notifications to the NEB are cc'd to community environmental staff (Leave to open, 	<p>Enbridge committed to continue its public consultation activities throughout the lifecycle of the Project to ensure that issues are addressed and that all potentially affected parties remain informed and involved.</p> <p>The Board has imposed Conditions 8, 9, and 10, each requiring service on Indigenous groups. In addition, the Board has imposed Condition 16, requiring Enbridge to serve the Intervenors with</p>

NEB Condition or Proposed New Condition	Summary of Comments from Intervenors on NEB Potential Conditions and Proposed New Conditions	NEB Response to the Comments from Intervenors
	<p>etc).</p> <ul style="list-style-type: none"> • Safety/testing notifications within 30 days of occurrence provided to community environmental staff, with a plain language summary. • Spills that are reported to the spill hotline are also provided to DFN and Dehcho Communities. • Annual Report provided to the communities reviewing the past years operations, identifying what went well, future actions and potential concerns. 	<p>the Leave to Open application.</p>

Appendix VI

Summary of concerns from Indigenous Peoples, applicant responses, 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 interests as recorded by the applicant in its evidence. Table 5-2 in the Report refers to the written and oral submissions by Indigenous Intervenor who participated in the hearing. The Board notes that identifying and referring to issues and concerns as contained within the record (as provided in this appendix) may have resulted in some issues being categorized in a summary manner. Some direct and indirect references within the record of the hearing may therefore not be exhaustively listed in the issues below. Anyone wishing to fully understand the context of the information and evidence provided by Indigenous peoples, as well as the applicable responses to these concerns by the applicant, should therefore familiarize themselves with the entire record of the hearing.

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
Consultation with Indigenous Peoples				
Lack of meaningful or inclusive consultation by Enbridge throughout the various phases of the Project	DFN LKFN PKFN SKFN	<p>Enbridge began engaging with Indigenous groups in January 2017. Enbridge provided Indigenous groups multiple engagement opportunities through in-person meetings to invitations to open houses sessions.</p> <p>Enbridge committed to provide Indigenous groups with future opportunities to provide input on mitigation measures, the EPP and monitoring plans.</p>	<p>The Board is of the view that Enbridge’s design and implementation of its Project-specific Indigenous engagement activities are appropriate for the scope and scale of the Project.</p> <p>The Board finds that with Enbridge’s commitments and Conditions 8, 9 and 10, Enbridge will continue to consult with Indigenous groups in order to learn more about their interests and concerns, and to</p>	5.5.1

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		Enbridge's engagement activities will be ongoing in order to address concerns raised by Indigenous communities.	address issues that they may raise throughout the lifecycle of the Project.	
Short timetables as barriers to meaningful participation	DFN LKFN SKFN	<p>Enbridge began engaging with Indigenous groups in January 2017. Based on the responses it received from the contacted groups, and by its knowledge of expressed interest in the Project area, additional consultation and engagement occurred with a smaller group of communities.</p> <p>Enbridge indicated that if at any time, additional Indigenous communities expressed interest in the Project, additional consultation and engagement would occur.</p>	<p>The Board is of the view that Enbridge's design and implementation of its Project-specific Indigenous engagement activities are appropriate for the scope and scale of the Project.</p> <p>The Board, as an administrative tribunal, is bound by the common law requirements related to procedural fairness when making decisions that have the potential to impact rights. The Board does what it can with its resources and within its legislated time limits to create a process that is as fair as possible to all parties. During the proceeding, Indigenous Intervenors were able to obtain further information about the Project and present their views to the Board in numerous ways.</p>	5.5.1 5.2.3
Limited involvement of Indigenous groups in the creation and implementation of terms and conditions of approval	DFN	<p>Enbridge committed to provide Indigenous groups with specific future opportunities to provide input on mitigation measures, the EPP, species-specific plans and monitoring plans.</p> <p>Enbridge's engagement activities will be ongoing in order to address concerns raised by Indigenous communities.</p>	The Board made its potential conditions for the Project available for review by Parties to the hearing (Enbridge and Intervenors). The Board considered all comments it received from Parties before finalizing and setting out the terms and conditions it will impose on the Project.	Appendix V

