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Filed Electronically

National Energy Board  
517 Tenth Avenue SW  
Calgary, AB T2R 0A8

**Attention: Ms. Sheri Young, Secretary of the Board**

Dear Ms. Young:

**Re: NOVA Gas Transmission Ltd. (NGTL)  
Towerbirch Expansion Project (Project)  
NEB Report GH-003-2015  
NEB File OF-Fac-Gas-N081-2015-16 02  
Appendix II and III, Condition 9 and Condition 5 – Outstanding Traditional Land  
Investigations**

In accordance with the GH-003-2015 Report for the Project issued by the National Energy Board (NEB or Board) on October 6, 2016, NGTL encloses its Aboriginal Monitoring Plan for Board approval. Please note that this submission is in response to both Condition 9 and Condition 5 located in Appendices II and III of the report. Copies of this filing will also be provided to all Aboriginal groups participating in Traditional Land Use studies as required in both Conditions.

At the time the Project application was submitted, the first proposed in-service date for the Project was July 1, 2017. In order for NGTL to facilitate the commercial in-service date, construction on the Project was planned to begin in the first quarter of 2017, subject to the proponent obtaining the required approvals. NGTL is filing these pre-construction condition items in advance of the issuance of a Certificate for the Project to satisfy the longer lead times associated with this Condition prior to starting construction activities.

If the Board requires additional information with respect to this filing, please contact me at (403) 920-6296 or by email at dan\_wyman@transcanada.com.

Yours truly,  
**NOVA Gas Transmission Ltd.**

***Original Signed By***

Daniel RK Wyman  
Regulatory Project Manager  
Regulatory, Canadian Gas Pipelines

## 1.0 OUTSTANDING TRADITIONAL LAND USE INVESTIGATIONS

In accordance with Condition 9 (Appendix II) and Condition 5 (Appendix III) of the National Energy Board's (NEB or Board) GH-003-2015 Report (Report) for the Towerbirch Expansion Project (Project), NGTL provides for Board approval, the results of its outstanding Traditional Land Use (TLU) investigations for the Project. As directed by the Board, NGTL will provide a copy of this report to all participating Aboriginal groups.

NGTL has continued to share Project information with those Aboriginal groups identified in Section 13 of the Project Application (NEB Filing ID: A4T0Y1).

## 2.0 SECTION 52 CONDITION 9 (A) AND SECTION 58 CONDITION 5(A)

***A summary of the status of TLU investigations undertaken for the Project, including Aboriginal group-specific TLU studies or planned supplemental surveys.***

Table 1 provides the status of TLU investigations undertaken to date for the Project with interested Aboriginal groups, as per Table 9-1 of NGTL's Additional Written Evidence (NEB Filing ID: A4X6I4). No supplemental TLU investigations are anticipated at this time.

**Table 1: Summary of TLU Investigation with each Interested Aboriginal Group**

| Aboriginal Group                     | Status of the TLU Study   | How Was This Information Considered and Addressed?   |
|--------------------------------------|---|--|
| Blueberry River First Nations (BRFN) | BRFN completed a TLU Study and provided the report to NGTL on November 18, 2016.                    | NGTL reviewed BRFN's report and provided a response to BRFN on December 21, 2016 (see Attachment 1).   |
| Doig River First Nation (DRFN)       | DRFN completed a TLU Study and provided the report to NGTL on July 27, 2016.                        | NGTL reviewed DRFN's report and provided a response to DRFN on December 21, 2016 (see Attachment 2).   |
| Duncan's First Nation (DFN)          | DFN completed a TLU Study and provided the report to NGTL on September 30, 2016.                    | NGTL reviewed DFN's report and provided a response to DFN on December 21, 2016 (see Attachment 3).   |
| Horse Lake First Nation (HLFN)       | HLFN completed a TLU Study and provided the report to NGTL on December 1, 2015.                     | The results of the HLFN study were reviewed and addressed in the March 2016 Supplemental Traditional Knowledge Report (NEB Filing ID: A4Y9W5). |
| Kelly Lake Cree Nation (KLCN)        | KLCN completed a TLU Study in July 2016 and provided the final report to NGTL on September 8, 2016. | NGTL reviewed KLCN's report and provided a response to KLCN on December 21, 2016 (see Attachment 4).   |

**Table 1: Summary of TLU Investigation with each Interested Aboriginal Group (cont'd)**

| <b>Aboriginal Group</b>                        | <b>Status of the TLU Study</b>   | <b>How Was This Information Considered and Addressed?</b>   |
|--|--|---|
| McLeod Lake Indian Band (MLIB)                 | NGTL is currently in the process of finalizing an agreement with MLIB for a desktop TLU study. MLIB has indicated that they are targeting submission of the report to NGTL on February 1, 2017.  | At this time, NGTL is not aware of any site-specific potential effects on the current use of lands and resources for traditional purposes.  |
| Métis Nation of British Columbia (MNBC)        | MNBC completed a TLU Study and provided NGTL the report on November 16, 2015.  | The results of the MNBC TLU study were reviewed and addressed in the March 2016 Supplemental Traditional Knowledge Report (NEB Filing ID: A4Y9W5).  |
| Métis Nation Alberta – Region 6 (MNA Region 6) | MNA Region 6 completed a TLU Study and provided NGTL with the report on October 15, 2016.  | NGTL reviewed MNA Region 6's report and provided a response to MNA Region 6 on December 21, 2016 (see Attachment 5).  |
| Prophet River First Nation (PRFN)              | NGTL is currently in the process of finalizing an agreement with PRFN for a TLU study. PRFN has indicated that NGTL will receive the report by March 2017.   | At this time, NGTL is not aware of any site-specific potential effects on the current use of lands and resources for traditional purposes.  |
| Saulteau First Nations (SFN)                   | SFN informed NGTL on September 22, 2015 that SFN would undertake a field visit to areas of interest near the Project rather than conduct a TLU Study.<br><br>SFN filed written evidence to the Board on March 8 and 15, 2016 [NEB Filing IDs: A4Y6D2 and A4Y7Q3] which included results of their field visits for the Project. | NGTL reviewed SFN's written evidence and addressed relevant items in its Reply Evidence (NEB Filing ID: A4Z8S6), as well as in its Final Argument (NEB Filing ID: A5D0F8).<br><br>In addition, NGTL provided a response to SFN on December 21, 2016 (see Attachment 6). |
| West Moberly First Nations (WMFN)              | WMFN has initiated their TLU Study. WMFN is in the process of determining when the report will be available for NGTL.  | At this time, NGTL is not aware of any site-specific potential effects on the current use of lands and resources for traditional purposes.  |

### **3.0 SECTION 52 CONDITION 9 (B) AND SECTION 58 CONDITION 5 (B)**

***A description of any outstanding concerns raised by potentially affected Aboriginal groups 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 NGTL.***

At this time, NGTL is not aware of any outstanding concerns regarding potential Project effects on current use of lands and resources for traditional purposes. NGTL remains available to discuss additional issues of concern identified through ongoing engagement with potentially affected Aboriginal groups prior to and during construction.

NGTL has reviewed the findings of the completed TLU investigations in the context of the Project Environmental and Socio-Economic Assessment (ESA) and has determined that the significance conclusions of the ESA with regard to traditional

land and resource use remain unchanged. The concerns identified in the additional information provided by BRFN, DFN, DRFN, KLCN, MNA Region 6 and SFN are addressed by the proposed mitigation measures previously described in the Application, including those identified in Attachments 1 through 6.

NGTL acknowledges the concerns raised by SFN regarding the Horizontal Directional Drill crossing location of the Kiskatinaw River throughout the GH-003-2015 proceeding, including in the results of their field visits for the Project; however, NGTL believes these concerns, to the extent they relate to the Project, have been addressed by the proposed mitigation measures previously described in the Application, NGTL's Reply Evidence, ongoing discussions and attempts for a site visit.

#### **4.0 SECTION 52 CONDITION 9 (C) AND SECTION 58 CONDITION 5 (C)**

***A summary of any outstanding TLU investigations or supplemental surveys, and follow-up activities that will not be completed prior to commencing construction, including an explanation for why these will not be completed prior to commencing construction, an estimated completion date, if applicable, and a description of how any additional information provided by Aboriginal groups has been considered and addressed to the extent possible in the EPP or other mitigation measures for the Project.***

NGTL confirms that TLU investigations for the Project with interested Aboriginal groups are complete, with the exception of MLIB, PRFN and WMFN, as described in Table 1. NGTL continues to work with MLIB, PRFN and WMFN to provide assistance to complete their TLU studies; however, NGTL notes that completion of these investigations is subject to the priority and discretion of each participating group. NGTL will continue to provide opportunities and funding for completion of outstanding TLU investigations in advance of construction, and remains committed to working with interested communities to reasonably address any Project-specific concerns raised. As outlined in Table 1, NGTL anticipates receiving reports from MLIB in February 2017, PRFN in March 2017 and WMFN in first quarter 2017, prior to construction.

Table 1 identifies how NGTL has considered and addressed information received from all completed TLU investigations, including those not previously reported during the GH-003-2015 proceeding. The concerns identified by potentially affected Aboriginal communities and organizations are addressed by the proposed mitigation measures described in the Application, including the Environmental Protection Plan (EPP).

Upon receipt of MLIB, PRFN and WMFN's final reports, NGTL will review and assess the information provided and work with the communities to address any concerns raised.

In the event TLU sites are identified during ongoing engagement and/or construction, the TLU Sites Discovery Contingency Plan will be implemented (Annex E of the EPP) to mitigate potential effects of the Project on these sites.

NGTL continues to engage Aboriginal communities and organizations for Aboriginal participation during construction activities, in accordance with Condition 8 of the NEB's Report (NEB Filing ID: A79841).

## **5.0 SECTION 52 CONDITION 9 (D) AND SECTION 58 CONDITION 5 (D)**

### ***A description of how NGTL has incorporated any revisions into the final EPP and Environmental Alignment Sheets***

No additional mitigation measures as a result of completed TLU studies were incorporated into the EPP for the Project as the concerns identified through the outstanding TLU investigations described in Table 1 are already addressed by the proposed mitigation measures described in the Application. Should any TLU sites requiring site-specific mitigation during construction be identified, they will be included on a confidential version of the Environmental Alignment Sheets for the Project, as appropriate.

Attachment 1: Blueberry River First Nations Knowledge and Use Study Project-Specific Issues and Concerns Summary

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>  | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed  |
|---|--|--|--|
| <p>Hunting and trapping / Wildlife and wildlife habitat</p> <ul style="list-style-type: none"><li>• Potential destruction and disturbance of some of the last remaining areas of habitat in the region, particularly along the Kiskatinaw and Pouce Coupé river valleys, leading to a reduction in the number of animals</li><li>• Potential for noise, traffic and workers scaring animals away from crucial wildlife movement corridors during construction, leading to a reduction in the number of animals in the region</li><li>• Potential effects to beavers and muskrats from habitat clearing and construction noise</li><li>• Potential for changes in wildlife availability to reduce hunting and trapping success</li></ul> | <ul style="list-style-type: none"><li>• Pouce Coupé River (crossed by the Project footprint at KP 23.7, Groundbirch Section)</li><li>• Kiskatinaw River (crossed by the Project at KP 25.5, Tower Lake Section)</li><li>• Project footprint</li><li>• Local Study Area (LSA)</li><li>• Regional Study Area (RSA)</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>BRFN reported subsistence values related to wildlife (e.g., wildlife movement corridor and wildlife observation) within 250 m of the Project. BRFN also stated that the Pouce Coupé and Kiskatinaw river valleys are critical wildlife corridors. NGTL's primary pipeline crossing methods for the Kiskatinaw River and Pouce Coupé River is Horizontal Directional Drill (HDD), a trenchless crossing method that will avoid direct disturbance to the river bed and banks.</p> <p>The following mitigation measures are planned during construction to reduce potential effects on BRFN hunting and trapping activities that may occur in the Project footprint:</p> <ul style="list-style-type: none"><li>• NGTL will provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>• Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li></ul> <p>The following mitigation measures are planned during construction to reduce the potential adverse effects on wildlife habitat in the Project footprint:</p> <ul style="list-style-type: none"><li>• Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>• Develop and implement an environmental orientation program to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and sensitivities [EPP Section 4.0 #13].</li><li>• Clearly mark all sensitive resources identified on the Environmental Alignment Sheets and environmental tables (Table 1 to 6) within the immediate vicinity of the ROW and meter station sites before the start of clearing. Following clearing, markings will be installed to delineate the sensitive resources [EPP Section 6.0 #3].</li><li>• Post signs to clearly identify sensitive environmental features to ensure they are protected. See the Environmental Alignment Sheets as well as Table 1 and Table 3 for a listing of sensitive environmental features located along the pipeline ROW and at the meter station sites [EPP Section 7.1 #1].</li><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>• On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>• Seed wetlands in privately-held agricultural areas (including forested areas on private land) with native wetland species after consultation with landowners and use only Certified No. 1 seed, unless Certified No 1 is not available for select reclamation seed species (i.e., native species) [EPP Section 7.1, Table 1].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures to reduce the potential effects on wildlife movement patterns:</p> <ul style="list-style-type: none"><li>• Leave gaps in windrows (i.e., grubbing piles, topsoil, grade spoil, rollback) and strung pipe at obvious drainages and wildlife trails, and to allow for livestock and vehicle/machinery passage across the ROW. Locations where wildlife gaps are appropriate will be determined in the field by the Environmental Inspector(s). Gaps should align [EPP Section 7.1 #12].</li><li>• To facilitate free movement of livestock and wildlife, follow trenching operations as closely as possible with lowering-in and backfill operations, unless for construction purposes there is a need to have the trench open for an extended period of time [EPP Section 8.5 #3].</li><li>• If wildlife or livestock are discovered in the trench, or in association with any other activity or facility, report to the Environmental Inspector(s) who will contact the applicable regulatory agencies, as required. In the case of livestock, the land agent assigned to the Project will contact the landowner [EPP Section 7.1 #6].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures to reduce potential effects on wildlife from increased human presence, noise and traffic during construction:</p> <ul style="list-style-type: none"><li>• Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>• Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>• Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li><li>• Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li></ul> | <ul style="list-style-type: none"><li>• ESA Section 6.13.2.3</li><li>• Supplemental Traditional Knowledge (TK) report, Section 3.2.1.2</li><li>• EPP Section 1.0</li><li>• EPP Section 4.0</li><li>• EPP Section 5.0</li><li>• EPP Section 6.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.2</li><li>• EPP Section 8.4</li><li>• EPP Section 8.8</li><li>• EPP Annex F</li><li>• EPP Appendix 1F</li></ul> |

Attachment 1: Blueberry River First Nations Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>                                 | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed  |
|---|---|--|--|
| Hunting and trapping / Wildlife and wildlife habitat (cont'd)   | See above   | <ul style="list-style-type: none"><li>For other access measures and guidelines on the construction footprint and associated access roads, refer to the Traffic Control Management Plan (Appendix 1F).</li><li>Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures relevant to beavers:</p> <ul style="list-style-type: none"><li>For Alberta, in the event that beaver dams or lodges will be disturbed, provide notification or obtain the necessary provincial permits prior to commencing activities. Engage the registered trapper(s) [EPP Section 8.4 #31].</li><li>For BC, in the event that beaver dams or lodges will be disturbed, provide notification or obtain the necessary provincial (BC Water Act and BC Wildlife Act) or federal permits prior to commencing activities. Engage the registered trapper(s). Follow direction in the BC Best Management Practices for Beaver Dam Removal when beaver dams must be removed [EPP Section 8.4 #31].</li></ul> <p>Breach the beaver dam slowly to avoid the rapid release of water that could cause fish entrapments and/or erosion of the bed and banks resulting in subsequent siltation of downstream waters [EPP Section 8.4 #32].</p>   | See above  |
| Accidents and malfunctions <ul style="list-style-type: none"><li>Potential for contamination during Project operation due to a pipeline rupture, and the resulting effects on the quality of water, fish, animals and plants and human health</li><li>Potential for reduced use of the Project footprint and downstream areas due to fears of contamination and pipeline ruptures</li></ul> | <ul style="list-style-type: none"><li>Project footprint</li><li>LSA</li><li>RSA</li></ul> | <p>The product to be transported is pipeline-quality natural gas that meets tariff requirements. The product in the pipeline is not oil, liquids or condensates, which limits the potential for residual adverse impacts in the event of an inadvertent release. Natural gas is lighter than air and, upon release, will disperse into the atmosphere.</p> <p>The NGTL System is monitored and controlled by the Operations Control Centre (OCC). Located in Calgary, the OCC remotely monitors and controls the operation of the NGTL System and other TransCanada-owned and operated pipelines. The OCC is staffed 24 hours per day and uses a computer-based SCADA system, which controls gas compression, metering and remote valve facilities to ensure the required gas volumes, line pack and contract pressures are achieved daily. The SCADA system alerts the OCC operator of operational changes in the pipeline system. Status and control information is received and sent by the SCADA system to and from specific mainline valves, and compressor and metering facilities. In the unlikely event of a pressure drop, pipeline mainline block valves, which are equipped with actuators with low-pressure detection, will automatically close on sensing low pressure, to isolate the pipe segment [Application Section 10.2.1].</p> <p>The Project has been designed and will be constructed and operated following applicable standards, industry best management practices and the Project-specific mitigation identified in this ESA report and the EPP. These measures are expected to limit the potential for occurrence of an accident or malfunction during Project construction, operation, and decommissioning and abandonment [ESA Section 6.21].</p> <p>NGTL will implement TransCanada's Integrity Management Program and Facility Integrity and Reliability Management Program to reduce adverse environmental effects, protect the pipeline, maintain its reliability and protect the safety of NGTL employees and the public. [ESA Section 6.21.2.2]. NGTL will also implement the following mitigation measures to reduce potential adverse effects resulting from an accident or malfunction:</p> <ul style="list-style-type: none"><li>Pipeline design and valve placement will limit the potential for and volume of a product release in the event of a pipeline leak or rupture [ESA Table 6.21-1].</li><li>The Leak Detection and Repair (LDAR) program will be implemented to manage fugitive emissions [ESA Table 6.21-1].</li><li>NGTL will notify the appropriate regulators, as required, in the event of a leak or rupture. [ESA Table 6.21-1].</li><li>The ROW and meter station sites will be inspected during operations with regular aerial patrols after heavy snow melt or heavy, persistent rainfall to identify areas of erosion. Remedial work will be conducted where warranted to protect pipeline integrity in a timely manner [EPP Section 9.0].]. Specific instructions regarding applicable contacts and appropriate response actions to be taken in the event of a spill will be posted at the field construction offices. [EPP Annex E, Section 1.0].</li></ul> <p>The following measures will be implemented during construction to prevent spills:</p> <ul style="list-style-type: none"><li>In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</li><li>Environmental protection measures concerning equipment maintenance, refuelling and servicing, and fuel storage, as outlined in the EPP and Chemical and Waste Management Plan (EPP Annex F), will be followed to reduce the potential for an accidental spill or leak [ESA Section 6.21.2.2].</li><li>The Contractor will ensure equipment is well-maintained and free of fluid leaks [EPP Section 8.1 #12].</li><li>Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>Bulk fuel trucks, service vehicles and pick-up trucks equipped with box-mounted fuel tanks shall carry spill prevention, containment and clean up materials that are suitable for the volume of fuels or oils carried. Spill contingency material carried on bulk fuel and service vehicles shall be suitable for use on land and water [EPP Section 8.1 #13].</li><li>Conduct refuelling at least 100 m away from any watercourse or waterbody, when feasible [EPP Section 8.1 #15].</li></ul> <p>In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</p> | <ul style="list-style-type: none"><li>Application Section 10.2.1</li><li>ESA Section 6.21</li><li>ESA Table 6.21-1</li><li>EPP Section 8.1</li><li>EPP Section 8.4</li><li>EPP Section 9.0</li><li>EPP Annex E</li><li>EPP Annex F</li></ul> |

Attachment 1: Blueberry River First Nations Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified | Approximate Location Relative to the Project <sup>1</sup>                                       | NGTL Response / Proposed Mitigation Measures <sup>2</sup>   | Where Addressed   |
|---------------------------------------|---|---|---|
| Surface water quality / Soil erosion  | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | <p>In addition to the mitigation measures relevant to accidents and malfunctions described above, NGTL will implement the following mitigation measures to reduce the potential for adverse effects of the Project on water quality during construction:</p> <ul style="list-style-type: none"><li>• The Contractor shall develop a detailed site specific watercourse crossing plan and submit the plan to the Company prior to initiating watercourse crossing activities [EPP Section 8.4 #33].</li><li>• Preserve water quality, including preventing the introduction of foreign material (debris, sediment, etc.) into the receiving waterbody/watercourse [EPP Section 8.6 #15].</li><li>• Use biodegradable hydraulic fluids in hydraulic equipment conducting instream work [EPP Section 7.1 #36].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• In the event of sediment releases or spills of deleterious substances during the construction of the trenchless crossings implement the Directional Drilling Procedures and Instream Drilling Mud Release Contingency Plan (EPP Annex E). [EPP Section 8.4 #60]</li><li>• Ensure that drilling mud composition is limited to bentonite-based systems (e.g., bentonite, water and industry standard additives). All bentonite-based systems shall meet applicable regulatory requirements and shall be limited to those that in composition and concentration, should an interaction with the environment occur, do not result in a significant adverse effect to the environment. At the Company's request, the contractor shall provide all product Material Safety Data Sheets (MSDS) for approval. [EPP Annex E Section 7.0].</li><li>• Where warranted, develop a water quality monitoring plan with input from an aquatics specialist that includes monitoring for total suspended solids (TSS) and/or turbidity if trenchless methods are used [EPP Section 8.4 #58].</li></ul> <p>NGTL will implement the following mitigation measures to reduce the potential for sediment to enter watercourses and/or waterbodies:</p> <ul style="list-style-type: none"><li>• Following an adverse weather event, the Contractor will confirm the efficacy of sediment and erosion control measures and whether corrective action is required. The Environmental Inspector(s), in consultation with the Construction Manager will implement contingency measures as outlined in the Adverse Weather Contingency Plan (Annex E) [EPP Section 8.3 #17].</li><li>• Ensure maintenance of downstream flow at all times when constructing an isolated crossing [EPP Section 8.4, #46].</li><li>• Prohibit clearing of extra TWS within 10 m of a watercourse to protect riparian areas. This area shall be clearly marked prior to clearing operations. The ROW will be narrowed through the riparian area, if possible [EPP Section 8.3 #8].</li><li>• Limit clearing at watercourse crossings to the removal of trees and shrubs to the ditch line and work side areas required for vehicle crossings [EPP Section 8.4 #9].</li><li>• Direct grading away from waterbodies. Do not place fill material in a waterbody during grading [EPP Section 8.3 #13].</li><li>• Ensure that grubbing, stripping and grading on approach slopes to watercourses is restricted to an amount required to allow the safe passage of equipment, excavation of the trench, and installation of the pipeline [EPP Section 8.3 #14].</li><li>• Do not allow grading within the 10 m riparian buffer immediately adjacent to the water crossing until installation of the vehicle crossing. [EPP Section 8.3 #15].</li><li>• Install erosion and sediment control at all watercourses and/or waterbodies as directed by the Environmental Inspector(s) (EPP Annex D, Dwgs. STDS-03-ML-05-001, STDS-03-ML-05-131, STDS-03-ML-05-132) [EPP Section 8.4 #16].</li><li>• Where water erosion is evident, and there is potential for runoff from the ROW to flow into a watercourse, refer to the Soil Erosion Contingency Plan (EPP Annex E) [EPP Section 8.3 #17].</li><li>• If the working surface is unstable, do not permit clearing equipment with the 10 m riparian buffer, unless approved by the Environmental Inspector(s). Following clearing, the 10 m riparian buffer will remain intact (i.e., consisting of low-lying understory vegetation) [EPP Section 8.4 #11].</li><li>• Construct or install temporary vehicle access across waterbodies, shorelines, and riverbanks in a manner that protects the banks from erosion and maintains the flows in the waterway and follows the COP for Alberta and BC Water Act and Water Regulations as well as DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2013) [EPP Section 8.4 #19].</li></ul> <p>Ensure that water from dewatering entry and exit sites with a high sediment load is not discharged or allowed to flow into any waterbody. Remove the sediment load (e.g., filtered or discharged into a vegetated area) before discharge water is allowed to enter any watercourse. [EPP Section 8.4 #57].</p> | <ul style="list-style-type: none"><li>• EPP Section 7.1</li><li>• EPP Section 8.3</li><li>• EPP Section 8.4</li><li>• EPP Section 8.6</li><li>• EPP Annex D</li><li>• EPP Annex E</li></ul> |

Attachment 1: Blueberry River First Nations Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project <sup>1</sup>                                       | NGTL Response / Proposed Mitigation Measures <sup>2</sup>   | Where Addressed   |
|--|---|---|---|
| <p>Fish and Fish Habitat</p> <ul style="list-style-type: none"><li>• Potential effects to fish from Project construction</li><li>• Potential for contamination or accidents and malfunctions to result in negative changes to fish quality</li></ul> | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | <p>In addition to the mitigation measures relevant to Accidents and Malfunctions outlined above, NGTL will implement the additional following mitigation measures to reduce potential effects of the Project on fish and fish habitat:</p> <ul style="list-style-type: none"><li>• The Contractor shall develop a detailed site specific watercourse crossing plan and submit the plan to the Company prior to initiating watercourse crossing activities [EPP Section 8.4 #33].</li><li>• Develop water quality monitoring plans to monitor for sediment events during instream construction activities where required by the DFO Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat. If monitoring reveals sediment values are approaching threshold values, the water quality monitors will alert the Environmental Inspector(s) and work with them to develop corrective actions. If corrective actions are not successful, construction activities will be temporarily suspended until effective solutions are identified [EPP Section 8.4 #36].</li><li>• Construct or install temporary vehicle access across waterbodies, shorelines, and riverbanks in a manner that protects the banks from erosion and maintains the flows in the waterway and follows the COP for Alberta and BC Water Act and Water Regulations as well as DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2013) [EPP Section 8.4 #19].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• Conduct fish salvage, in accordance with permit conditions, using appropriate methods and equipment. Release all captured fish to areas downstream of the crossing that provide suitable habitat [EPP Section 8.4, #54].</li><li>• Prohibit clearing of extra TWS within 10 m of a watercourse to protect riparian areas. This area shall be clearly marked prior to clearing operations. The ROW will be narrowed through the riparian area, if possible [EPP Section 8.4 #8].</li><li>• For pipeline crossings conducted using a trenchless crossing method, apply DFO Measures to Avoid Causing Harm to Fish and Fish Habitat [EPP Section 8.4 #55]</li><li>• Conduct typical open cut of seasonally dry or frozen to the bottom watercourses in accordance with DFO's Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat. This is also described in EPP Annex D, Dwg. STDS-03-ML-05-105 [EPP Section 8.4 #41].</li><li>• Conduct isolated crossings of watercourses in accordance with DFO's Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat [EPP Section 8.4 #44].</li><li>• If an isolated method is employed and where recommended by an aquatics specialist (i.e., Qualified Aquatic Environmental Specialist or provincial equivalent), conduct a fish salvage led by an aquatics specialist [EPP Section 8.4, #53].</li><li>• Ensure maintenance of downstream flow at all times when constructing an isolated crossing [EPP Section 8.4, #46].</li></ul> <p>The following measures will be implemented during construction to prevent spills:</p> <ul style="list-style-type: none"><li>• In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</li><li>• Environmental protection measures concerning equipment maintenance, refuelling and servicing, and fuel storage, as outlined in the EPP and Chemical and Waste Management Plan (EPP Annex F), will be followed to reduce the potential for an accidental spill or leak [ESA Section 6.21.2.2].</li><li>• The Contractor will ensure equipment is well-maintained and free of fluid leaks [EPP Section 8.1 #12].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• Bulk fuel trucks, service vehicles and pick-up trucks equipped with box-mounted fuel tanks shall carry spill prevention, containment and clean up materials that are suitable for the volume of fuels or oils carried. Spill contingency material carried on bulk fuel and service vehicles shall be suitable for use on land and water [EPP Section 8.1 #13].</li><li>• Conduct refuelling at least 100 m away from any watercourse or waterbody, when feasible [EPP Section 8.1 #15].</li></ul> | <ul style="list-style-type: none"><li>• EPP Section 8.4</li></ul> |

Attachment 1: Blueberry River First Nations Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>                     | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed  |
|---|---|--|--|
| <p>Plant gathering / Vegetation</p> <ul style="list-style-type: none"><li>Plant harvesting sites may occur in or adjacent to the Project footprint</li><li>Potential for contamination or accidents and malfunctions to result in negative changes to plant quality</li></ul> | <ul style="list-style-type: none"><li>Project footprint</li><li>LSA</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>BRFN reported subsistence values related to plant gathering (e.g., current blueberry and Saskatoon berry harvesting site, future Saskatoon berry harvesting site) within 250 m of the Project.</p> <p>NGTL plans to implement the following measures to reduce potential effects on any BRFN traditional plant gathering sites that may occur in the Project footprint and to provide Aboriginal communities with the opportunity to harvest plants prior to construction:</p> <ul style="list-style-type: none"><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>For other access measures and guidelines on the construction footprint and associated access roads, refer to the Traffic Control Management Plan (Appendix 1F).</li><li>If traditional land use (TLU) sites not previously identified are found on the ROW or meter station sites during construction, follow conditions outlined in the Traditional Land Use Sites Discovered Contingency Plan (Annex E) [EPP Section 7.1 #35].</li></ul> <p>NGTL will implement the following mitigation measures relevant to vegetation resources, which may include traditionally important plant species:</p> <ul style="list-style-type: none"><li>Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>The Project will follow the Company's Post-Construction Monitoring Program (PCMP), which ensures compliance with specific reclamation performance expectations and conditions, as well as addresses the requirements of a follow-up program under the Canadian Environmental Assessment (CEA) Agency. Mitigation methods will be based on the principle that success of land reclamation is measured against adjacent representative site conditions while taking into consideration the status of reclamation at the time of assessment [EPP Section 9.0].</li><li>Post-construction monitoring and treatment of weed infestation on the ROW and meter station sites will be implemented as needed [EPP Section 8.8 #62].</li><li>Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>Use only Certified No. 1 seed, unless Certified No. 1 is not available or select reclamation seed species (i.e., native species) [EPP Section 8.8 #46].</li><li>Seeding will follow as close as possible to final clean-up and topsoil/surface material replacement pending seasonal or weather conditions [EPP Section 8.8 #40].</li></ul> <p>NGTL will implement the following mitigation measures relevant to herbicide application:</p> <ul style="list-style-type: none"><li>Restrict the general application of herbicide near rare plants or rare ecological communities. Spot spraying, wicking, mowing, or hand-picking are acceptable measures for weed control in these areas [EPP Section 7.1 #16].</li><li>Prohibit the use of herbicides within 30 m of an open body of water, unless the herbicide application is conducted by ground application equipment, or otherwise approved by the relevant regulatory agency [EPP Section 7.1 #17].</li></ul> | <ul style="list-style-type: none"><li>EPP Section 1.0</li><li>EPP Section 5.0</li><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Section 8.2</li><li>EPP Section 8.8</li><li>EPP Section 9.0</li><li>ESA Table 6.18-1</li><li>EPP Appendix 1F</li></ul> |
| <p>Burial sites</p> <ul style="list-style-type: none"><li>Potential destruction of burial areas of unknown locations during Project construction</li></ul>  | <ul style="list-style-type: none"><li>Project footprint</li></ul>             | <p>NGTL completed a pre-construction heritage assessment to identify potential sites prior to construction. No heritage sites were identified in relation to the Project. These efforts, in conjunction with traditional knowledge shared by Aboriginal field participants and any other traditional land use information shared by Aboriginal communities, reduces the risk that a previously unidentified significant heritage or burial site will be encountered during construction. In the event of unanticipated discovery during construction, NGTL will implement the Heritage Resources Discovery Contingency Plan and Traditional Land Use Sites Discovery Contingency Plan, as appropriate, to ensure that any sites not previously identified are properly recorded and mapped, and the potential disturbance of those sites from construction activities is addressed before continuing with construction.</p>  | <ul style="list-style-type: none"><li>EPP Annex E</li></ul>  |

Attachment 1: Blueberry River First Nations Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>                                       | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed  |
|---|---|--|--|
| <p>Traditional land use</p> <ul style="list-style-type: none"><li>• Potential for the Project to contribute to reduced connection to this culturally and historically important landscape and to the stories of their ancestors</li><li>• Potential for reduced use of the region for camping and other cultural activities due to noise, disturbance and the presence of workers during Project construction</li></ul>   | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>NGTL will undertake clean-up and reclamation measures, which are an important step in returning construction site to a condition similar to preconstruction, including the objective of maintaining equivalent land capability, ensuring the ability of the land to support various land uses similar to the uses that existed before construction, but not necessarily identical [EPP Section 8.8]. NGTL has proposed a comprehensive suite of mitigation measures to reduce the adverse effects of the Project on the environment and, in turn, on the use of those lands by Aboriginal groups. For forested ecosystems, early seral stages of the successional process are expected to occur within a few years and these areas will subsequently transition to a mature forest over decades in a manner similar to regeneration after a forest fire. Within each successional (seral) stage of forest development, there will be a fully functioning ecosystem.</p> <p>NGTL will also implement the following mitigation measures to reduce potential effects on traditional land use and cultural activities:</p> <ul style="list-style-type: none"><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>• Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>• Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>• Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>• Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li><li>• Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>• For other access measures and guidelines on the construction footprint and associated access roads, refer to the Traffic Control Management Plan (Appendix 1F).</li><li>• Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li><li>• Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li></ul> | <ul style="list-style-type: none"><li>• EPP Section 1.0</li><li>• EPP Section 5.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.8</li><li>• EPP Annex E</li><li>• ESA Table 6.18-1</li><li>• EPP Appendix 1F</li></ul> |
| <p>Social and cultural effects</p> <ul style="list-style-type: none"><li>• Potential for changes to community cohesion, wellbeing and health, caused by increasing numbers of people coming to the area to work on the Project and other large industrial projects</li><li>• Social and economic effects resulting from the influx of workers into the region, such as<ul style="list-style-type: none"><li>• inequalities in accessing high wages and other benefits</li><li>• increased food and housing insecurity</li><li>• increased economic insecurity</li><li>• increased domestic violence against women</li><li>• increased violent crime due to higher number of male transient workers</li><li>• increased risks faced by Indigenous women and girls</li><li>• increased and drug and alcohol abuse</li><li>• increased racism and discrimination</li></ul></li></ul> | <ul style="list-style-type: none"><li>• N/A</li></ul>   | <p>Section 6.17 of the ESA assessed the potential for Project interaction between the Project and quality of life, including potential disruption to quality of life due to increased presence of a temporary workforce population. The Project requires a workforce for the construction period of eight months. Peak construction workforce is expected to be 750 workers between mid-July and September 2017. The potential for negative interactions is limited by the short construction period (eight months). During Project construction, the long hours of shift work will minimize community interaction. The potential for disruption to quality of life due to increased presence of a temporary workforce population is not expected during Project operation as operational personnel will be filled by TransCanada's existing capacity in the region and no increase in the temporary workforce population will occur [ESA Section 6.17.2.1]. With the implementation of appropriate mitigation the potential adverse socio-economic effects on social and cultural well-being as a result of the Project are predicted to be not significant [EPP Section 6.17.3.2].</p> <p>NGTL will implement the following mitigation measures to reduce the potential cumulative effects related to social wellbeing:</p> <ul style="list-style-type: none"><li>• Existing commercial accommodations (i.e., hotels, rentals, campgrounds) in the Dawson Creek area will be used to house Project personnel. [ESA Table 6.17-1].</li><li>• TransCanada's Health, Safety and Environment Commitment will be followed, including TransCanada's Contractor Alcohol and Drug Policy [ESA Table 6.17-1].</li><li>• NGTL will require the construction contractor to have protocols in place for workers concerning drug and alcohol policies and after-hour use of recreational vehicles, and will require adherence to TransCanada's Alcohol and Drug Policy [ESA Table 6.17-1]</li><li>• Continue to engage with local and Aboriginal stakeholders as per the Project's Aboriginal and stakeholder engagement programs to identify potential community effects [ESA Table 6.17-1].</li></ul>   | <ul style="list-style-type: none"><li>• ESA Section 6.17</li><li>• ESA Section 6.17.2.1</li><li>• ESA Section 6-17.3.2</li><li>• ESA Table 6.17-1</li></ul>  |