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
Lack of meaningful or inclusive consultation by the Crown throughout the various phases of the Project	DFN LKFN SKFN	<p>Enbridge stated that the evidence shows that consultation, both directly with Enbridge and through the Board's regulatory process on behalf of the Crown has been meaningful, deep and extensive.</p> <p>Enbridge stated that the Board should conclude that the consultation has been adequate and the Crown's duty to consult has been satisfied.</p>	<p>The Board notes that the Supreme Court of Canada has acknowledged the Crown's ability to rely on the Board's regulatory assessment process to fulfill its duty to consult when the Board is the final decision-maker. The Board is the decision-maker in relation to the Enbridge Line 21 Replacement Project. The Federal Crown strongly encouraged all Indigenous groups whose established or potential Aboriginal or treaty rights could be affected by the Project to apply to participate in the Board's public hearing process.</p> <p>The Board administered its Participant Funding Program for this Project, which provides financial assistance to support participation of Indigenous and other affected groups.</p> <p>Considering all of the findings in this Decision, the Board is of the view that the requirements of section 35 of the <i>Constitution Act</i>, 1982 have been met, such that an approval of this Project is in keeping with the honour of the Crown.</p>	5.5.7 5.5.2 5.5.7
Lack of meaningful or inclusive consultation by Enbridge during the operation of Line 21 (e.g., capacity	DFN LKFN PKFN	Enbridge stated this concern is an ongoing operational concern and this request is outside the scope of the Project. These issues should be discussed outside of the hearing. Enbridge has and will continue to conduct	The Board has heard the concerns of First Nations about the ongoing operation of Line 21. The Board has taken these concerns into account as context for its decision about the Project, but is mindful	5.5.6 3.4.2 Chapter 1

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
funding, lifecycle agreement, royalty and revenue sharing agreement, annual pipeline integrity reports)	SKFN	engagement with stakeholders, communities and Indigenous groups along the entire Line 21 RoW, as it has since Line 21 began operation. Enbridge is committed to hearing, understanding, and responding to questions and concerns about the operation of Line 21. Each year, Enbridge representatives offer to meet with local communities, first responders and interested stakeholder groups to deliver Public Awareness Program information, provide updates on key operational activities, and update communication contacts and protocols.	that it does not have unlimited authority and legislative reach. The Board expects Enbridge to continually involve people in impacted communities and provide relevant and up to date information on activities impacting local areas, such as integrity digs. The Board notes that Enbridge committed to continue its public consultation activities throughout the lifecycle of the Project to ensure that issues are addressed and that all potentially affected parties remain informed and involved.	4.2
Lack of meaningful or inclusive consultation by Enbridge or the Crown in the 1980s during the design and construction of Line 21	DFN LKFN PKFN SKFN	Enbridge submitted that First Nation participants have raised issues that go far beyond the limited scope of the applications before the Board. The regulatory proceedings for this Project are not an opportunity to address historical grievances.	The Board has heard the concerns of First Nations about the original construction of the pipeline in the 1980s. The Board has taken these concerns into account as context for its decision about the Project, but notes the Supreme Court's statement that regulatory proceedings are not a vehicle to address historical grievances.	5.5.6
Effects on the interests, including asserted and established treaty and Aboriginal rights, of Indigenous Peoples				
Project impacts on asserted and established treaty and Indigenous rights	DFN LKFN PKFN SKFN	Enbridge submitted that the potential impacts to Aboriginal and treaty rights of this Project are low. As noted, this is a maintenance project on an existing pipeline. Further, Enbridge has undertaken changes to the Project and committed to additional	The Board has considered the information submitted regarding the nature of potentially affected Indigenous groups' interests in the Project area, including information on constitutionally protected Aboriginal and treaty rights. The Board is	5.5.5