Attachment 1: Blueberry River First Nations Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project <sup>1</sup> | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed  |
|--|---|--|--|
| <p>Cumulative effects to traditional use</p> <ul style="list-style-type: none"><li>• Loss of available traditional territory to pursue economic, social and traditional activities</li><li>• Displacement caused by the cumulative impacts of all of the industrial activities on the landscape prevents BRFN members from meaningfully carrying on the traditional activities. “Members no longer have access to sufficient land and resources that are in an uncontaminated state capable of sustaining the patterns of economic activity, land use and occupation essential to their livelihood” (Macdonald 2016, p. 6)</li></ul> | <ul style="list-style-type: none"><li>• RSA</li></ul>     | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>The ESA assessed potential Project effects on the current use of lands and resources for traditional purposes by Aboriginal peoples in accordance with the requirements of CEAA, 2012 and the NEB Filing Manual.</p> <p>Section 6.15 of the ESA assessed the potential for the Project to affect traditional land and resource use including opportunities for traditional hunting and trapping, traditional fishing, traditional plant harvesting and the use of culturally important sites and areas. These activities often support intangible values related to use of land. With the implementation of recommended mitigation, adverse effects of the Project on these traditional land and resource use are predicted to be not significant (ESA Section 6.15.3.2). Section 6.18 of the ESA assessed the potential for the Project to result in the alteration of visual aesthetics. With the implementation of recommended mitigation, predicted residual effects on visual aesthetics during Project construction and operation were predicted to be not significant (Section 8.18.3.2).</p> <p>NGTL acknowledges that Aboriginal communities may have concerns with respect to potential impacts to intangible values related to use of the land. NGTL will continue to document this information as it is made available and through its Aboriginal engagement program, will continue to seek to understand and address these concerns throughout the life cycle of the Project.</p>  | <ul style="list-style-type: none"><li>• ESA Section 6.15</li><li>• EPP Section 1.0</li></ul>   |
| <p>Economic impacts</p> <ul style="list-style-type: none"><li>• BRFN believe that they face significant barriers to accessing employment, including barriers to qualifying for the better jobs in industry.</li><li>• BRFN believes a greater share of the benefits from resource development, including jobs, goes to non-Indigenous people or flows out of the region entirely.</li></ul>  | <ul style="list-style-type: none"><li>• N/A</li></ul>     | <p>NGTL will implement its established Aboriginal Contracting and Employment Program to maximize employment and contracting opportunities for the local Aboriginal communities potentially affected by the Project.</p> <p>NGTL continues to work with Aboriginal communities to identify employment opportunities during the pre-construction, construction and post-construction phases of the Project, and any associated training requirements. NGTL and prime contractors will work with the community or organization (through their human resource coordinators, local economic development and education officers) to support the completion of the training requirements identified through this collaborative effort. Based on this collaboration, NGTL will develop and maintain a list of contracting opportunities that are within the capacity of Aboriginal and local contractors in the area. NGTL will work with communities to identify businesses and individuals who have interest in Project-related contracting and employment opportunities. Based on this information, NGTL will prepare an Aboriginal and local participation plan for the Project. This plan will include the processes used to make contracting and employment opportunities available to Aboriginal and local contractors.</p> <p>NGTL encourages community contractors and vendors to register their businesses for Project consideration and operational requirements in the region. Regular updates are provided to keep the community informed of contracting, employment and training opportunities during all phases of the Project [Project Application, Section 13].</p> <p>NGTL will implement the following enhancement measures related to Aboriginal employment and contracting opportunities:</p> <ul style="list-style-type: none"><li>• NGTL will implement the Aboriginal Construction Participation Program for the Project with potentially affected Aboriginal communities and organizations that have expressed interest to provide training and capacity building opportunities.</li><li>• Arrange and participate in meetings with Aboriginal communities and organizations and potential prime contractors and identify the contacts in Aboriginal communities and organizations for employment and contracting [ESA Table 6.20-6].</li><li>• Encourage and assist all prime contractors to maximize local Aboriginal participation through direct employment and subcontracting opportunities during pre-construction and construction phases of the Project [ESA Table 6.20-6].</li><li>• Monitoring local community and Aboriginal direct employment on the Project [ESA Table 6.20-6].</li><li>• Providing the successful prime contractor(s) with a list of the community-affiliated contractors to be considered for work on the Project [ESA Table 6.20-6].</li><li>• Engage Aboriginal communities, and industry associations, training and employment and human resources offices to assess available manpower qualifications and availability [ESA Table 6.20-6].</li><li>• Efforts to provide Aboriginal businesses with an opportunity to participate in Project construction through the TransCanada Aboriginal Contracting and Employment Program [ESA Table 6.20-6].</li><li>• Implementing an Aboriginal participation component in the request for proposals for the prime contractor(s) [ESA Table 6.20-6].</li><li>• Gathering and reporting Aboriginal related spending and employment information for the Project and meeting with Aboriginal communities (when requested) to review Aboriginal participation in the Project [ESA Table 6.20-6].</li><li>• Providing guidance and support to the prime contractor(s) and Aboriginal communities on Aboriginal employment and business contracting throughout the construction phase of the Project [ESA Table 6.20-6].</li></ul> | <ul style="list-style-type: none"><li>• ESA Section 6.20</li><li>• ESA Table 6.20-20</li><li>• Project Application, Section 13</li></ul> |

Attachment 1: Blueberry River First Nations Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup> | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed                                     |
|---|---|--|---|
| Consultation Process <ul style="list-style-type: none"><li>BRFN expressed concerns related to consultation, consent, environmental impact assessments, and the decision making process in general, such as:<ul style="list-style-type: none"><li>a community's response to a proposed development, including the rejection of a project, often has no impact on the final outcome of the decision-making process</li><li>many Indigenous communities feel they do not have the time or capacity to give notifications of development activities the careful review they require</li><li>the crown's definition of consultation differs substantially from that of Indigenous groups, and it is a systemically disadvantaging process that is inevitably going to favour the proponent</li><li>Indigenous peoples are routinely denied any meaningful role in determining how assessments are carried out.</li></ul></li></ul>   | <ul style="list-style-type: none"><li>N/A</li></ul>       | While the legal duty to consult rests with the Crown, NGTL is committed to engaging with communities potentially affected by the Project so that NGTL can identify and understand the potential Project-related effects and proposed mitigation measures in order to address them. To support the information gathering process, NGTL provided funding to plan and implement engagement activities. NGTL and BRFN entered into a Letter of Agreement in June 2016 to participate in Project engagement activities. | <ul style="list-style-type: none"><li>N/A</li></ul> |
| <p>Note:</p> <p>1. Distances are provided in relation to the Project footprint, LSA and RSA as defined in the ESA, which differ from the Project footprint and LSA definition used in Olson et al. (2016). The ESA defined the Project footprint as the physical area required for Project construction, operation and eventual decommissioning and abandonment, the LSA as extending 1,000 m from the boundary of the Project footprint, and the RSA as extending 9,400 m from the boundary of the Project footprint. Olson et al. (2016) defined the Project footprint as the area within 250 m on either side of the Project, the LSA as the area within 5 km on either side of the Project, and the RSA as the area within 25 km on either side of the Project.</p> <p>2. Detailed mitigation measures are provided in the Environmental and Socio-Economic Assessment (NEB Filing IDs A4T0Z0, A4T0Z1 and A4T0Z2) and the Environmental Protection Plan for the Proposed Towerbirch Expansion Project, March 2016 (NEB Filing ID A4Y9W9). Additional information is available in the NGTL Towerbirch Expansion Project Application (NEB Filing ID A4T0Y1), NGTL Towerbirch Expansion Project Supplemental Traditional Knowledge Report (NEB Filing ID: A4Y9W5) and Environmental Alignment Sheets (NEB Filing IDs: A4Y9W6, A4Y9W7 and A4Y9W8).</p> <p>N/A = Not applicable</p> <p><b>Sources:</b> Olson, R., S. DeRoy and Firelight Research Inc. 2016. <i>Blueberry River First Nation Knowledge and Use Study: NOVA Gas Transmission Ltd.'s Towerbirch Expansion Report</i>. Prepared on behalf of Blueberry River First Nation.</p> <p>Amnesty International. 2016. Out of Sight, Out of Mind. Gender, Indigenous Rights and Energy Development in Northeast British Columbia, Canada.</p> <p>Macdonald, E. 2016. Atlas of Cumulative Landscape Disturbance in the Traditional Territory of Blueberry River First Nations, 2016.</p> <p>DFO (Fisheries and Oceans Canada) 2013. <i>Measures to Avoid Causing Harm to Fish and Fish Habitat</i>. Date Modified: 2013-11-25. Available at: <a href="http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html</a></p> |   |  |   |

Attachment 2: Doig River First Nation (DRFN) Knowledge and Use Study Project-Specific Issues and Concerns Summary

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>  | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed  |
|---|--|--|--|
| <p>Hunting and trapping / Wildlife and wildlife habitat</p> <ul style="list-style-type: none"><li>• Potential reductions in the quantity and quality of preferred animals species available for hunting and trapping</li><li>• Project land clearing to result in disturbance to wildlife habitat in the Project footprint</li><li>• Potential for the Project to result in increased regional habitat fragmentation and to thereby reduce habitat areas and limit animal movement patterns</li><li>• Potential for noise and traffic from Project construction and operation to place stress on animals and cause them to move away from the area</li><li>• Potential for Project construction and operation workforce requirements to increase the number of people in the region and add to hunting pressure on wildlife</li></ul> | <ul style="list-style-type: none"><li>• Pouce Coupé River (crossed by the Project footprint at KP 23.7, Groundbirch Section)</li><li>• Kiskatinaw River (crossed by the Project at KP 25.5, Tower Lake Section)</li><li>• Project footprint</li><li>• Local Study Area (LSA)</li><li>• Regional Study Area (RSA)</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>Twelve environmental values (e.g., key habitat areas, game trails and animal sightings) were noted by DRFN within 250 m of the Project. DRFN also stated that the Pouce Coupé and Kiskatinaw rivers contain intact wildlife habitat. NGTL's primary pipeline crossing methods for the Kiskatinaw River and Pouce Coupé River is Horizontal Directional Drill (HDD), a trenchless crossing method that will avoid direct disturbance to the river bed and banks.</p> <p>The following mitigation measures are planned during construction to reduce potential effects on DRFN hunting and trapping activities that may occur in the Project footprint:</p> <ul style="list-style-type: none"><li>• NGTL will provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>• Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>• The following mitigation measures are planned during construction to reduce the potential adverse effects on wildlife habitat in the Project footprint:</li><li>• Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>• Develop and implement an environmental orientation program to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and sensitivities [EPP Section 4.0 #13].</li><li>• Clearly mark all sensitive resources identified on the Environmental Alignment Sheets and environmental tables (Table 1 to 6) within the immediate vicinity of the ROW and meter station sites before the start of clearing. Following clearing, markings will be installed to delineate the sensitive resources [EPP Section 6.0 #3].</li><li>• Post signs to clearly identify sensitive environmental features to ensure they are protected. See the Environmental Alignment Sheets as well as Table 1 and Table 3 for a listing of sensitive environmental features located along the pipeline ROW and at the meter station sites [EPP Section 7.1 #1].</li><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>• On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>• Seed wetlands in privately-held agricultural areas (including forested areas on private land) with native wetland species after consultation with landowners and use only Certified No. 1 seed, unless Certified No 1 is not available for select reclamation seed species (i.e., native species) [EPP Section 7.1, Table 1].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures to reduce the potential effects on wildlife movement patterns:</p> <ul style="list-style-type: none"><li>• Leave gaps in windrows (i.e., grubbing piles, topsoil, grade spoil, rollback) and strung pipe at obvious drainages and wildlife trails, and to allow for livestock and vehicle/machinery passage across the ROW. Locations where wildlife gaps are appropriate will be determined in the field by the Environmental Inspector(s). Gaps should align [EPP Section 7.1 #12].</li><li>• To facilitate free movement of livestock and wildlife, follow trenching operations as closely as possible with lowering-in and backfill operations, unless for construction purposes there is a need to have the trench open for an extended period of time [EPP Section 8.5 #3].</li><li>• If wildlife or livestock are discovered in the trench, or in association with any other activity or facility, report to the Environmental Inspector(s) who will contact the applicable regulatory agencies, as required. In the case of livestock, the land agent assigned to the Project will contact the landowner [EPP Section 7.1 #6].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures to reduce potential effects on wildlife from increased human presence, noise and traffic during construction:</p> <ul style="list-style-type: none"><li>• Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>• Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>• Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li><li>• Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>• For other access measures and guidelines on the construction footprint and associated access roads, refer to the Traffic Control Management Plan (Appendix 1F).</li></ul> <p>Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</p> | <ul style="list-style-type: none"><li>• ESA Section 6.13.2.3</li><li>• Supplemental Traditional Knowledge (TK) report, Section 3.2.1.2</li><li>• EPP Section 1.0</li><li>• EPP Section 4.0</li><li>• EPP Section 6.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.2</li><li>• EPP Section 8.8</li><li>• EPP Annex F</li><li>• EPP Appendix 1F</li></ul> |

Attachment 1: Doig River First Nation Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project <sup>1</sup>                                       | NGTL Response / Proposed Mitigation Measures <sup>2</sup>   | Where Addressed   |
|--|---|---|---|
| <p>Hunting and Trapping / Accidents and Malfunctions</p> <ul style="list-style-type: none"><li>• Potential for contamination or fears over contamination, especially during construction or in the event of malfunctions, to deter DRFN members from hunting and trapping</li></ul>  | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | <p>The product to be transported is pipeline-quality natural gas that meets tariff requirements. The product in the pipeline is not oil, liquids or condensates, which limits the potential for residual adverse impacts in the event of an inadvertent release. Natural gas is lighter than air and, upon release, will disperse into the atmosphere.</p> <p>The NGTL System is monitored and controlled by the Operations Control Centre (OCC). Located in Calgary, the OCC remotely monitors and controls the operation of the NGTL System and other TransCanada-owned and operated pipelines. The OCC is staffed 24 hours per day and uses a computer-based SCADA system, which controls gas compression, metering and remote valve facilities to ensure the required gas volumes, line pack and contract pressures are achieved daily. The SCADA system alerts the OCC operator of operational changes in the pipeline system. Status and control information is received and sent by the SCADA system to and from specific mainline valves, and compressor and metering facilities. In the unlikely event of a pressure drop, pipeline mainline block valves, which are equipped with actuators with low-pressure detection, will automatically close on sensing low pressure, to isolate the pipe segment [Application Section 10.2.1].</p> <p>The Project has been designed and will be constructed and operated following applicable standards, industry best management practices and the Project-specific mitigation identified in this ESA report and the EPP. These measures are expected to limit the potential for occurrence of an accident or malfunction during Project construction, operation, and decommissioning and abandonment [ESA Section 6.21].</p> <p>NGTL will implement TransCanada's Integrity Management Program and Facility Integrity and Reliability Management Program to reduce adverse environmental effects, protect the pipeline, maintain its reliability and protect the safety of NGTL employees and the public. [ESA Section 6.21.2.2]. NGTL will also implement the following mitigation measures to reduce potential adverse effects resulting from an accident or malfunction:</p> <ul style="list-style-type: none"><li>• Pipeline design and valve placement will limit the potential for and volume of a product release in the event of a pipeline leak or rupture [ESA Table 6.21-1].</li><li>• The Leak Detection and Repair (LDAR) program will be implemented to manage fugitive emissions [ESA Table 6.21-1].</li><li>• NGTL will notify the appropriate regulators, as required, in the event of a leak or rupture. [ESA Table 6.21-1].</li><li>• The ROW and meter station sites will be inspected during operations with regular aerial patrols after heavy snow melt or heavy, persistent rainfall to identify areas of erosion. Remedial work will be conducted where warranted to protect pipeline integrity in a timely manner [EPP Section 9.0].]. Specific instructions regarding applicable contacts and appropriate response actions to be taken in the event of a spill will be posted at the field construction offices. [EPP Annex E, Section 1.0].</li></ul> <p>The following measures will be implemented during construction to prevent spills:</p> <ul style="list-style-type: none"><li>• In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</li><li>• Environmental protection measures concerning equipment maintenance, refuelling and servicing, and fuel storage, as outlined in the EPP and Chemical and Waste Management Plan (EPP Annex F), will be followed to reduce the potential for an accidental spill or leak [ESA Section 6.21.2.2].</li><li>• The Contractor will ensure equipment is well-maintained and free of fluid leaks [EPP Section 8.1 #12].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• Bulk fuel trucks, service vehicles and pick-up trucks equipped with box-mounted fuel tanks shall carry spill prevention, containment and clean up materials that are suitable for the volume of fuels or oils carried. Spill contingency material carried on bulk fuel and service vehicles shall be suitable for use on land and water [EPP Section 8.1 #13].</li><li>• Conduct refuelling at least 100 m away from any watercourse or waterbody, when feasible [EPP Section 8.1 #15].</li><li>• In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</li></ul> | <ul style="list-style-type: none"><li>• Application Section 10.2.1</li><li>• ESA Section 6.21</li><li>• ESA Table 6.21-1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.4</li><li>• EPP Section 9.0</li><li>• EPP Annex E</li><li>• EPP Annex F</li></ul>  |
| <p>Plant gathering / vegetation / reclamation</p> <ul style="list-style-type: none"><li>• Potential for reduced availability of plants that DRFN use for food, medicines, and other cultural uses</li><li>• Potential for the direct removal of food plant and medicinal plant habitat to lead to reduced quantities of preferred plant species available in preferred gathering areas</li><li>• Potential for replacement of preferred native species in the Project footprint with non-native species during reclamation</li></ul> | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>Four plant harvesting values and five plant habitat values within 250 m of the Project were noted by DRFN. DRFN also noted that the Kiskatinaw River Valley is of particular importance as a berry picking area. NGTL's primary pipeline crossing methods for the Kiskatinaw River is Horizontal Directional Drill (HDD), a trenchless crossing method that will avoid direct disturbance to the river bed and banks.</p> <p>NGTL plans to implement the following measures to reduce potential effects on any DRFN traditional plant gathering sites that may occur in the Project footprint and to provide Aboriginal communities with the opportunity to harvest plants prior to construction:</p> <ul style="list-style-type: none"><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li></ul>  | <ul style="list-style-type: none"><li>• Supplemental TK report, Section 3.2.1.2</li><li>• EPP Section 1.0</li><li>• EPP Section 5.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.2</li><li>• EPP Section 8.4</li><li>• EPP Section 8.8</li><li>• EPP Annex F</li></ul> |