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		mitigation measures as a result of its consultation with First Nations.	of the view that any potential Project impacts on the interests, including rights, of affected Indigenous peoples are temporary, not likely to be significant and can be effectively addressed.	
Project impacts on the current use of lands and resources for traditional purposes, including hunting, fishing, gathering, and trapping, as well as increased non-Indigenous access.	DFN LKFN PKFN SKFN	<p>With funding provided by Enbridge, LKFN has completed an Indigenous Knowledge and Land Use Study and shared the results with Enbridge. Enbridge will incorporate the results of this study into Project planning and construction and the EPP.</p> <p>Enbridge stated that public access to construction areas will be restricted for safety reasons during Project activities. Enbridge will follow best practices and implement appropriate mitigation to minimize impacts to wildlife during the construction period.</p> <p>In response to LKFN's request for Enbridge to consider the possibility of winter construction, Enbridge filed an update to the Application, indicating that it was considering making adjustments to the Project schedule and listed the work that could be completed during the winter, pending regulatory approval.</p> <p>Enbridge stated it will continue to engage with LKFN and other DFN in open and transparent dialogue concerning the project</p>	<p>The Board is of the view that the potential adverse effects of the Project on the current use of lands and resources for traditional purposes by Indigenous persons are temporary and not likely to be significant.</p> <p>The Board has imposed Conditions 8, 9 and 10 requiring Enbridge to submit monthly Indigenous Engagement reports, a report describing how it will incorporate information described in the IKLUS, as well as Indigenous Monitoring plans for construction and post-construction activities. These conditions will provide Indigenous peoples further opportunities to address outstanding or unanticipated issues about the potential adverse effects of the Project on the current use of lands and resources for traditional purposes. The Board process acts as a necessary and important check on the appropriateness of accommodation measures by providing Indigenous peoples an additional avenue to have those concerns considered by the Board.</p>	5.5.5

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		<p>and will continue to offer opportunities to engage for the purposes of exchanging information regarding the project and responding to interests and concerns that may arise. Enbridge would look to remediate any concerns and ultimately address what isn't the way it's supposed to be.</p> <p>Enbridge will adopt general mitigation measures and will review the EPP, including the Post-Construction Monitoring Program, with Indigenous groups.</p> <p>Guns or weapons will not be permitted in work camps which will mitigate the concern about hunting. Fishing will only be permitted with the use of a local guide, and a catch and release policy will be required.</p>		
Project impacts on heritage resources	LKFN	<p>Enbridge provided funding for and participated in an archaeological reconnaissance survey of the Project area with representatives from local First Nations to identify and address their concerns about the potential impacts of the Project in their traditional territories. No cultural heritage sites within the Project area were identified during the survey.</p> <p>The following measures from the EPP will be used to avoid or mitigate impacts to these sites with the following measures: Cultural</p>	<p>The Board is of the view that the potential adverse effects of the Project on heritage resources are not likely to be significant.</p> <p>The Board has imposed Condition 7 requiring Enbridge to file confirmation that it has obtained all permits and clearances from Prince of Wales Northern Heritage Centre.</p>	7.4.1 5.3.8

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		monitors will be used during construction; if heritage resources, sites or artifacts are discovered work will be stopped as required in the EPP; and all staff on the Project will be trained on EPP including the archaeological and cultural components.		
Project impacts on social and cultural wellbeing, including increases in drinking, violence, crime and safety concerns to local communities and especially on Indigenous women and girls	DFN LKFN SKFN	<p>Enbridge stated that all Project personnel will receive Indigenous awareness training.</p> <p>Enbridge indicated it provides its own employees diversity and awareness training.</p> <p>The majority of workers will stay in one of two work camps, not in Fort Simpson. Enbridge has established a Code of Conduct for its workers. Workers will only have limited transportation into town and recreational facilities will be provided in camp.</p> <p>In collaboration with its general contractor, Enbridge has committed to hiring local personnel where practical, which will minimize the number of temporary workers entering the region.</p>	<p>The Board notes Enbridge’s response to provide a suite of mitigation measures and implementation of best management practices, standard operating procedures, and strict site, campsite and workplace training and policies. The Board fully expects Enbridge to incorporate gender-specific training into its campsite and workplace training which reflects culturally appropriate approaches and content, and also into its Indigenous Awareness training.</p> <p>The Board has imposed Condition 9, requiring Enbridge to file Indigenous Engagement Reports.</p> <p>The Board has imposed Condition 12 requiring Enbridge to file a Camp Management Plan, to facilitate the ongoing review of Enbridge’s safety plans and performance.</p>	5.5.4
Project impacts on existing infrastructure, including access roads	LKFN SKFN	Enbridge noted that the only infrastructure in the Local Study Area and Project Footprint, other than the existing Enbridge pipeline are	The Board is of the view that the measures planned by Enbridge would adequately address the potential impacts of the Project	8.1

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		<p>the existing access roads and trails.</p> <p>Enbridge committed to working with the Mouse family, a member of LKFN, in order to establish a safe lane of traffic for them to address their concerns, which may include installing a controlled crossing point on the RoW to safely get across.</p>	on community infrastructure and services.	
Opportunities for employment, contracting and economic benefits for women, Indigenous Peoples, communities and businesses	DFN LKFN PKFN SKFN	<p>Enbridge will work with local service suppliers in Fort Simpson to limit impacts and also provide benefits where possible. Enbridge has consulted with local accommodation providers, in addition to established camps, and intends on consulting with local suppliers for vehicle rentals.</p> <p>Enbridge has policies, codes, and commitments in place that encourage equal opportunity and diversity for employment as well as commitments to working with organizations to provide opportunities for recruiting women and Indigenous people. Enbridge, in collaboration with its general contractor, is committed to hiring local Indigenous people as part of the workforce.</p>	<p>The Board is of the view that the Project would provide benefits to Indigenous, local, regional and provincial economies.</p> <p>The Board notes Enbridge's Indigenous Peoples Policy, and its commitment to working 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.</p>	8.2
Opportunities for Indigenous monitors during the Project's construction and post-construction /	DFN LKFN PKFN	Enbridge has committed to providing opportunities for local cultural (First Nations), turbidity, environmental and wildlife monitors during construction of the Project.	The Board notes the value and unique perspective that Indigenous groups can provide in determining mitigation measure effectiveness, partly based on their traditional knowledge.	5.5.3

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
remediation phases	SKFN	Enbridge will work with local Indigenous communities to discuss the details regarding monitoring opportunities, including how information provided by monitors will be used by Project staff.	The Board has imposed Conditions 8 and 9 , requiring Enbridge to develop an Indigenous Monitoring Plan during both construction and post-construction of the Project, and to file Indigenous Engagement Reports.	
Environmental Effects				
<p>Effects on breeding birds, wildlife and wildlife habitat, habitat loss and change in movement patterns.</p> <p>Effects on wildlife from HDD noise.</p>	LKFN DFN SKFN	<p>Temporary workspaces would be cleared in the winter outside of the migratory bird nesting period, the Woodland Caribou (Boreal population) calving period and the summer roosting period for potential bat Species at Risk (Myotis)</p> <p>If summer clearing is required, Enbridge committed to completing nest sweeps and wildlife surveys prior to starting work.</p> <p>Enbridge confirmed that the wildlife mitigation measures outlined in the EPP are sufficient and appropriate for the Project.</p> <p>Enbridge committed to incorporating the LKFN Indigenous Knowledge and Land Use Study into the final EPP.</p> <p>Enbridge committed to conducting noise monitoring to determine baseline measurements and develop noise abatement strategies if required.</p>	<p>The Board acknowledges the planning of Enbridge in routing the replacement pipeline in an existing RoW to avoid disturbance to breeding birds and wildlife habitat.</p> <p>The Board is of the view that with Enbridge’s proposed mitigation measures and the Board imposed conditions, there are not likely to be significant adverse effects on breeding birds and wildlife from project activities.</p> <p>The Board has imposed Condition 6, requiring Enbridge to file an updated project-specific EPP.</p> <p>The Board has imposed Condition 13 requiring Enbridge to file a noise assessment and mitigation plan.</p>	7.4.1 7.4.2.2