Attachment 1: Doig River First Nation Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>                                       | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed   |
|---|---|--|---|
| Plant gathering / vegetation / reclamation (cont'd) <ul style="list-style-type: none"><li>• DRFN recommends that native species be planted in order to preserve DRFN member's ability to pick berries and plants</li><li>• Potential for contamination or perceived contamination of preferred plant species due to Project construction and operation, including pipeline leaks and spills</li><li>• Potential for contamination of plant picking sites due to the spraying of herbicides along the ROW or roads</li><li>• Potential for concern or uncertainty about contamination deterring DRFN members from gathering plants</li></ul> | See Above   | <ul style="list-style-type: none"><li>• Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA]</li><li>• If traditional land use (TLU) sites not previously identified are found on the ROW or meter station sites during construction, follow conditions outlined in the Traditional Land Use Sites Discovered Contingency Plan (Annex E) [EPP Section 7.1 #35].</li></ul> NGTL will implement the following mitigation measures relevant to vegetation resources, which may include traditionally important plant species: <ul style="list-style-type: none"><li>• Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>• The Project will follow the Company's Post-Construction Monitoring Program (PCMP), which ensures compliance with specific reclamation performance expectations and conditions, as well as addresses the requirements of a follow-up program under the Canadian Environmental Assessment (CEA) Agency. Mitigation methods will be based on the principle that success of land reclamation is measured against adjacent representative site conditions while taking into consideration the status of reclamation at the time of assessment [EPP Section 9.0].</li><li>• Post-construction monitoring and treatment of weed infestation on the ROW and meter station sites will be implemented as needed [EPP Section 8.8 #62].</li><li>• Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>• On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>• Use only Certified No. 1 seed, unless Certified No. 1 is not available or select reclamation seed species (i.e., native species) [EPP Section 8.8 #46].</li><li>• Seeding will follow as close as possible to final clean-up and topsoil/surface material replacement pending seasonal or weather conditions [EPP Section 8.8 #40].</li></ul> NGTL will implement the following mitigation measures relevant to herbicide application: <ul style="list-style-type: none"><li>• Restrict the general application of herbicide near rare plants or rare ecological communities. Spot spraying, wicking, mowing, or hand-picking are acceptable measures for weed control in these areas [EPP Section 7.1 #16].</li><li>• Prohibit the use of herbicides within 30 m of an open body of water, unless the herbicide application is conducted by ground application equipment, or otherwise approved by the relevant regulatory agency [EPP Section 7.1 #17].</li></ul>  | See Above   |
| Surface water quality <ul style="list-style-type: none"><li>• Potential for reduced availability of, and access to, drinking water for DRFN use</li><li>• Potential for contamination of DRFN drinking water sources, river, streams, lakes and other watercourses during Project construction and operation due to leaks from machinery or a pipeline accident or malfunction</li><li>• Potential for physical disturbance of water bodies, including streams, wetlands, and groundwater during Project construction</li></ul> DRFN members being deterred from drinking water due to fear and uncertainty about contamination             | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | In addition to the mitigation measures relevant to accidents and malfunctions described above, NGTL will implement the following mitigation measures to reduce the potential for adverse effects of the Project on water quality during construction: <ul style="list-style-type: none"><li>• The Contractor shall develop a detailed site specific watercourse crossing plan and submit the plan to the Company prior to initiating watercourse crossing activities [EPP Section 8.4 #33].</li><li>• Preserve water quality, including preventing the introduction of foreign material (debris, sediment, etc.) into the receiving waterbody/watercourse [EPP Section 8.6 #15].</li><li>• Use biodegradable hydraulic fluids in hydraulic equipment conducting instream work [EPP Section 7.1 #36].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• In the event of sediment releases or spills of deleterious substances during the construction of the trenchless crossings implement the Directional Drilling Procedures and Instream Drilling Mud Release Contingency Plan (EPP Annex E). [EPP Section 8.4 #60]</li><li>• Ensure that drilling mud composition is limited to bentonite-based systems (e.g., bentonite, water and industry standard additives). All bentonite-based systems shall meet applicable regulatory requirements and shall be limited to those that in composition and concentration, should an interaction with the environment occur, do not result in a significant adverse effect to the environment. At the Company's request, the contractor shall provide all product Material Safety Data Sheets (MSDS) for approval. [EPP Annex E Section 7.0].</li><li>• Where warranted, develop a water quality monitoring plan with input from an aquatics specialist that includes monitoring for total suspended solids (TSS) and/or turbidity if trenchless methods are used [EPP Section 8.4 #58].</li></ul> NGTL will implement the following mitigation measures to reduce the potential for sediment to enter watercourses and/or waterbodies: <ul style="list-style-type: none"><li>• Following an adverse weather event, the Contractor will confirm the efficacy of sediment and erosion control measures and whether corrective action is required. The Environmental Inspector(s), in consultation with the Construction Manager will implement contingency measures as outlined in the Adverse Weather Contingency Plan (Annex E) [EPP Section 8.3 #17].</li><li>• Prohibit clearing of extra TWS within 10 m of a watercourse to protect riparian areas. This area shall be clearly marked prior to clearing operations. The ROW will be narrowed through the riparian area, if possible [EPP Section 8.3 #8].</li></ul> | <ul style="list-style-type: none"><li>• EPP Section 7.1</li><li>• EPP Section 8.3</li><li>• EPP Section 8.4</li><li>• EPP Section 8.6</li><li>• EPP Annex D</li><li>• EPP Annex E</li></ul> |

Attachment 1: Doig River First Nation Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project <sup>1</sup>   | NGTL Response / Proposed Mitigation Measures <sup>2</sup>   | Where Addressed   |
|--|---|---|---|
| Surface water quality (cont'd)   | See above   | <ul style="list-style-type: none"><li>• Limit clearing at watercourse crossings to the removal of trees and shrubs to the ditch line and work side areas required for vehicle crossings [EPP Section 8.4 #9].</li><li>• Direct grading away from waterbodies. Do not place fill material in a waterbody during grading [EPP Section 8.3 #13].</li><li>• Ensure that grubbing, stripping and grading on approach slopes to watercourses is restricted to an amount required to allow the safe passage of equipment, excavation of the trench, and installation of the pipeline [EPP Section 8.3 #14].</li><li>• Do not allow grading within the 10 m riparian buffer immediately adjacent to the water crossing until installation of the vehicle crossing. [EPP Section 8.3 #15].</li><li>• Install erosion and sediment control at all watercourses and/or waterbodies as directed by the Environmental Inspector(s) (EPP Annex D, Dwgs. STDS-03-ML-05-001, STDS-03-ML-05-131, STDS-03-ML-05-132) [EPP Section 8.4 #16].</li><li>• Where water erosion is evident, and there is potential for runoff from the ROW to flow into a watercourse, refer to the Soil Erosion Contingency Plan (EPP Annex E) [EPP Section 8.3 #17].</li><li>• If the working surface is unstable, do not permit clearing equipment with the 10 m riparian buffer, unless approved by the Environmental Inspector(s). Following clearing, the 10 m riparian buffer will remain intact (i.e., consisting of low-lying understory vegetation) [EPP Section 8.4 #11].</li><li>• Construct or install temporary vehicle access across waterbodies, shorelines, and riverbanks in a manner that protects the banks from erosion and maintains the flows in the waterway and follows the COP for Alberta and BC Water Act and Water Regulations as well as DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2013) [EPP Section 8.4 #19].</li><li>• Ensure that water from dewatering entry and exit sites with a high sediment load is not discharged or allowed to flow into any waterbody. Remove the sediment load (e.g., filtered or discharged into a vegetated area) before discharge water is allowed to enter any watercourse. [EPP Section 8.4 #57].</li></ul>   | See above   |
| <p>Fish and fish habitat</p> <ul style="list-style-type: none"><li>• Potential for reduced availability of fish for DRFN use</li><li>• Decreased quantities and quality of fish due to water contamination and physical disturbance of water bodies during Project construction and operation</li><li>• DRFN members being deterred from fishing due to fear and uncertainty about contamination</li></ul> | <ul style="list-style-type: none"><li>• Pouce Coupé River (crossed by the Project footprint at KP 23.7, Groundbirch Section)</li><li>• Kiskatinaw River (crossed by the Project at KP 25.5, Tower Lake Section)</li><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | <p>DRFN highlighted the Kiskatinaw and Pouce Coupé rivers as important areas for fishing, and as important remaining habitat areas for fish. NGTL's primary pipeline crossing methods for the Kiskatinaw River and Pouce Coupé River is Horizontal Directional Drill (HDD), a trenchless crossing method that will avoid direct disturbance to the river bed and banks.</p> <p>In addition to the mitigation measures relevant to surface water quality described above, NGTL will implement the additional following mitigation measures to reduce potential effects of the Project on fish and fish habitat:</p> <ul style="list-style-type: none"><li>• The Contractor shall develop a detailed site specific watercourse crossing plan and submit the plan to the Company prior to initiating watercourse crossing activities [EPP Section 8.4 #33].</li><li>• Develop water quality monitoring plans to monitor for sediment events during instream construction activities where required by the DFO Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat. If monitoring reveals sediment values are approaching threshold values, the water quality monitors will alert the Environmental Inspector(s) and work with them to develop corrective actions. If corrective actions are not successful, construction activities will be temporarily suspended until effective solutions are identified [EPP Section 8.4 #36].</li><li>• Construct or install temporary vehicle access across waterbodies, shorelines, and riverbanks in a manner that protects the banks from erosion and maintains the flows in the waterway and follows the COP for Alberta and BC Water Act and Water Regulations as well as DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2013) [EPP Section 8.4 #19].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• Conduct fish salvage, in accordance with permit conditions, using appropriate methods and equipment. Release all captured fish to areas downstream of the crossing that provide suitable habitat [EPP Section 8.4, #54].</li><li>• Prohibit clearing of extra TWS within 10 m of a watercourse to protect riparian areas. This area shall be clearly marked prior to clearing operations. The ROW will be narrowed through the riparian area, if possible [EPP Section 8.4 #8].</li><li>• For pipeline crossings conducted using a trenchless crossing method, apply DFO Measures to Avoid Causing Harm to Fish and Fish Habitat [EPP Section 8.4 #55]</li><li>• Conduct typical open cut of seasonally dry or frozen to the bottom watercourses in accordance with DFO's Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat. This is also described in EPP Annex D, Dwg. STDS-03-ML-05-105 [EPP Section 8.4 #41].</li><li>• Conduct isolated crossings of watercourses in accordance with DFO's Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat [EPP Section 8.4 #44].</li><li>• If an isolated method is employed and where recommended by an aquatics specialist (i.e., Qualified Aquatic Environmental Specialist or provincial equivalent), conduct a fish salvage led by an aquatics specialist [EPP Section 8.4, #53].</li><li>• Ensure maintenance of downstream flow at all times when constructing an isolated crossing [EPP Section 8.4, #46].</li></ul> | <ul style="list-style-type: none"><li>• Section 8.4</li><li>• Supplemental TK report, Section 3.2.1.2</li></ul> |

Attachment 1: Doig River First Nation Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>   | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed   |
|---|---|--|---|
| Fish and fish habitat (cont'd)  | See above   | <p>The following measures will be implemented during construction to prevent spills:</p> <ul style="list-style-type: none"><li>• In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</li><li>• Environmental protection measures concerning equipment maintenance, refuelling and servicing, and fuel storage, as outlined in the EPP and Chemical and Waste Management Plan (EPP Annex F), will be followed to reduce the potential for an accidental spill or leak [ESA Section 6.21.2.2].</li><li>• The Contractor will ensure equipment is well-maintained and free of fluid leaks [EPP Section 8.1 #12].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• Bulk fuel trucks, service vehicles and pick-up trucks equipped with box-mounted fuel tanks shall carry spill prevention, containment and clean up materials that are suitable for the volume of fuels or oils carried. Spill contingency material carried on bulk fuel and service vehicles shall be suitable for use on land and water [EPP Section 8.1 #13].</li><li>• Conduct refuelling at least 100 m away from any watercourse or waterbody, when feasible [EPP Section 8.1 #15].</li></ul>  | See above   |
| Surface water quality and fish and fish habitat <ul style="list-style-type: none"><li>• Potential that small streams not identified on maps would not be planned for or properly protected.</li></ul>   | <ul style="list-style-type: none"><li>• Project footprint</li></ul>   | Watercourses were identified through a desktop study, and on-site field verification. Aerial reconnaissance surveys were completed to provide a screening of watercourses identified during the desktop study and to identify unmapped watercourses not previously identified. Detailed aquatic and hydrology surveys were completed in August 2014 with participation of a DRFN community member, and in September and October 2014, June 2015, and June and September 2016 at all potential watercourse crossings identified during the desktop study or aerial reconnaissance.  | <ul style="list-style-type: none"><li>• ESA Section 5.5.1</li></ul>   |
| Cultural effects / Traditional land use <ul style="list-style-type: none"><li>• Potential for reduced cultural connection felt by DRFN members to some parts of the study area, particularly the Kiskatinaw River, due to changes in sense of place, visual aesthetics, character, and feel of the landscape</li><li>• Potential for reduced opportunities for teaching DRFN hunting, trapping, fishing, plant and medicine gathering, and associated cultural protocols, due to reductions in the availability of wildlife and plants</li><li>• Potential for decreased use of the study area for traveling, camping, cultural activities, and teaching and learning due to increased odours, garbage, noise, visual disturbance, traffic, and increased numbers of people in the area</li></ul> | <ul style="list-style-type: none"><li>• Pouce Coupé River (crossed by the Project footprint at KP 23.7, Groundbirch Section)</li><li>• Kiskatinaw River (crossed by the Project at KP 25.5, Tower Lake Section)</li><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | <p>NGTL will undertake clean-up and reclamation measures, which are an important step in returning construction site to a condition similar to preconstruction, including the objective of maintaining equivalent land capability, ensuring the ability of the land to support various land uses similar to the uses that existed before construction such as traditional or cultural uses, but not necessarily identical. NGTL has proposed a comprehensive suite of mitigation measures to reduce the adverse effects of the Project on the environment and, in turn, on the use of those lands by Aboriginal groups. For forested ecosystems, early seral stages of the successional process are expected to occur within a few years and these areas will subsequently transition to a mature forest over decades in a manner similar to regeneration after a forest fire. Within each successional (seral) stage of forest development, there will be a fully functioning ecosystem.</p> <p>DRFN indicated that the Pouce Coupé River and the community of Pouce Coupe are important to DRFN history and cultural continuity. The community of Pouce Coupé is located approximately 10 km south of the Project footprint and outside the RSA and is not expected to experience Project effects. DRFN also expressed concerns specific to potential effects around the Kiskatinaw River and three cultural continuity values were noted by DRFN within 250 m of the Project. NGTL will follow up with DRFN to determine the nature and location of these values in relation to the Project footprint and to discuss additional measures to mitigate potential effects of the Project on these values, as appropriate.</p> <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>NGTL will also implement the following mitigation measures to reduce potential effects on traditional land use and cultural activities:</p> <ul style="list-style-type: none"><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>• Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>• Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>• Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>• Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li><li>• Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>• Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA] Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li><li>• Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li></ul> | <ul style="list-style-type: none"><li>• EPP Section 1.0</li><li>• EPP Section 5.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Annex E</li><li>• EPP Annex F</li></ul> |