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
<p>Effects on aquatic resources, including fish and fish habitat</p> <p>Inadvertent loss of drilling fluids</p> <p>Use of sumps</p>	<p>LKFN</p> <p>DFN</p> <p>SKFN</p>	<p>Enbridge filed a Preliminary Drilling Execution Plan which provides the procedures for responding to an inadvertent loss of drilling fluid to the surface.</p> <p>Enbridge committed that drilling fluid will be a non-hazardous water-bentonite mixture.</p> <p>Enbridge filed a sediment dispersion study to investigate the potential impacts of an inadvertent loss into the Mackenzie River.</p> <p>Enbridge committed to updating the Turbidity Monitoring Plan which includes provision for a watercourse monitor to be on-site during HDD activities, sampling locations upstream and downstream of the drill path, and steps to be taken if a suspected inadvertent loss is confirmed.</p> <p>Enbridge developed plans to monitor for inadvertent returns including a combination of foot patrol monitors, aerial surveillance and instrumentation.</p> <p>Enbridge committed to working with Indigenous communities regarding notification protocols for inadvertent loss.</p> <p>Enbridge committed to updating the EPP to include the results of the fish habitat assessment and mitigation regarding barges.</p> <p>Enbridge committed to continue to engage</p>	<p>The Board is of the view that with Enbridge’s proposed mitigation measures and the Board imposed conditions, there are not likely to be significant adverse effects on aquatic resources from project activities.</p> <p>The Board has imposed Condition 6, requiring Enbridge to file an updated project-specific EPP (including updated Turbidity Monitoring and Waste Management Plans).</p>	<p>7.4.1</p> <p>7.4.2.1</p>

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		<p>First Nations concerning the Project and responding to interests and concerns that may arise, including concerns related to barge operations.</p> <p>Enbridge committed to adhering to the Alberta Energy Regulator Directive 50: <i>Drilling Waste Management</i> guideline.</p>		
Effects on vegetation and wetlands	LKFN	<p>Enbridge committed to updating the EPP, including adopting a minimum 30 m wetland and watercourse buffer.</p> <p>Enbridge committed to follow the EPP, which includes mitigation measures for invasive vegetation species.</p>	<p>The Board is of the view that with Enbridge’s proposed mitigation measures and the Board imposed conditions, there are not likely to be significant adverse effects on vegetation and wetlands from project activities.</p> <p>The Board has imposed Condition 6, requiring Enbridge to file an updated project-specific EPP (including updating mitigation for vegetation and wetlands).</p>	7.4.1
Adequacy of Environmental and Socio-Economic Assessment (ESA) methodology and incorporation of traditional knowledge and Indigenous concerns	LKFN PKFN	<p>Enbridge submitted that the study areas as defined in Section 2.1 of the ESA are based on guidance provided in the NEB Filing Manual (NEB 2016) for sizing study areas.</p> <p>Enbridge committed to incorporating the LKFN Indigenous Knowledge and Land Use Study into the final EPP.</p>	<p>The Board’s Filing Manual provides guidance to proponents on what should be included in the ESA with respect to baseline information. The Board is of the view the Enbridge has met the requirements in the Filing Manual for the submission of baseline information.</p> <p>The Board is of the view that Enbridge’s ESA properly analyzed and characterized the level of significance of potential adverse environmental effects as a result of</p>	7.4.1 5.5.5