Attachment 1: Doig River First Nation Knowledge and Use Study Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project <sup>1</sup>                                 | NGTL Response / Proposed Mitigation Measures <sup>2</sup>   | Where Addressed  |
|--|---|---|--|
| Cumulative effects to traditional land use <ul style="list-style-type: none"><li>Potential for negative effects to cultural continuity from further industrialization of the landscape</li><li>Potential for reduced opportunities for teaching DRFN cultural practices and passing on DRFN oral history about the area due to the reduced connection with, and use of, the land where the history is based</li></ul>  | <ul style="list-style-type: none"><li>Project footprint</li><li>LSA</li><li>RSA</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>The ESA assessed potential Project effects on the current use of lands and resources for traditional purposes by Aboriginal peoples in accordance with the requirements of CEAA, 2012 and the NEB Filing Manual.</p> <p>Section 6.15 of the ESA assessed the potential for the Project to affect traditional land and resource use including opportunities for traditional hunting and trapping, traditional fishing, traditional plant harvesting and the use of culturally important sites and areas. These activities often support intangible values related to use of land. With the implementation of recommended mitigation, adverse effects of the Project on these traditional land and resource use are predicted to be not significant (ESA Section 6.15.3.2). Section 6.18 of the ESA assessed the potential for the Project to result in the alteration of visual aesthetics. With the implementation of recommended mitigation, predicted residual effects on visual aesthetics during Project construction and operation were predicted to be not significant (Section 8.18.3.2).</p> <p>NGTL acknowledges that Aboriginal communities may have concerns with respect to potential impacts to intangible values related to use of the land. NGTL will continue to document this information as it is made available and through its Aboriginal engagement program, will continue to seek to understand and address these concerns throughout the life cycle of the Project.</p> | <ul style="list-style-type: none"><li>ESA Section 6.15</li><li>EPP Section 1.0</li></ul> |
| <p>Note:</p> <p>1. Distances are provided in relation to the Project footprint, LSA and RSA as defined in the ESA, which differ from the Project footprint and LSA definition used in Bates et al. (2016). The ESA defined the Project footprint as the physical area required for Project construction, operation and eventual decommissioning and abandonment, the LSA as extending 1,000m from the boundary of the Project footprint, and the RSA as extending 9,400 m from the boundary of the Project footprint. Bates et al. (2016) defined the Project footprint as the area within 250 m on either side of the Project, and the LSA as the area within 5 km on either side of the Project.</p> <p>2. Detailed mitigation measures are provided in the Environmental and Socio-Economic Assessment (NEB Filing IDs A4T0Z0, A4T0Z1 and A4T0Z2) and the Environmental Protection Plan for the Proposed Towerbirch Expansion Project, March 2016 (NEB Filing ID A4Y9W9). Additional information is available in the NGTL Towerbirch Expansion Project Application (NEB Filing ID A4T0Y1), NGTL Towerbirch Expansion Project Supplemental Traditional Knowledge Report (NEB Filing ID A4Y9W5) and Environmental Alignment Sheets (NEB Filing IDs A4Y9W6, A4Y9W7 and A4Y9W8).</p> <p><b>Sources:</b> Bates, B, R. Olsen and Firelight Research Inc. 2016. <i>Doig River First Nation Knowledge and Use Study: NOVA Gas Transmission Ltd.'s Towerbirch Expansion Report</i>. Prepared on behalf of Doig River First Nation.</p> <p>DFO (Fisheries and Oceans Canada) 2013. <i>Measures to Avoid Causing Harm to Fish and Fish Habitat</i>. Date Modified: 2013-11-25. Available at: <a href="http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html</a></p> |   |   |  |

Attachment 3: Duncan’s First Nation Site Assessment Project-Specific Issues and Concerns Summary

| Community Issues / Concern Identified   | Approximate Location Relative to the Project   | NGTL Response / Proposed Mitigation Measures <sup>1</sup>  | Where Addressed   |
|---|--|--|---|
| Wildlife and wildlife habitat <ul style="list-style-type: none"><li>Potential for the Project to contribute to existing effects on wildlife habitat disturbance</li><li>Potential effects on wildlife, including ungulates, fur-bearing animals and birds</li></ul> | <ul style="list-style-type: none"><li>Project footprint</li><li>Local Study Area (LSA)</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>In addition, the following mitigation measures are planned to reduce the potential adverse effects on wildlife habitat on the Project footprint:</p> <ul style="list-style-type: none"><li>Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>Develop and implement an environmental orientation program to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and sensitivities [EPP Section 4.0 #13].</li><li>Clearly mark all sensitive resources identified on the Environmental Alignment Sheets and environmental tables (Table 1 to 6) within the immediate vicinity of the ROW and meter station sites before the start of clearing. Following clearing, markings will be installed to delineate the sensitive resources [EPP Section 6.0 #3].</li><li>Post signs to clearly identify sensitive environmental features to ensure they are protected. See the Environmental Alignment Sheets as well as Table 1 and Table 3 for a listing of sensitive environmental features located along the pipeline ROW and at the meter station sites [EPP Section 7.1 #1].</li><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>Seed wetlands in privately-held agricultural areas (including forested areas on private land) with native wetland species after consultation with landowners and use only Certified No. 1 seed, unless Certified No 1 is not available for select reclamation seed species (i.e., native species) [EPP Section 7.1, Table 1].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures relevant to other potential effects on wildlife, including ungulates, fur-bearing animals and birds:</p> <ul style="list-style-type: none"><li>Discuss wildlife issues that are identified during construction as necessary between the Environmental Inspector(s), Wildlife Resource Specialists and the appropriate regulatory agencies [EPP Section 7.1 #5].</li><li>Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>Leave gaps in windrows (i.e., grubbing piles, topsoil, grade spoil, rollback) and strung pipe at obvious drainages and wildlife trails, and to allow for livestock and vehicle/machinery passage across the ROW. Locations where wildlife gaps are appropriate will be determined in the field by the Environmental Inspector(s). Gaps should align [EPP Section 7.1 #12].</li><li>To facilitate free movement of livestock and wildlife, follow trenching operations as closely as possible with lowering-in and backfill operations, unless for construction purposes there is a need to have the trench open for an extended period of time [EPP Section 8.5 #3].</li><li>In the event of clearing or construction activities within the primary nesting period of migratory birds for this region (May 1 to August 10), when 10% or more of the species within a given nesting zone are expected to be breeding, Implement the Breeding Bird and Nest Management Plan (Annex F) [EPP Section 7.1 #7].</li><li>If wildlife or livestock are discovered in the trench, or in association with any other activity or facility, report to the Environmental Inspector(s) who will contact the applicable regulatory agencies, as required. In the case of livestock, the land agent assigned to the Project will contact the landowner [EPP Section 7.1 #6].</li><li>Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li></ul> | <ul style="list-style-type: none"><li>EPP Section 4.0</li><li>EPP Section 6.0</li><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Section 8.2</li><li>EPP Section 8.8</li><li>EPP Annex F</li></ul> |

Attachment 3: Duncan's First Nation Site Assessment Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project                                  | NGTL Response / Proposed Mitigation Measures <sup>1</sup>  | Where Addressed   |
|---|---|--|---|
| Vegetation <ul style="list-style-type: none"><li>Potential loss of poplar and willow trees for medicinal use</li></ul>  | <ul style="list-style-type: none"><li>Project footprint</li></ul>             | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>DFN has not indicated any medicinal plant gathering plants in the Project footprint to date. NGTL plans to implement the following measures to reduce potential effects on any DFN traditional plant gathering sites that may occur in the Project footprint and to provide Aboriginal communities with the opportunity to harvest plants prior to construction:</p> <ul style="list-style-type: none"><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA]</li><li>If traditional land use (TLU) sites not previously identified are found on the ROW or meter station sites during construction, follow conditions outlined in the Traditional Land Use Sites Discovered Contingency Plan (Annex E) [EPP Section 7.1 #35].</li></ul> <p>NGTL plans to implement the following mitigation measures to reduce potential effects on vegetation, which may include medicinally important poplar and willow trees:</p> <ul style="list-style-type: none"><li>Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>The Project will follow the Company's Post-Construction Monitoring Program (PCMP), which ensures compliance with specific reclamation performance expectations and conditions, as well as addresses the requirements of a follow-up program under the Canadian Environmental Assessment (CEA) Agency. Mitigation methods will be based on the principle that success of land reclamation is measured against adjacent representative site conditions while taking into consideration the status of reclamation at the time of assessment [EPP Section 9.0].</li><li>Post-construction monitoring and treatment of weed infestation on the ROW and meter station sites will be implemented as needed [EPP Section 8.8 #62].</li><li>Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>Use only Certified No. 1 seed, unless Certified No. 1 is not available or select reclamation seed species (i.e., native species) [EPP Section 8.8 #46].</li><li>Seeding will follow as close as possible to final clean-up and topsoil/surface material replacement pending seasonal or weather conditions [EPP Section 8.8 #40].</li></ul> <p>NGTL will also implement the following mitigation measures relevant to herbicide application:</p> <ul style="list-style-type: none"><li>Restrict the general application of herbicide near rare plants or rare ecological communities. Spot spraying, wicking, mowing, or hand-picking are acceptable measures for weed control in these areas [EPP Section 7.1 #16].</li><li>Prohibit the use of herbicides within 30 m of an open body of water, unless the herbicide application is conducted by ground application equipment, or otherwise approved by the relevant regulatory agency [EPP Section 7.1 #17].</li></ul> | <ul style="list-style-type: none"><li>EPP Section 6.0</li><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Section 8.2</li></ul> |
| Monitoring <ul style="list-style-type: none"><li>DFN requests to have two community members act as monitors on site prior, during and after Project construction to assist in the identification of potential incidents of damage or harm to cultural, spiritual and environmental areas, including creek banks, drainages or waterways</li></ul> | <ul style="list-style-type: none"><li>Project footprint</li><li>LSA</li></ul> | NGTL will implement the Aboriginal Construction Participation Program (ACPP) for the Project with potentially affected Aboriginal communities and organizations that have expressed interest.  | <ul style="list-style-type: none"><li>NGTL Final Argument</li></ul>   |

Attachment 3: Duncan’s First Nation Site Assessment Project-Specific Issues and Concerns Summary (cont’d)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project                      | NGTL Response / Proposed Mitigation Measures <sup>1</sup>   | Where Addressed   |
|---|---|---|---|
| Monitoring <ul style="list-style-type: none"><li>DFN requests that a mediator, independent of DFN, the Contractor and NGTL, be employed on site to resolve any incidents that should arise during Project construction. DFN requests to select the mediator, who would be knowledgeable of Indigenous practice of culture, environmental concerns and have a good strong base of construction practices.</li></ul>  | <ul style="list-style-type: none"><li>Project footprint</li></ul> | NGTL will continue to facilitate opportunities to contribute to Project planning and design with potentially affected Aboriginal communities and remains committed to working with interested communities to reasonably address any Project-specific concerns raised and to identify further opportunities for Project engagement throughout construction and operation. NGTL will implement the Aboriginal Construction Participation Program for the Project with potentially affected Aboriginal communities and organizations that have expressed interest. | <ul style="list-style-type: none"><li>Supplemental Traditional Knowledge Report</li></ul> |
| <p>Note:</p> <p>1. Detailed mitigation measures are provided in the Environmental and Socio-Economic Assessment (NEB Filing IDs A4T0Z0, A4T0Z1 and A4T0Z2), the Supplemental Traditional Knowledge Report (NEB Filing ID A4Y9W5) and the Environmental Protection Plan for the Proposed Towerbirch Expansion Project, March 2016 (NEB Filing ID A4Y9W9). The NGTL Final Argument is NEB Filing ID A5D0F8, and the Environmental Alignment Sheets are NEB Filing IDs A4Y9W6, A4Y9W7 and A4Y9W8.</p> <p><b>Sources:</b> Gladue, V. M. 2016. Letter from Virginia M. Gladue, Chief, Duncan's First Nation to Kathy Slepokura, Aboriginal Engagement Lead, TransCanada PipeLines Limited, Re: NGTL Towerbirch Expansion Project – Final Site Assessment Report. September 30, 2016.</p> <p>Green, T. 2016. Letter from Tom Green, Economic Development Director, Duncan's First Nation to Kathy Slepokura, Aboriginal Engagement Lead, TransCanada PipeLines Limited, Re: Towerbirch Expansion Project. October 31, 2016.</p> |   |   |   |

Attachment 4: Kelly Lake Cree Nation Traditional Land Use Impact Report Project-Specific Issues and Concerns Summary

| Community Issues / Concern Identified   | Approximate Location Relative to the Project  | NGTL Response / Proposed Mitigation Measures <sup>1</sup>  | Where Addressed   |
|---|---|--|---|
| Wildlife and wildlife habitat <ul style="list-style-type: none"><li>Concerns about maintaining access to wildlife habitat areas and the potential for the Project to reduce available wildlife habitat</li><li>The Project has the potential to result in a decrease in the number of animals in the area</li><li>Potential for Project clearing during construction make prey animals more vulnerable to predators</li><li>Potential for Project noise to scare away animals from available habitat</li><li>Potential for negative interactions between curious animals and Project construction and workers resulting in animal mortality</li><li>Potential for the Project to act as a barrier to normal animal migration and movement</li><li>Potential effects on moose, caribou, elk and grizzly bear</li></ul> | <ul style="list-style-type: none"><li>Project footprint</li><li>LSA</li><li>RSA</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>The following mitigation measures are planned during construction to reduce the potential adverse effects on wildlife habitat in the Project footprint:</p> <ul style="list-style-type: none"><li>Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>Develop and implement an environmental orientation program to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and sensitivities [EPP Section 4.0 #13].</li><li>Clearly mark all sensitive resources identified on the Environmental Alignment Sheets and environmental tables (Table 1 to 6) within the immediate vicinity of the ROW and meter station sites before the start of clearing. Following clearing, markings will be installed to delineate the sensitive resources [EPP Section 6.0 #3].</li><li>Post signs to clearly identify sensitive environmental features to ensure they are protected. See the Environmental Alignment Sheets as well as Table 1 and Table 3 for a listing of sensitive environmental features located along the pipeline ROW and at the meter station sites [EPP Section 7.1 #1].</li><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>Seed wetlands in privately-held agricultural areas (including forested areas on private land) with native wetland species after consultation with landowners and use only Certified No. 1 seed, unless Certified No 1 is not available for select reclamation seed species (i.e., native species) [EPP Section 7.1, Table 1].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures are planned during construction to reduce the potential effects on wildlife movement patterns:</p> <ul style="list-style-type: none"><li>Leave gaps in windrows (i.e., grubbing piles, topsoil, grade spoil, rollback) and strung pipe at obvious drainages and wildlife trails, and to allow for livestock and vehicle/machinery passage across the ROW. Locations where wildlife gaps are appropriate will be determined in the field by the Environmental Inspector(s). Gaps should align [EPP Section 7.1 #12].</li><li>To facilitate free movement of livestock and wildlife, follow trenching operations as closely as possible with lowering-in and backfill operations, unless for construction purposes there is a need to have the trench open for an extended period of time [EPP Section 8.5 #3].</li><li>If wildlife or livestock are discovered in the trench, or in association with any other activity or facility, report to the Environmental Inspector(s) who will contact the applicable regulatory agencies, as required. In the case of livestock, the land agent assigned to the Project will contact the landowner [EPP Section 7.1 #6].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures to reduce potential effects on wildlife from increased human presence, noise and traffic during construction:</p> <ul style="list-style-type: none"><li>Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li><li>Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA]</li><li>Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li></ul> <p>In addition to the measures above, NGTL will also implement the following mitigation measures during construction to reduce the potential adverse effects of the Project on elk, moose, grizzly bear and sensitive or species of concern:</p> <ul style="list-style-type: none"><li>If listed or sensitive species are identified during construction of the Project, implement the Wildlife Species of Concern Discovery Contingency Plan (EPP Annex E) [EPP Section 7.1 #10].</li></ul> | <ul style="list-style-type: none"><li>ESA Section 6.13.2.3</li><li>ESA Appendix C</li><li>EPP Section 1.0</li><li>EPP Section 4.0</li><li>EPP Section 5.0</li><li>EPP Section 6.0</li><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Section 8.2</li><li>EPP Section 8.8</li><li>EPP Annex F</li></ul> |

Attachment 4: Kelly Lake Cree Nation Traditional Land Use Impact Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project                    | NGTL Response / Proposed Mitigation Measures <sup>1</sup>  | Where Addressed   |
|--|---|--|---|
| Wildlife and wildlife habitat (cont'd)   | See above   | <ul style="list-style-type: none"><li>Report sightings of sensitive or species at risk to the Environmental Inspector(s). Specific protection measures may be implemented and the sighting will be recorded [EPP Section 7.1 #11].</li><li>Develop and implement an environmental orientation program to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and sensitivities [EPP Section 4.0 #13].</li><li>Discuss wildlife issues that are identified during construction as necessary between the Environmental Inspector(s), Wildlife Resource Specialists and the appropriate regulatory agencies [EPP Section 7.1 #5].</li><li>If wildlife or livestock are discovered in the trench, or in association with any other activity or facility, report to the Environmental Inspector(s) who will contact the applicable regulatory agencies, as required. In the case of livestock, the land agent assigned to the Project will contact the landowner [EPP Section 7.1 #6].</li></ul> <p>No potential effects are predicted for woodland caribou as the Project has been routed to occur outside of the provincial and federal caribou range delineation area, and the LSA does not provide suitable habitat for caribou.</p>  | See above   |
| Trapping <ul style="list-style-type: none"><li>Potential for the Project to contribute to existing declines in trapping productivity due to declining animal populations</li></ul> | <ul style="list-style-type: none"><li>RSA</li></ul>             | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>NGTL will implement the mitigation measures relevant to wildlife and wildlife habitat as described above to reduce potential effects on furbearing animal populations. NGTL will also implement the following mitigation measures relevant to trapping:</p> <ul style="list-style-type: none"><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>Notify registered trappers at least two weeks prior to construction [EPP Section 5.0 #4].</li><li>Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>If traditional land use (TLU) sites not previously identified are found on the ROW or meter station sites during construction, follow conditions outlined in the Traditional Land Use Sites Discovered Contingency Plan (Annex E) [EPP Section 7.1 #35].</li><li>Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA]</li></ul>  | <ul style="list-style-type: none"><li>EPP Section 1.0</li><li>EPP Section 5.0</li><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Annex E</li></ul>   |
| Traditional land use <ul style="list-style-type: none"><li>Concerns about maintaining access to hunting, fishing and camping areas and trails</li></ul>                            | <ul style="list-style-type: none"><li>LSA</li><li>RSA</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>NGTL will undertake clean-up and reclamation measures, which are an important step in returning construction site to a condition similar to preconstruction, including the objective of maintaining equivalent land capability, ensuring the ability of the land to support various land uses similar to the uses that existed before construction, but not necessarily identical [EPP Section 8.8]. NGTL has proposed a comprehensive suite of mitigation measures to reduce the adverse effects of the Project on the environment and, in turn, on the use of those lands by Aboriginal groups. For forested ecosystems, early seral stages of the successional process are expected to occur within a few years and these areas will subsequently transition to a mature forest over decades in a manner similar to regeneration after a forest fire. Within each successional (seral) stage of forest development, there will be a fully functioning ecosystem.</p> <p>KLCN has not indicated any site-specific traditional land use sites on the Project footprint to date. NGTL will implement the following mitigation measures to reduce potential effects on traditional land use sites that could occur in the Project footprint:</p> <ul style="list-style-type: none"><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li></ul> | <ul style="list-style-type: none"><li>EPP Section 1.0</li><li>EPP Section 5.0</li><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Section 8.8</li><li>EPP Annex E</li><li>Appendix 1F</li></ul> |