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
			<p>the Project outlined in the filing manual.</p> <p>The Board has imposed Condition 10 requiring Enbridge to demonstrate how the information in the IKLUS has been incorporated into the Project.</p>	
<p>Proposed monitoring of the Project for environmental effects – particularly for wildlife/wildlife habitat, fish/fish habitat, water quality/quantity, vegetation and wetlands</p>	<p>LKFN SKFN DFN</p>	<p>Enbridge committed to providing opportunities for local indigenous monitors (cultural, wildlife, turbidity and environmental) during construction activities.</p> <p>Enbridge expressed willingness to involve indigenous communities on post-reclamation monitoring for the Project.</p> <p>Enbridge committed to having an environmental inspector onsite during construction ensuring compliance with all permits, contract documents, Enbridge environmental standards and guidelines and commitments made during the planning and application process.</p> <p>Enbridge committed to implementing a Post-Construction Environmental Monitoring program for two years.</p> <p>Enbridge committed to monitor the Line 21 RoW including the Mackenzie River crossing, in accordance with its O&M Manuals and will continue to monitor movement on the south slope.</p>	<p>The Board is of the view that a robust post-construction monitoring program is a fundamental tool and key to ensuring that potential adverse effects have been effectively mitigated and where issues are identified, adaptive management implemented to address them.</p> <p>To be satisfied that post-construction environmental monitoring is thorough and effective and that reports will be developed and filed, the Board has imposed Condition 17 for seven growing seasons.</p> <p>The Board has also imposed Condition 8 requiring Enbridge to file an Indigenous Monitoring Plan.</p>	<p>7.4.1 5.5.3</p>

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
Adequacy of proposed monitoring of Line 21 for environmental effects (e.g., Dehcho K'ehodi Stewardship monitoring programs)	LKFN SKFN LKFN	Enbridge stated that they will continue to work and engage with the First Nations on the topic of monitoring programs.	The Board has taken these concerns into account as context for its decision about the Project. Refer to Chapters 1 and 3 for additional information about ongoing operation of Line 21.	Chapters 1 and 3
Impacts of Line 21 operations and maintenance activities on wildlife (e.g., habitat fragmentation, movement changes, increased predation)	LKFN DFN SKFN PKFN	<p>Enbridge stated that they would be willing to sit down with local members to discuss wildlife observations see how Enbridge could inform their activity better.</p> <p>Enbridge stated that they conduct aerial line patrols every two weeks, and record wildlife sightings along the RoW. The data are provided to ENR and the Dehcho on a quarterly basis.</p>	<p>The Board has taken these concerns into account as context for its decision about the Project.</p> <p>Through the NEB's full lifecycle oversight, it will continue to monitor, assess and review the pipeline's operations as long as it is in service. The Board expects Enbridge to continually involve people in impacted communities and provide relevant and up to date information on activities impacting local areas, such as integrity digs.</p>	3.4.2
Design, Construction and Operations of Facilities				
Safe transportation of oil	LKFN SKFN DFN	Enbridge stated that the replacement segment of Line 21 will be integrated into the Integrity Management Plan that Enbridge has in place for all of its pipelines and facilities. Enbridge utilizes sophisticated inline inspection tools to verify the integrity of the pipelines from the inside, as well as regular over-the-ground and aerial surveys to visually inspect the right-of-way and surrounding areas for any potential or	<p>The Board recognizes that public safety is paramount throughout the lifecycle of any project.</p> <p>The Board is satisfied that the replacement segment will be incorporated into Enbridge Overall Integrity Management Plan, which is developed in accordance with CSA Z662-15 and meets or exceeds those requirements.</p>	3.4.2

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		existing external hazards. Enbridge's inspection programs meet or exceed the requirements prescribed in CSA Z662. Enbridge has also noted that Line 21 is a NEB regulated pipeline and inspections and audit results are publically available online.		
Evaluation and design of watercourse crossing method	LKFN SKFN DFN	Enbridge confirmed the preferred crossing method for the Mackenzie River is a HDD intersect.	The Board is satisfied that the Project will be completed using HDD and understands that multiple attempts may be required for a successful HDD. The Board is also satisfied with the information provided regarding the HDD, and the Board has imposed Condition 15 requiring reports on failed HDD attempts.	3.3.2
Leak detection	DFN SKFN	Enbridge submitted that it employs a comprehensive, multi-layered approach to leak detection on Line 21, which will be applied to the Project replacement segment, and is committed to the continuous improvement of its leak detection strategy.	The Board is satisfied that the Project will be incorporated into Enbridge's existing Line 21 Leak Detection System. The Board also notes that Enbridge is continually employing new technology in efforts to detect leaks.	3.4.3
Maximum operating pressure	DFN SKFN	Enbridge has noted that the design maximum operating pressure for the entire line is 9930 kPa and that the replacement segment has been designed to this maximum pressure. Enbridge has stated that the pipeline will not be operating at the maximum operating pressure and that Enbridge will continue to comply with Board Order MO-066-2015 for	The Board is satisfied with Enbridge MOP for the Project and that it will continue to be operated in compliance with Board Order MO-066-2015.	3.3.1