Attachment 4: Kelly Lake Cree Nation Traditional Land Use Impact Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project                    | NGTL Response / Proposed Mitigation Measures <sup>1</sup>   | Where Addressed  |
|---|---|---|--|
| Traditional land use (cont'd)   | See above   | <ul style="list-style-type: none"><li>Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>For other access measures and guidelines on the construction footprint and associated access roads, refer to the Traffic Control Management Plan (Appendix 1F).</li><li>Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li></ul>   | See above  |
| Accidents and Malfunctions <ul style="list-style-type: none"><li>Concerns regarding the potential for strong winds to carry gas in the event of a leak and corresponding negative effects on people, animals, watersheds, crops and soils</li><li>Concerns about the potential for contamination of the soil, water and air on which plants rely</li><li>Concerns about contamination of water from Project construction, and resulting effects on fish, plants, animals and people</li></ul> | <ul style="list-style-type: none"><li>LSA</li><li>RSA</li></ul> | <p>The product to be transported is pipeline-quality natural gas that meets tariff requirements. The product in the pipeline is not oil, liquids or condensates, which limits the potential for residual adverse impacts in the event of an inadvertent release. Natural gas is lighter than air and, upon release, will disperse into the atmosphere.</p> <p>The NGTL System is monitored and controlled by the Operations Control Centre (OCC). Located in Calgary, the OCC remotely monitors and controls the operation of the NGTL System and other TransCanada-owned and operated pipelines. The OCC is staffed 24 hours per day and uses a computer-based SCADA system, which controls gas compression, metering and remote valve facilities to ensure the required gas volumes, line pack and contract pressures are achieved daily. The SCADA system alerts the OCC operator of operational changes in the pipeline system. Status and control information is received and sent by the SCADA system to and from specific mainline valves, and compressor and metering facilities. In the unlikely event of a pressure drop, pipeline mainline block valves, which are equipped with actuators with low-pressure detection, will automatically close on sensing low pressure, to isolate the pipe segment [Application Section 10.2.1].</p> <p>The Project has been designed and will be constructed and operated following applicable standards, industry best management practices and the Project-specific mitigation identified in this ESA report and the EPP. These measures are expected to limit the potential for occurrence of an accident or malfunction during Project construction, operation, and decommissioning and abandonment [ESA Section 6.21].</p> <p>NGTL will implement TransCanada's Integrity Management Program and Facility Integrity and Reliability Management Program to reduce adverse environmental effects, protect the pipeline, maintain its reliability and protect the safety of NGTL employees and the public. [ESA Section 6.21.2.2]. NGTL will also implement the following mitigation measures to reduce potential adverse effects resulting from an accident or malfunction:</p> <ul style="list-style-type: none"><li>Pipeline design and valve placement will limit the potential for and volume of a product release in the event of a pipeline leak or rupture [ESA Table 6.21-1].</li><li>The Leak Detection and Repair (LDAR) program will be implemented to manage fugitive emissions [ESA Table 6.21-1].</li><li>NGTL will notify the appropriate regulators, as required, in the event of a leak or rupture. [ESA Table 6.21-1].</li><li>The ROW and meter station sites will be inspected during operations with regular aerial patrols after heavy snow melt or heavy, persistent rainfall to identify areas of erosion. Remedial work will be conducted where warranted to protect pipeline integrity in a timely manner [EPP Section 9.0].]. Specific instructions regarding applicable contacts and appropriate response actions to be taken in the event of a spill will be posted at the field construction offices. [EPP Annex E, Section 1.0].</li></ul> <p>The following measures will be implemented during construction to prevent spills:</p> <ul style="list-style-type: none"><li>In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</li><li>Environmental protection measures concerning equipment maintenance, refuelling and servicing, and fuel storage, as outlined in the EPP and Chemical and Waste Management Plan (EPP Annex F), will be followed to reduce the potential for an accidental spill or leak [ESA Section 6.21.2.2].</li><li>The Contractor will ensure equipment is well-maintained and free of fluid leaks [EPP Section 8.1 #12].</li><li>Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>Bulk fuel trucks, service vehicles and pick-up trucks equipped with box-mounted fuel tanks shall carry spill prevention, containment and clean up materials that are suitable for the volume of fuels or oils carried. Spill contingency material carried on bulk fuel and service vehicles shall be suitable for use on land and water [EPP Section 8.1 #13].</li><li>Conduct refuelling at least 100 m away from any watercourse or waterbody, when feasible [EPP Section 8.1 #15].</li></ul> | <ul style="list-style-type: none"><li>Application Section 10.2.1</li><li>ESA Section 6.21</li><li>ESA Table 6.21-1</li><li>EPP Section 8.1</li><li>EPP Section 8.4</li><li>EPP Section 9.0</li><li>EPP Annex E</li><li>EPP Annex F</li></ul> |

Attachment 4: Kelly Lake Cree Nation Traditional Land Use Impact Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project  | NGTL Response / Proposed Mitigation Measures <sup>1</sup>   | Where Addressed   |
|--|---|---|---|
| Surface water quality <ul style="list-style-type: none"><li>Concerns about the potential for the Project to contribute to existing negative effects on quality and quantity of water in the region</li></ul> | <ul style="list-style-type: none"><li>Pouce Coupé River (crossed by the Project footprint at KP 23.7, Groundbirch Section)</li><li>Kiskatinaw River (crossed by the Project at KP 25.5, Tower Lake Section)</li><li>Project footprint</li><li>LSA</li><li>RSA</li></ul> | <p>KLCN has indicated that their Nation depends on the Pouce Coupé and Kiskatinaw rivers as vital river sources. NGTL's primary pipeline crossing methods for the Kiskatinaw River and Pouce Coupé River is Horizontal Directional Drill (HDD), a trenchless crossing method that will avoid direct disturbance to the river bed and banks.</p> <p>In addition to the mitigation measures relevant to accidents and malfunctions described above, NGTL will implement the following mitigation measures to reduce the potential for adverse effects of the Project on water quantity and quality during construction:</p> <ul style="list-style-type: none"><li>The Contractor shall develop a detailed site specific watercourse crossing plan and submit the plan to the Company prior to initiating watercourse crossing activities [EPP Section 8.4 #33].</li><li>Preserve water quality, including preventing the introduction of foreign material (debris, sediment, etc.) into the receiving waterbody/watercourse [EPP Section 8.6 #15].</li><li>Use biodegradable hydraulic fluids in hydraulic equipment conducting instream work [EPP Section 7.1 #36].</li><li>Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>In the event of sediment releases or spills of deleterious substances during the construction of the trenchless crossings implement the Directional Drilling Procedures and Instream Drilling Mud Release Contingency Plan (EPP Annex E). [EPP Section 8.4 #60]</li><li>Ensure that drilling mud composition is limited to bentonite-based systems (e.g., bentonite, water and industry standard additives). All bentonite-based systems shall meet applicable regulatory requirements and shall be limited to those that in composition and concentration, should an interaction with the environment occur, do not result in a significant adverse effect to the environment. At the Company's request, the contractor shall provide all product Material Safety Data Sheets (MSDS) for approval. [EPP Annex E Section 7.0].</li><li>Where warranted, develop a water quality monitoring plan with input from an aquatics specialist that includes monitoring for total suspended solids (TSS) and/or turbidity if trenchless methods are used [EPP Section 8.4 #58].</li><li>Ensure maintenance of downstream flow at all times when constructing an isolated crossing [EPP Section 8.4, #46].</li><li>Prohibit clearing of extra TWS within 10 m of a watercourse to protect riparian areas. This area shall be clearly marked prior to clearing operations. The ROW will be narrowed through the riparian area, if possible [EPP Section 8.3 #8].</li><li>Limit clearing at watercourse crossings to the removal of trees and shrubs to the ditch line and work side areas required for vehicle crossings [EPP Section 8.4 #9].</li><li>Direct grading away from waterbodies. Do not place fill material in a waterbody during grading [EPP Section 8.3 #13].</li><li>Ensure that grubbing, stripping and grading on approach slopes to watercourses is restricted to an amount required to allow the safe passage of equipment, excavation of the trench, and installation of the pipeline [EPP Section 8.3 #14].</li><li>Do not allow grading within the 10 m riparian buffer immediately adjacent to the water crossing until installation of the vehicle crossing. [EPP Section 8.3 #15].</li><li>Install erosion and sediment control at all watercourses and/or waterbodies as directed by the Environmental Inspector(s) (EPP Annex D, Dwgs. STDS-03-ML-05-001, STDS-03-ML-05-131, STDS-03-ML-05-132) [EPP Section 8.4 #16].</li><li>Where water erosion is evident, and there is potential for runoff from the ROW to flow into a watercourse, refer to the Soil Erosion Contingency Plan (EPP Annex E) [EPP Section 8.3 #17].</li><li>If the working surface is unstable, do not permit clearing equipment with the 10 m riparian buffer, unless approved by the Environmental Inspector(s). Following clearing, the 10 m riparian buffer will remain intact (i.e., consisting of low-lying understory vegetation) [EPP Section 8.4 #11].</li><li>Construct or install temporary vehicle access across waterbodies, shorelines, and riverbanks in a manner that protects the banks from erosion and maintains the flows in the waterway and follows the COP for Alberta and BC Water Act and Water Regulations as well as DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2013) [EPP Section 8.4 #19].</li><li>Ensure that water from dewatering entry and exit sites with a high sediment load is not discharged or allowed to flow into any waterbody. Remove the sediment load (e.g., filtered or discharged into a vegetated area) before discharge water is allowed to enter any watercourse. [EPP Section 8.4 #57].</li></ul> | <ul style="list-style-type: none"><li>EPP Section 8.3</li><li>EPP Section 8.4</li><li>EPP Section 8.6</li><li>EPP Annex E</li></ul> |

Attachment 4: Kelly Lake Cree Nation Traditional Land Use Impact Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project                      | NGTL Response / Proposed Mitigation Measures <sup>1</sup>   | Where Addressed   |
|--|---|---|---|
| <p>Fish and fish habitat</p> <ul style="list-style-type: none"><li>KLCN would like to work with NGTL to develop and implement fish habitat restoration and monitoring measures</li></ul> | <ul style="list-style-type: none"><li>Project footprint</li></ul> | <p>In addition to the mitigation measures relevant to water quality above, NGTL will also implement the additional following mitigation measures to reduce potential effects of the Project on fish and fish habitat:</p> <ul style="list-style-type: none"><li>The Contractor shall develop a detailed site specific watercourse crossing plan and submit the plan to the Company prior to initiating watercourse crossing activities [EPP Section 8.4 #33].</li><li>Develop water quality monitoring plans to monitor for sediment events during instream construction activities where required by the DFO Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat. If monitoring reveals sediment values are approaching threshold values, the water quality monitors will alert the Environmental Inspector(s) and work with them to develop corrective actions. If corrective actions are not successful, construction activities will be temporarily suspended until effective solutions are identified [EPP Section 8.4 #36].</li><li>Construct or install temporary vehicle access across waterbodies, shorelines, and riverbanks in a manner that protects the banks from erosion and maintains the flows in the waterway and follows the COP for Alberta and BC Water Act and Water Regulations as well as DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2013) [EPP Section 8.4 #19].</li><li>Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>Conduct fish salvage, in accordance with permit conditions, using appropriate methods and equipment. Release all captured fish to areas downstream of the crossing that provide suitable habitat [EPP Section 8.4, #54].</li><li>Prohibit clearing of extra TWS within 10 m of a watercourse to protect riparian areas. This area shall be clearly marked prior to clearing operations. The ROW will be narrowed through the riparian area, if possible [EPP Section 8.4 #8].</li><li>For pipeline crossings conducted using a trenchless crossing method, apply DFO Measures to Avoid Causing Harm to Fish and Fish Habitat [EPP Section 8.4 #55]</li><li>Conduct typical open cut of seasonally dry or frozen to the bottom watercourses in accordance with DFO's Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat. This is also described in EPP Annex D, Dwg. STDS-03-ML-05-105 [EPP Section 8.4 #41].</li><li>Conduct isolated crossings of watercourses in accordance with DFO's Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat [EPP Section 8.4 #44].</li><li>If an isolated method is employed and where recommended by an aquatics specialist (i.e., Qualified Aquatic Environmental Specialist or provincial equivalent), conduct a fish salvage led by an aquatics specialist [EPP Section 8.4, #53].</li><li>Ensure maintenance of downstream flow at all times when constructing an isolated crossing [EPP Section 8.4, #46].</li></ul> <p>NGTL will also implement the following mitigation measures relevant to the reclamation of watercourse crossings:</p> <ul style="list-style-type: none"><li>Return the bed and banks of each watercourse as close as possible to their original preconstruction contours. Do not realign or straighten watercourses or change their hydraulic characteristics [EPP Section 8.4 #64].</li><li>Implement permanent bank reclamation measures to re-establish riparian vegetation and fish habitat as a part of backfill operations (Refer to Annex D, Dwgs. STDS-03-ML-05-603, STDS-03-ML-05-604, STDS-03-ML-05-606 and STDS-03-ML-05-608) [EPP Section 8.4 #65].</li><li>Seed disturbed banks and riparian areas with an approved native seed mixture. The Environmental Inspector(s) will determine onsite whether other restoration methods need to be applied to stabilize banks (e.g., soil wraps, brush layers and matting) [EPP Section 8.4 #66].</li></ul> <p>In addition to the above mitigation measures, NGTL will implement the Aboriginal Construction Participation Program for the Project with potentially affected Aboriginal communities and organizations that have expressed interest.</p> | <ul style="list-style-type: none"><li>EPP Section 8.4</li></ul> |

Attachment 4: Kelly Lake Cree Nation Traditional Land Use Impact Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project                        | NGTL Response / Proposed Mitigation Measures <sup>1</sup>  | Where Addressed   |
|---|---|--|---|
| <p>Plant Gathering / Vegetation</p> <ul style="list-style-type: none"><li>• Potential for the Project to disturb berry picking and medicinal plant gathering areas</li><li>• Concerns about maintaining access to berries and medicines</li><li>• Concerns about changes to the quality and quantity of berries and medicines</li></ul>   | <ul style="list-style-type: none"><li>• LSA</li><li>• RSA</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>KLCN has not indicated any berry picking or medicinal plant gathering areas in the Project footprint to date. NGTL plans to implement the following measures to reduce potential effects on any KLCN traditional plant gathering sites that may occur in the Project footprint and to provide Aboriginal communities with the opportunity to harvest plants prior to construction:</p> <ul style="list-style-type: none"><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>• Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA]</li><li>• If traditional land use (TLU) sites not previously identified are found on the ROW or meter station sites during construction, follow conditions outlined in the Traditional Land Use Sites Discovered Contingency Plan (Annex E) [EPP Section 7.1 #35].</li></ul> <p>NGTL will implement the following mitigation measures relevant to vegetation resources, invasive species and revegetation, which may include traditionally important plant species:</p> <ul style="list-style-type: none"><li>• Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>• The Project will follow the Company's Post-Construction Monitoring Program (PCMP), which ensures compliance with specific reclamation performance expectations and conditions, as well as addresses the requirements of a follow-up program under the Canadian Environmental Assessment (CEA) Agency. Mitigation methods will be based on the principle that success of land reclamation is measured against adjacent representative site conditions while taking into consideration the status of reclamation at the time of assessment [EPP Section 9.0].</li><li>• Post-construction monitoring and treatment of weed infestation on the ROW and meter station sites will be implemented as needed [EPP Section 8.8 #62].</li><li>• Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>• On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>• Use only Certified No. 1 seed, unless Certified No. 1 is not available or select reclamation seed species (i.e., native species) [EPP Section 8.8 #46].</li><li>• Seeding will follow as close as possible to final clean-up and topsoil/surface material replacement pending seasonal or weather conditions [EPP Section 8.8 #40].</li></ul> <p>NGTL will implement the following mitigation measures relevant to herbicide application:</p> <ul style="list-style-type: none"><li>• Restrict the general application of herbicide near rare plants or rare ecological communities. Spot spraying, wicking, mowing, or hand-picking are acceptable measures for weed control in these areas [EPP Section 7.1 #16].</li><li>• Prohibit the use of herbicides within 30 m of an open body of water, unless the herbicide application is conducted by ground application equipment, or otherwise approved by the relevant regulatory agency [EPP Section 7.1 #17].</li></ul> | <ul style="list-style-type: none"><li>• EPP Section 1.0</li><li>• EPP Section 5.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.2</li><li>• EPP Section 8.8</li><li>• EPP Section 9.0</li></ul> |
| <p>Emergency response</p> <ul style="list-style-type: none"><li>• KLCN would like to work with NGTL to develop a protocol for notifying hunters and other people out on the territory in case of an accident of malfunction.</li><li>• KLCN wants to ensure that citizens who reside in Pouce Coupé, Dawson Creek and Chetwynd are aware of the Emergency Response Plan</li></ul> | <ul style="list-style-type: none"><li>• LSA</li><li>• RSA</li></ul> | <p>Once the Project components are placed into service, TransCanada's Emergency Management System will be used to manage all emergency events associated with the facilities. TransCanada's Emergency Management System is activated in the event of a pipeline rupture or other emergency event. Activation includes deployment of emergency responders to the site and establishment of a regional and corporate Emergency Operations Centre (EOC) to assist with management event [Project Application, Section 10.3.1].</p> <p>TransCanada's Public Awareness ("PA") Program will be implemented once the Project is in service. This program facilitates consistent, ongoing communication about safety, integrity and emergency response with Aboriginal communities and organizations, and key community stakeholders and interested parties, such as landowners, the public, government representatives, excavators/contractors and emergency response agencies [Project Application, Section 13.6.2].</p>   | <ul style="list-style-type: none"><li>• Project Application, Section 10.3.1</li><li>• Project Application, Section 13.6.2</li></ul>   |