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		<p>as long as it remains in effect.</p> <p>Enbridge has stated that when in operation, the average discharge pressure is 1122 psi at Norman Wells station, 830 psi at Wrigley station, and 688 psi at Mackenzie station. The MOP has been previously lowered pursuant to the NEB orders and engineering assessment performed by Enbridge to manage the overall integrity of the line.</p>		
Construction standards	DFN SKFN	<p>Enbridge stated that construction standards and best practices are always evolving. The replacement segment will be constructed to the latest standards.</p> <p>Fusion Bond Epoxy (FBE) coating with two layers of Abrasion Resistant Overcoat (ARO) will be used on the replacement segment of the line. The ARO will prevent damage to the FBE when the new line is pulled through the HDD annulus from the South to the North.</p>	The Board is satisfied that the Project will be constructed to the latest CSA, OPR and Enbridge standards. The Board is also satisfied that the pipeline coating is appropriate.	3.1.1 3.4.1
Decommissioning and abandonment of segment in place	LKFN	<p>Enbridge submitted that the removal of the decommissioned segment would require heavy equipment on the unstable slope, which presents a significant safety hazard. Further, the removal may contribute to further destabilization of the slope, among other environmental hazards.</p> <p>Enbridge committed to ongoing monitoring</p>	The Board is satisfied with Enbridge's application to decommission the segment in place and has provided information on the steps, risk, challenges and environmental impacts on removing the pipe. Further, the Board has imposed Conditions 4 and 5 of the Decommissioning Order for further information on the possibility of removing	3.2.2

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		of the decommissioned segment.	a portion of the pipeline and its eventual abandonment.	
Permafrost thaw and slope movement	LKFN DFN SKFN	<p>Enbridge has noted that no permafrost was encountered during geotechnical investigations completed as part of the HDD feasibility study.</p> <p>Enbridge has also indicated measures it will take during construction to reduce potential impacts of the Project on permafrost.</p> <p>This concern about the thawing of permafrost and permafrost monitoring throughout pipeline operation is an ongoing operational concern and this request is outside the scope of the Project.</p> <p>In addition to Enbridge's normal pipeline integrity monitoring, Enbridge has been conducting a series of additional activities as part of the comprehensive monitoring and maintenance program to fulfill the requirements of NEB Order AO-006-MO-19-93, Pipeline and RoW Monitoring Program for the Norman Wells Pipeline. These additional activities include annual detailed reconnaissance, instrumentation readings, RoW line patrols and thaw probing. The results of the monitoring and maintenance program are reported and presented to the NEB annually.</p>	<p>The Board is satisfied the Enbridge has studied the permafrost conditions and determined that permafrost is not present on the Project RoW. The Board is also satisfied with the measures Enbridge proposes to mitigate any potential impacts on permafrost should it be encountered off RoW in temporary work spaces.</p> <p>The Board is also satisfied that Enbridge has identified slope stability concerns and has committed to ongoing monitoring. Further, the Board is satisfied with the investigation completed to identify hazard areas and design the Project to be outside these areas.</p>	3.3.3 3.2.1

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
		Enbridge addressed slope stability concerns in its HDD feasibility study.		
Impact of a potential spill from the operation of Line 21, and position of valves to protect drinking water and the Mackenzie River	DFN SKFN	<p>Enbridge’s leak detection capability has not changed with this Project. The probability of a leak has not increased with this Project. This concern is an ongoing operational concern and the requests are outside the scope of the Project. Enbridge will offer SKFN opportunities to discuss ongoing operational concerns.</p> <p>Enbridge has stated valves are KP 523.8 and 530.3 are slab gate valves. These valves are remotely operated mainline block valves that are inspected and cycled on an annual basis.</p> <p>Enbridge stated there is one remote control valve near the Project area, at KP 530.321. Enbridge also states that it has a procedure in place that requires testing of remote controlled valves every year in order to ensure compliance with this code requirement.</p> <p>The concern about valve positions on Line 21 is beyond the scope of this Project. However, Enbridge provided the information requested by DFN.</p>	<p>The Board is satisfied that Enbridge has measures in place to address spill response for Line 21, as per Enbridge’s existing and regulated Northern Region Integrated Contingency Plan and Northern Region Field Response Plan.</p> <p>Enbridge must meet the requirements of sections 32 to 35 of the OPR to address emergency management. Through the NEB’s full lifecycle oversight, it will continue to monitor, assess and review the pipeline’s operations as long as it is in service.</p> <p>The Board is satisfied that the Project will be incorporated into Enbridge existing leak detection system. Board also notes that Enbridge is employing new technologies in an effort to reduce the possibility of not identifying small leaks that have occasionally gone unnoticed in the past.</p> <p>The Board notes that the placement of valves on Line 21 is beyond the scope of this Project.</p>	3.5 3.4.3
Impact of integrity digs for the operation	DFN SKFN	Enbridge has stated the Line 21 segment replacement project before the NEB is for the replacement of an existing segment of Line	Through the NEB’s full lifecycle oversight, it will continue to monitor, assess and review the pipeline’s operations as long as	3.4.2

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
of Line 21		<p>21, and as such is of limited scope. Questions relating to the overall operational nature of Line 21 as a whole are outside the scope of this Project.</p> <p>Enbridge has stated that over the past 10 years, there have been 2 integrity driven activities within 5 Km of the Project area. Both activities consisted of borehole assessment targeting potential crack features.</p>	it is in service. The Board expects Enbridge to continually involve people in impacted communities and provide relevant and up to date information on activities impacting local areas, such as integrity digs.	
Integrity of Line 21 and Enbridge's request for an exemption from the NEB's "Leave to Open" process.	DFN SKFN	Enbridge has agreed to file a leave to open application and has withdrawn its request for exemption from the leave to open requirement.	The Board is satisfied with Enbridge applying for LTO and has imposed Condition 16 requiring service of the leave to open application.	3.1.2
Emergency Response				
Emergency response plans and readiness for the Project and the entire Line 21, including response to spills under ice.	LKFN SKFN DFN	<p>Enbridge has filed a Spill Contingency Plan as part of the Project EPP, which will be implemented during construction.</p> <p>The Enbridge Northern Region Integrated Contingency Plan and the Enbridge Northern Region Field Emergency Response Plan are in place for operations.</p>	<p>The Board directs Enbridge to include a spill contingency plan as part of its updated EPP for the Project, as detailed in Condition 6.</p> <p>The Board is satisfied that measures to address emergency preparedness and response for the operation of the Project and for Line 21 are in place and incorporated into Enbridge's existing and regulated Northern Region Integrated Contingency Plan and Northern Region Field Response Plan.</p> <p>The Board notes that Enbridge must meet the requirements of sections 32 to 35, as part of its</p>	3.5 7.4.1

Concern	Group(s)	Company response	NEB response (including conditions, and applicable regulatory and legislative requirements)	Report Section
			developed, implemented and maintained systematic emergency management program. The Board further notes that through the NEB's full lifecycle oversight, it will continue to monitor, assess and review the pipeline's operations as long as it is in service.	
Safety				
Increased RoW, barge and water taxi traffic	LKFN	<p>Enbridge committed to working with the Mouse family, whose home is located just off the RoW, and LKFN to ensure the safety of nearby residents.</p> <p>Enbridge indicated that barge traffic increases will be of short duration and would be concentrated during mobilization and demobilization periods. Enbridge has also committed to providing the barge schedule and landing procedures when they are available.</p>	The Board views the measures proposed by Enbridge as appropriate and has imposed Condition 11 , requiring a Traffic Management Plan to facilitate the ongoing review by the Board of Enbridge's safety plans and performance.	3.6