Attachment 4: Kelly Lake Cree Nation Traditional Land Use Impact Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project                      | NGTL Response / Proposed Mitigation Measures <sup>1</sup>  | Where Addressed   |
|---|---|--|---|
| <p>Economic impacts</p> <ul style="list-style-type: none"><li>Existing gaps between the non-Aboriginal population and KLCN members in employment levels, income levels, self-employment rate, high school completion and dwellings that need major repairs.</li><li>KLCN want community members and businesses to have opportunities to work on the construction of the Project</li></ul> | <ul style="list-style-type: none"><li>N/A</li></ul>               | <p>NGTL will implement its established Aboriginal Contracting and Employment Program to maximize employment and contracting opportunities for the local Aboriginal communities potentially affected by the Project.</p> <p>NGTL continues to work with Aboriginal communities to identify employment opportunities during the pre-construction, construction and post-construction phases of the Project, and any associated training requirements. NGTL and prime contractors will work with the community or organization (through their human resource coordinators, local economic development and education officers) to support the completion of the training requirements identified through this collaborative effort. Based on this collaboration, NGTL will develop and maintain a list of contracting opportunities that are within the capacity of Aboriginal and local contractors in the area. NGTL will work with communities to identify businesses and individuals who have interest in Project-related contracting and employment opportunities. Based on this information, NGTL will prepare an Aboriginal and local participation plan for the Project. This plan will include the processes used to make contracting and employment opportunities available to Aboriginal and local contractors.</p> <p>NGTL encourages community contractors and vendors to register their businesses for Project consideration and operational requirements in the region. Regular updates are provided to keep the community informed of contracting, employment and training opportunities during all phases of the Project [Project Application, Section 13].</p> <p>NGTL will implement the following enhancement measures related to Aboriginal employment and contracting opportunities:</p> <ul style="list-style-type: none"><li>NGTL will implement the Aboriginal Construction Participation Program for the Project with potentially affected Aboriginal communities and organizations that have expressed interest to provide training and capacity building opportunities.</li><li>Arrange and participate in meetings with Aboriginal communities and organizations and potential prime contractors and identify the contacts in Aboriginal communities and organizations for employment and contracting [ESA Table 6.20-6].</li><li>Encourage and assist all prime contractors to maximize local Aboriginal participation through direct employment and subcontracting opportunities during pre-construction and construction phases of the Project [ESA Table 6.20-6].</li><li>Monitoring local community and Aboriginal direct employment on the Project [ESA Table 6.20-6].</li><li>Providing the successful prime contractor(s) with a list of the community-affiliated contractors to be considered for work on the Project [ESA Table 6.20-6].</li><li>Engage Aboriginal communities, and industry associations, training and employment and human resources offices to assess available manpower qualifications and availability [ESA Table 6.20-6].</li><li>Efforts to provide Aboriginal businesses with an opportunity to participate in Project construction through the TransCanada Aboriginal Contracting and Employment Program [ESA Table 6.20-6].</li><li>Implementing an Aboriginal participation component in the request for proposals for the prime contractor(s) [ESA Table 6.20-6].</li><li>Gathering and reporting Aboriginal related spending and employment information for the Project and meeting with Aboriginal communities (when requested) to review Aboriginal participation in the Project [ESA Table 6.20-6].</li><li>Providing guidance and support to the prime contractor(s) and Aboriginal communities on Aboriginal employment and business contracting throughout the construction phase of the Project [ESA Table 6.20-6].</li></ul> | <ul style="list-style-type: none"><li>ESA Section 6.20</li><li>ESA Table 6.20-6</li><li>Project Application, Section 13</li></ul> |
| <p>Monitoring</p> <ul style="list-style-type: none"><li>Potential for unanticipated discoveries during the construction phase</li><li>KLCN want community members to work as environmental monitors during pipeline construction</li><li>KLCN want community members to be involved in Project post-construction environmental monitoring</li></ul>                                       | <ul style="list-style-type: none"><li>Project footprint</li></ul> | <p>NGTL has already proposed to have an environmental monitor on site during construction to ensure that NGTL implements its planned mitigation and that any chance finds related to wildlife, traditional land use or heritage resources are appropriately addressed [NGTL Final Argument, Paragraph 115].</p> <p>NGTL will provide potentially affected Aboriginal communities with notification of scheduled field programs and provide notification and posting information when Post-Construction Monitoring (PCM) reports are filed with the NEB. NGTL will consider issues raised by Aboriginal communities during the operations period, discuss additional engagement activities and implement mitigation measures, as warranted. NGTL notes that any feedback provided by Aboriginal communities on the PCM reports will be considered and incorporated as appropriate into future PCM or operation plans as appropriate [NEB IR 3.15].</p> <p>NGTL will implement the Aboriginal Construction Participation Program (ACPP) for the Project with potentially affected Aboriginal communities and organizations that have expressed interest.</p> <p>If traditional land use (TLU) sites or Heritage sites not previously identified are found on the ROW or meter station sites during construction, follow conditions outlined in the Traditional Land Use Sites Discovered Contingency Plan or in the Heritage Resources Sites Discovery Contingency Plan ((Annex E) [EPP Section 7.1 #35].</p>  | <ul style="list-style-type: none"><li>NGTL Final Argument</li><li>EPP Annex E</li><li>NEB IR 3.15</li></ul>                       |

Attachment 4: Kelly Lake Cree Nation Traditional Land Use Impact Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project        | NGTL Response / Proposed Mitigation Measures <sup>1</sup>  | Where Addressed   |
|---|---|--|---|
| Traditional land use <ul style="list-style-type: none"><li>Potential for the Project to contribute to the cumulative effects of industrial, forestry and agricultural development in the region on KLCN's ability to carry out traditional land use activities</li></ul>  | <ul style="list-style-type: none"><li>RSA</li></ul> | <p>NGTL will undertake clean-up and reclamation measures, which are an important step in returning construction site to a condition similar to preconstruction, including the objective of maintaining equivalent land capability, ensuring the ability of the land to support various land uses similar to the uses that existed before construction such as traditional or cultural uses, but not necessarily identical. NGTL has proposed a comprehensive suite of mitigation measures to reduce the adverse effects of the Project on the environment and, in turn, on the use of those lands by Aboriginal groups. For forested ecosystems, early seral stages of the successional process are expected to occur within a few years and these areas will subsequently transition to a mature forest over decades in a manner similar to regeneration after a forest fire. Within each successional (seral) stage of forest development, there will be a fully functioning ecosystem.</p> <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>NGTL will also implement the following mitigation measures to reduce potential effects on traditional land use activities:</p> <ul style="list-style-type: none"><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li><li>Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA]</li><li>Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li></ul> | <ul style="list-style-type: none"><li>EPP Section 1.0</li><li>EPP Section 5.0</li><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Annex E</li><li>EPP Annex F</li></ul> |
| <p>Note:</p> <p>1. Detailed mitigation measures are provided in the Environmental and Socio-Economic Assessment (NEB Filing IDs A4T0Z0, A4T0Z1 and A4T0Z2), the Supplemental Traditional Knowledge Report (NEB Filing ID A4Y9W5) and the Environmental Protection Plan for the Proposed Towerbirch Expansion Project, March 2016 (NEB Filing ID A4Y9W9). Additional information is available in the NGTL Towerbirch Project Application (NED Filing ID A4T0Y1), the NGTL Final Argument (NEB Filing ID A5D0F8) and the Environmental Alignment Sheets (NEB Filing IDs A4Y9W6, A4Y9W7 and A4Y9W8).</p> <p>N/A = Not applicable</p> <p><b>Sources:</b> Kelly Lake Cree Nation. 2016. <i>Nova Gas Transmission Ltd Towerbirch Pipeline Project: Traditional Land Use Impact Report, Kelly Lake Cree Nation, Final Version</i>.</p> <p>DFO (Fisheries and Oceans Canada) 2013. <i>Measures to Avoid Causing Harm to Fish and Fish Habitat</i>. Date Modified: 2013-11-25. Available at: <a href="http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html</a></p> |   |  |   |

Attachment 5: Métis Nation of Alberta Region 6 TLU Assessment Final Report Project-Specific Issues and Concerns Summary

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>  | NGTL Response / Proposed Mitigation Measures <sup>2</sup>   | Where Addressed  |
|---|--|---|--|
| <p>Hunting and trapping / Wildlife and wildlife Habitat</p> <ul style="list-style-type: none"><li>• Potential effects on wildlife and the destruction of wildlife habitat</li><li>• Potential effects on wildlife and their ability to adapt during the winter due to the removal of important winter habitat for feeding and shelter, including fewer willows, berries, and underbrush</li><li>• The potential for Project activities, including noise, to cause stress (disturbance) to wildlife</li><li>• The potential for wildlife to lick salt off of Project equipment and roads rather than use natural salt licks</li><li>• Potential changes to the availability of traditional wildlife for hunting and trapping</li></ul> | <ul style="list-style-type: none"><li>• Project footprint</li><li>• Local Study Area (LSA)</li><li>• Regional Study Area (RSA)</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>MNA Region 6 stated that the Project is situated in an area that is rich in vegetation important for sustaining the wildlife and people that live in the region. MNA Region 6 indicated a high concentration of wildlife sign near KP 1.3 of the Groundbirch Section, but no non-standard mitigation measures were requested.</p> <p>The following mitigation measures are planned during construction to reduce potential effects on MNA Region 6 hunting and trapping activities that may occur in the Project footprint:</p> <ul style="list-style-type: none"><li>• NGTL will provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>• Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>• The following mitigation measures are planned during construction to reduce the potential adverse effects on wildlife habitat in the Project footprint:</li><li>• Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>• Develop and implement an environmental orientation program to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and sensitivities [EPP Section 4.0 #13].</li><li>• Clearly mark all sensitive resources identified on the Environmental Alignment Sheets and environmental tables (Table 1 to 6) within the immediate vicinity of the ROW and meter station sites before the start of clearing. Following clearing, markings will be installed to delineate the sensitive resources [EPP Section 6.0 #3].</li><li>• Post signs to clearly identify sensitive environmental features to ensure they are protected. See the Environmental Alignment Sheets as well as Table 1 and Table 3 for a listing of sensitive environmental features located along the pipeline ROW and at the meter station sites [EPP Section 7.1 #1].</li><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>• On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>• Seed wetlands in privately-held agricultural areas (including forested areas on private land) with native wetland species after consultation with landowners and use only Certified No. 1 seed, unless Certified No 1 is not available for select reclamation seed species (i.e., native species) [EPP Section 7.1, Table 1].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures to reduce the potential effects on wildlife movement patterns:</p> <ul style="list-style-type: none"><li>• Leave gaps in windrows (i.e., grubbing piles, topsoil, grade spoil, rollback) and strung pipe at obvious drainages and wildlife trails, and to allow for livestock and vehicle/machinery passage across the ROW. Locations where wildlife gaps are appropriate will be determined in the field by the Environmental Inspector(s). Gaps should align [EPP Section 7.1 #12].</li><li>• To facilitate free movement of livestock and wildlife, follow trenching operations as closely as possible with lowering-in and backfill operations, unless for construction purposes there is a need to have the trench open for an extended period of time [EPP Section 8.5 #3].</li><li>• If wildlife or livestock are discovered in the trench, or in association with any other activity or facility, report to the Environmental Inspector(s) who will contact the applicable regulatory agencies, as required. In the case of livestock, the land agent assigned to the Project will contact the landowner [EPP Section 7.1 #6].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures to reduce potential effects on wildlife from increased human presence, noise and traffic during construction:</p> <ul style="list-style-type: none"><li>• Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>• Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>• Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li><li>• Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>• For other access measures and guidelines on the construction footprint and associated access roads, refer to the Traffic Control Management Plan (Appendix 1F).</li><li>• Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li></ul> | <ul style="list-style-type: none"><li>• ESA Section 6.13.2.3</li><li>• EPP Section 1.0</li><li>• EPP Section 4.0</li><li>• EPP Section 5.0</li><li>• EPP Section 6.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.2</li><li>• EPP Section 8.8</li><li>• EPP Annex F</li><li>• EPP Appendix 1F</li></ul> |

Attachment 5: Métis Nation of Alberta Region 6 TLU Assessment Final Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>                         | NGTL Response / Proposed Mitigation Measures <sup>2</sup>   | Where Addressed  |
|---|---|---|--|
| <p>Plant Gathering / Vegetation / Reclamation</p> <ul style="list-style-type: none"><li>• The potential destruction of medicinal plants due to clearing of the ROW</li><li>• The amount of time required for medicinal plants to re-establish following construction</li><li>• Potential changes to the availability of traditional foods and medicines</li></ul>   | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>MNA Region 6 stated that the Project is situated in an area that is rich in vegetation important for sustaining people that live in the region, and medicinal plants were observed in the Project footprint during their site visit but no non-standard mitigation measures were requested. A location of ‘tinder conk mushroom’ was indicated adjacent to the ROW, but based on information in the MNA Region 6 report this location is not expected to be affected by Project clearing.</p> <p>NGTL plans to implement the following measures to reduce potential effects on any MNA Region 6 traditional plant gathering sites that may occur in the Project footprint and to provide Aboriginal communities with the opportunity to harvest plants prior to construction:</p> <ul style="list-style-type: none"><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>• Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA].</li><li>• If traditional land use (TLU) sites not previously identified are found on the ROW or meter station sites during construction, follow conditions outlined in the Traditional Land Use Sites Discovered Contingency Plan (Annex E) [EPP Section 7.1 #35].</li></ul> <p>NGTL will implement the following mitigation measures relevant to vegetation resources, invasive species and revegetation, which may include traditionally important plant species:</p> <ul style="list-style-type: none"><li>• Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>• The Project will follow the Company’s Post-Construction Monitoring Program (PCMP), which ensures compliance with specific reclamation performance expectations and conditions, as well as addresses the requirements of a follow-up program under the Canadian Environmental Assessment (CEA) Agency. Mitigation methods will be based on the principle that success of land reclamation is measured against adjacent representative site conditions while taking into consideration the status of reclamation at the time of assessment [EPP Section 9.0].</li><li>• Post-construction monitoring and treatment of weed infestation on the ROW and meter station sites will be implemented as needed [EPP Section 8.8 #62].</li><li>• Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>• On Crown land allow for natural regeneration, or seed as directed by the appropriate Land Administrator [EPP Section 8.8 #43].</li><li>• Use only Certified No. 1 seed, unless Certified No. 1 is not available or select reclamation seed species (i.e., native species) [EPP Section 8.8 #46].</li><li>• Seeding will follow as close as possible to final clean-up and topsoil/surface material replacement pending seasonal or weather conditions [EPP Section 8.8 #40].</li></ul> | <ul style="list-style-type: none"><li>• EPP Section 1.0</li><li>• EPP Section 5.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.2</li><li>• EPP Section 8.8</li></ul>  |
| <p>Accidents and malfunctions</p> <ul style="list-style-type: none"><li>• Potential changes to the “purity” of traditional foods and medicines that are important to Metis culture and well-being</li><li>• Concerns regarding inadequate surveillance of the pipeline for leaks, particularly with regard to pipeline water crossings</li><li>• Potential effects of the pipeline due to corrosion over time</li></ul> | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li></ul> | <p>The product to be transported is pipeline-quality natural gas that meets tariff requirements. The product in the pipeline is not oil, liquids or condensates, which limits the potential for residual adverse impacts in the event of an inadvertent release. Natural gas is lighter than air and, upon release, will disperse into the atmosphere.</p> <p>The NGTL System is monitored and controlled by the Operations Control Centre (OCC). Located in Calgary, the OCC remotely monitors and controls the operation of the NGTL System and other TransCanada-owned and operated pipelines. The OCC is staffed 24 hours per day and uses a computer-based SCADA system, which controls gas compression, metering and remote valve facilities to ensure the required gas volumes, line pack and contract pressures are achieved daily. The SCADA system alerts the OCC operator of operational changes in the pipeline system. Status and control information is received and sent by the SCADA system to and from specific mainline valves, and compressor and metering facilities. In the unlikely event of a pressure drop, pipeline mainline block valves, which are equipped with actuators with low-pressure detection, will automatically close on sensing low pressure, to isolate the pipe segment [Application Section 10.2.1].</p> <p>The Project has been designed and will be constructed and operated following applicable standards, industry best management practices and the Project-specific mitigation identified in this ESA report and the EPP. These measures are expected to limit the potential for occurrence of an accident or malfunction during Project construction, operation, and decommissioning and abandonment [ESA Section 6.21].</p> <p>NGTL will implement TransCanada’s Integrity Management Program and Facility Integrity and Reliability Management Program to reduce adverse environmental effects, protect the pipeline, maintain its reliability and protect the safety of NGTL employees and the public. [ESA Section 6.21.2.2]. NGTL will also implement the following mitigation measures to reduce potential adverse effects resulting from an accident or malfunction:</p> <ul style="list-style-type: none"><li>• Pipeline design and valve placement will limit the potential for and volume of a product release in the event of a pipeline leak or rupture [ESA Table 6.21-1].</li><li>• The Leak Detection and Repair (LDAR) program will be implemented to manage fugitive emissions [ESA Table 6.21-1].</li><li>• NGTL will notify the appropriate regulators, as required, in the event of a leak or rupture. [ESA Table 6.21-1].</li><li>• The ROW and meter station sites will be inspected during operations with regular aerial patrols after heavy snow melt or heavy, persistent rainfall to identify areas of erosion. Remedial work will be conducted where warranted to protect pipeline integrity in a timely manner [EPP Section 9.0].]. Specific instructions regarding applicable contacts and appropriate response actions to be taken in the event of a spill will be posted at the field construction offices. [EPP Annex E, Section 1.0].</li></ul>   | <ul style="list-style-type: none"><li>• Application Section 10.2.1</li><li>• ESA Section 6.21</li><li>• ESA Table 6.21-1</li><li>• EPP Section 8.1</li><li>• EPP Section 8.4</li><li>• EPP Section 9.0</li><li>• EPP Annex E</li><li>• EPP Annex F</li></ul> |

Attachment 5: Métis Nation of Alberta Region 6 TLU Assessment Final Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>                                       | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed   |
|---|---|--|---|
| Accidents and malfunctions (cont'd)   | See above   | <p>The following measures will be implemented during construction to prevent spills:</p> <ul style="list-style-type: none"><li>• In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</li><li>• Environmental protection measures concerning equipment maintenance, refuelling and servicing, and fuel storage, as outlined in the EPP and Chemical and Waste Management Plan (EPP Annex F), will be followed to reduce the potential for an accidental spill or leak [ESA Section 6.21.2.2].</li><li>• The Contractor will ensure equipment is well-maintained and free of fluid leaks [EPP Section 8.1 #12].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• Bulk fuel trucks, service vehicles and pick-up trucks equipped with box-mounted fuel tanks shall carry spill prevention, containment and clean up materials that are suitable for the volume of fuels or oils carried. Spill contingency material carried on bulk fuel and service vehicles shall be suitable for use on land and water [EPP Section 8.1 #13].</li><li>• Conduct refuelling at least 100 m away from any watercourse or waterbody, when feasible [EPP Section 8.1 #15].</li><li>• In the event of a spill, refer to the Spill Contingency Plan (EPP Annex E) [EPP Section 8.1 #17].</li></ul>  | See above   |
| <p>Surface water quality</p> <ul style="list-style-type: none"><li>• Potential effects on water quality</li><li>• Potential effects of pipeline crossings of creeks and rivers that flow into the Peace River</li></ul> | <ul style="list-style-type: none"><li>• Project footprint</li><li>• LSA</li><li>• RSA</li></ul> | <p>In addition to the mitigation measures relevant to accidents and malfunctions described above, NGTL will implement the following mitigation measures to reduce the potential for adverse effects of the Project on water quality during construction:</p> <ul style="list-style-type: none"><li>• The Contractor shall develop a detailed site specific watercourse crossing plan and submit the plan to the Company prior to initiating watercourse crossing activities [EPP Section 8.4 #33].</li><li>• Preserve water quality, including preventing the introduction of foreign material (debris, sediment, etc.) into the receiving waterbody/watercourse [EPP Section 8.6 #15].</li><li>• Use biodegradable hydraulic fluids in hydraulic equipment conducting instream work [EPP Section 7.1 #36].</li><li>• Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>• In the event of sediment releases or spills of deleterious substances during the construction of the trenchless crossings implement the Directional Drilling Procedures and Instream Drilling Mud Release Contingency Plan (EPP Annex E). [EPP Section 8.4 #60]</li><li>• Ensure that drilling mud composition is limited to bentonite-based systems (e.g., bentonite, water and industry standard additives). All bentonite-based systems shall meet applicable regulatory requirements and shall be limited to those that in composition and concentration, should an interaction with the environment occur, do not result in a significant adverse effect to the environment. At the Company's request, the contractor shall provide all product Material Safety Data Sheets (MSDS) for approval. [EPP Annex E Section 7.0].</li><li>• Where warranted, develop a water quality monitoring plan with input from an aquatics specialist that includes monitoring for total suspended solids (TSS) and/or turbidity if trenchless methods are used [EPP Section 8.4 #58].</li><li>• Prohibit clearing of extra TWS within 10 m of a watercourse to protect riparian areas. This area shall be clearly marked prior to clearing operations. The ROW will be narrowed through the riparian area, if possible [EPP Section 8.3 #8].</li><li>• Limit clearing at watercourse crossings to the removal of trees and shrubs to the ditch line and work side areas required for vehicle crossings [EPP Section 8.4 #9].</li><li>• Direct grading away from waterbodies. Do not place fill material in a waterbody during grading [EPP Section 8.3 #13].</li><li>• Ensure that grubbing, stripping and grading on approach slopes to watercourses is restricted to an amount required to allow the safe passage of equipment, excavation of the trench, and installation of the pipeline [EPP Section 8.3 #14].</li><li>• Do not allow grading within the 10 m riparian buffer immediately adjacent to the water crossing until installation of the vehicle crossing. [EPP Section 8.3 #15].</li><li>• Install erosion and sediment control at all watercourses and/or waterbodies as directed by the Environmental Inspector(s) (EPP Annex D, Dwgs. STDS-03-ML-05-001, STDS-03-ML-05-131, STDS-03-ML-05-132) [EPP Section 8.4 #16].</li><li>• Where water erosion is evident, and there is potential for runoff from the ROW to flow into a watercourse, refer to the Soil Erosion Contingency Plan (EPP Annex E) [EPP Section 8.3 #17].</li><li>• If the working surface is unstable, do not permit clearing equipment with the 10 m riparian buffer, unless approved by the Environmental Inspector(s). Following clearing, the 10 m riparian buffer will remain intact (i.e., consisting of low-lying understory vegetation) [EPP Section 8.4 #11].</li><li>• Construct or install temporary vehicle access across waterbodies, shorelines, and riverbanks in a manner that protects the banks from erosion and maintains the flows in the waterway and follows the COP for Alberta and BC Water Act and Water Regulations as well as DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2013) [EPP Section 8.4 #19].</li><li>• Ensure that water from dewatering entry and exit sites with a high sediment load is not discharged or allowed to flow into any waterbody. Remove the sediment load (e.g., filtered or discharged into a vegetated area) before discharge water is allowed to enter any watercourse. [EPP Section 8.4 #57].</li></ul> | <ul style="list-style-type: none"><li>• EPP Section 7.1</li><li>• EPP Section 8.3</li><li>• EPP Section 8.4</li><li>• EPP Section 8.6</li><li>• EPP Annex D</li></ul> |

Attachment 5: Métis Nation of Alberta Region 6 TLU Assessment Final Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified   | Approximate Location Relative to the Project <sup>1</sup>                                 | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed   |
|---|---|--|---|
| Fishing / Fish and fish habitat <ul style="list-style-type: none"><li>Potential effects on fish health and fishing</li></ul>  | <ul style="list-style-type: none"><li>Project footprint</li><li>LSA</li><li>RSA</li></ul> | <p>In addition to the mitigation measures relevant to surface water quality and soil erosion described above, NGTL will implement the additional following mitigation measures to reduce potential effects of the Project on fish and fish habitat:</p> <ul style="list-style-type: none"><li>The Contractor shall develop a detailed site specific watercourse crossing plan and submit the plan to the Company prior to initiating watercourse crossing activities [EPP Section 8.4 #33].</li><li>Develop water quality monitoring plans to monitor for sediment events during instream construction activities where required by the DFO Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat. If monitoring reveals sediment values are approaching threshold values, the water quality monitors will alert the Environmental Inspector(s) and work with them to develop corrective actions. If corrective actions are not successful, construction activities will be temporarily suspended until effective solutions are identified [EPP Section 8.4 #36].</li><li>Construct or install temporary vehicle access across waterbodies, shorelines, and riverbanks in a manner that protects the banks from erosion and maintains the flows in the waterway and follows the COP for Alberta and BC Water Act and Water Regulations as well as DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO 2013) [EPP Section 8.4 #19].</li><li>Ensure no vehicles or equipment, which contain petroleum, oil, or lubricants are parked or stationed in a watercourse at any time except for equipment that is required for that immediate phase of construction [EPP Section 8.4 #40].</li><li>Conduct fish salvage, in accordance with permit conditions, using appropriate methods and equipment. Release all captured fish to areas downstream of the crossing that provide suitable habitat [EPP Section 8.4, #54].</li><li>Prohibit clearing of extra TWS within 10 m of a watercourse to protect riparian areas. This area shall be clearly marked prior to clearing operations. The ROW will be narrowed through the riparian area, if possible [EPP Section 8.4 #8].</li><li>For pipeline crossings conducted using a trenchless crossing method, apply DFO Measures to Avoid Causing Harm to Fish and Fish Habitat [EPP Section 8.4 #55]</li><li>Conduct typical open cut of seasonally dry or frozen to the bottom watercourses in accordance with DFO's Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat. This is also described in EPP Annex D, Dwg. STDS-03-ML-05-105 [EPP Section 8.4 #41].</li><li>Conduct isolated crossings of watercourses in accordance with DFO's Self-Assessment Process and Measures to Avoid Causing Harm to Fish and Fish Habitat [EPP Section 8.4 #44].</li><li>If an isolated method is employed and where recommended by an aquatics specialist (i.e., Qualified Aquatic Environmental Specialist or provincial equivalent), conduct a fish salvage led by an aquatics specialist [EPP Section 8.4, #53].</li><li>Ensure maintenance of downstream flow at all times when constructing an isolated crossing [EPP Section 8.4, #46].</li></ul> | <ul style="list-style-type: none"><li>EPP Section 7.1</li><li>EPP Section 8.4</li><li>EPP Annex E</li></ul>   |
| Traditional land use / Culture <ul style="list-style-type: none"><li>The potential effects of the Project on the Métis peoples' ability to continue practicing TLU activities and their culture in the Project area</li></ul> | <ul style="list-style-type: none"><li>Project footprint</li><li>LSA</li><li>RSA</li></ul> | <p>NGTL will undertake clean-up and reclamation measures, which are an important step in returning construction site to a condition similar to preconstruction, including the objective of maintaining equivalent land capability, ensuring the ability of the land to support various land uses similar to the uses that existed before construction, but not necessarily identical [EPP Section 8.8]. NGTL has proposed a comprehensive suite of mitigation measures to reduce the adverse effects of the Project on the environment and, in turn, on the use of those lands by Aboriginal groups. For forested ecosystems, early seral stages of the successional process are expected to occur within a few years and these areas will subsequently transition to a mature forest over decades in a manner similar to regeneration after a forest fire. Within each successional (seral) stage of forest development, there will be a fully functioning ecosystem.</p> <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>NGTL will also implement the following mitigation measures to reduce potential effects on traditional land use and cultural activities:</p> <ul style="list-style-type: none"><li>Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li><li>Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>Ensure that noise abatement equipment on machinery is in good working order. Take reasonable measures to control construction related noise near residential areas [EPP Section 8.1 #24].</li><li>Reduce idling of equipment, where possible [EPP Section 8.1 #20].</li><li>Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li></ul>   | <ul style="list-style-type: none"><li>EPP Section 1.0</li><li>EPP Section 5.0</li><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Section 8.8</li><li>EPP Annex E</li><li>EPP Annex F</li></ul> |

Attachment 5: Métis Nation of Alberta Region 6 TLU Assessment Final Report Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project <sup>1</sup> | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed  |
|--|---|--|--|
| Traditional land use / Culture (cont'd)  | See above   | <ul style="list-style-type: none"><li>Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA]</li><li>Where practical and applicable, use multi-passenger vehicles for the transport of crews to and from the job sites [EPP Section 8.1 #22].</li></ul>  | See above  |
| Economic Impacts <ul style="list-style-type: none"><li>MNA Region 6 would like to be included in job and contracting opportunities.</li><li>MNA Region 6 recommend that NGTL partner with the Métis and other local Aboriginal organizations to create opportunities rather than try to create them through third party general contractors who are not based in the north</li></ul>   | <ul style="list-style-type: none"><li>N/A</li></ul>       | <p>NGTL will implement its established Aboriginal Contracting and Employment Program to maximize employment and contracting opportunities for the local Aboriginal communities potentially affected by the Project.</p> <p>NGTL continues to work with Aboriginal communities to identify employment opportunities during the pre-construction, construction and post-construction phases of the Project, and any associated training requirements. NGTL and prime contractors will work with the community or organization (through their human resource coordinators, local economic development and education officers) to support the completion of the training requirements identified through this collaborative effort. Based on this collaboration, NGTL will develop and maintain a list of contracting opportunities that are within the capacity of Aboriginal and local contractors in the area. NGTL will work with communities to identify businesses and individuals who have interest in Project-related contracting and employment opportunities. Based on this information, NGTL will prepare an Aboriginal and local participation plan for the Project. This plan will include the processes used to make contracting and employment opportunities available to Aboriginal and local contractors.</p> <p>NGTL encourages community contractors and vendors to register their businesses for Project consideration and operational requirements in the region. Regular updates are provided to keep the community informed of contracting, employment and training opportunities during all phases of the Project [Project Application, Section 13].</p> <p>NGTL will implement the following enhancement measures related to Aboriginal employment and contracting opportunities:</p> <ul style="list-style-type: none"><li>NGTL will implement the Aboriginal Construction Participation Program for the Project with potentially affected Aboriginal communities and organizations that have expressed interest to provide training and capacity building opportunities.</li><li>Arrange and participate in meetings with Aboriginal communities and organizations and potential prime contractors and identify the contacts in Aboriginal communities and organizations for employment and contracting [ESA Table 6.20-6].</li><li>Encourage and assist all prime contractors to maximize local Aboriginal participation through direct employment and subcontracting opportunities during pre-construction and construction phases of the Project [ESA Table 6.20-6].</li><li>Monitoring local community and Aboriginal direct employment on the Project [ESA Table 6.20-6].</li><li>Providing the successful prime contractor(s) with a list of the community-affiliated contractors to be considered for work on the Project [ESA Table 6.20-6].</li><li>Engage Aboriginal communities, and industry associations, training and employment and human resources offices to assess available manpower qualifications and availability [ESA Table 6.20-6].</li><li>Efforts to provide Aboriginal businesses with an opportunity to participate in Project construction through the TransCanada Aboriginal Contracting and Employment Program [ESA Table 6.20-6].</li><li>Implementing an Aboriginal participation component in the request for proposals for the prime contractor(s) [ESA Table 6.20-6].</li><li>Gathering and reporting Aboriginal related spending and employment information for the Project and meeting with Aboriginal communities (when requested) to review Aboriginal participation in the Project [ESA Table 6.20-6].</li><li>Providing guidance and support to the prime contractor(s) and Aboriginal communities on Aboriginal employment and business contracting throughout the construction phase of the Project [ESA Table 6.20-6].</li></ul> | <ul style="list-style-type: none"><li>ESA Section 6.20</li><li>ESA Table 6.20-20</li><li>Project Application, Section 13</li></ul> |
| <p>Note:</p> <p>1. Distances are provided in relation to the Project footprint, LSA and RSA as defined in the ESA, which differ from the Project LSA and RSA definition used in ACME (2016). The ESA defined the Project footprint as the physical area required for Project construction, operation and eventual decommissioning and abandonment, the LSA as extending 1,000 m from the boundary of the Project footprint, and the RSA as extending 9,400 m from the boundary of the Project footprint. ACME (2016) defined the Project LSA as the area including the Project footprint, the Pouce Coupé River, the Kiskatinaw River, Sergeant Creek and any major or minor unnamed tributaries within 250 m on either side of the Project. The RSA is defined as the area encompassing the LSA and potentially affected surface water systems.</p> <p>2. Detailed mitigation measures are provided in the Environmental and Socio-Economic Assessment (NEB Filing IDs A4T0Z0, A4T0Z1 and A4T0Z2) and the Environmental Protection Plan for the Proposed Towerbirch Expansion Project, March 2016 (NEB Filing ID A4Y9W9). Additional information is available in the NGTL Towerbirch Expansion Project Application (NEB Filing ID A4T0Y1) and the Environmental Alignment Sheets (NEB Filing IDs A4Y9W6, A4Y9W7 and A4Y9W8).</p> <p>N/A = Not applicable</p> <p><b>Sources:</b> ACME Economic and Environmental Inc. (ACME) 2016. <i>Towerbirch Expansion Project c/o NOVA Gas Transmission Limited. Métis Nation of Alberta Region VI TLU Assessment Final Report October 15, 2016.</i> Prepared on behalf of Métis Nation of Alberta Region VI and the people of the community.</p> |   |  |  |

Attachment 6: Saulteau First Nations Knowledge and Use Information Project-Specific Issues and Concerns Summary

| Community Issues / Concern Identified  | Approximate Location Relative to the Project <sup>1</sup>  | NGTL Response / Proposed Mitigation Measures <sup>2</sup>   | Where Addressed   |
|--|--|---|---|
| <p>Wildlife and wildlife habitat</p> <ul style="list-style-type: none"><li>• Potential disturbance to wildlife habitat, SFN recommends minimizing disturbance to intact wildlife habitat (for moose, deer and elk shelter and feeding) as much as possible</li><li>• Protection of sensitive wildlife features. SFN recommends that these features should be documented and maintained in a natural state</li><li>• Potential effects on fisher habitat. SFN recommends that important elements of fisher habitat (e.g., potential denning trees) should be identified before construction and retained and wind-firm retention areas around the trees should also be maintained</li><li>• Potential effects on wildlife movement. SFN recommends leaving gaps in windrows and strung pipe at obvious drainages, mineral licks and wildlife trails</li><li>• Potential for increased predation of moose and deer due to Project clearing</li><li>• Potential effects on nesting bird species</li><li>• SFN recommends that vegetation clearing occur between September 1 to April 15 and that an active migratory nest survey should be conducted if clearing activities occur outside this period</li><li>• SFN recommends that active migratory bird nests should have a setback distance from construction activities until such time as young birds have fledged</li><li>• Potential disturbance to mineral licks, which are culturally sensitive and traditional and use sites for First Nations</li><li>• SFN recommends that all mineral licks in the vicinity of the Project should be identified and assessed</li></ul> | <ul style="list-style-type: none"><li>• Kiskatinaw River Valley (crossed by the Project at approximately KP 25.5, Tower Lake Section)</li><li>• Project footprint</li><li>• Local Study Area (LSA)</li><li>• Regional Study Area (RSA)</li></ul> | <p>To the extent possible, NGTL has aligned the Project to be adjacent to the existing NGTL pipelines, proposed third party pipeline ROWs, or along other linear disturbances such as roads and powerlines to minimize the requirement for new permanent ROW and new disturbance, and / or using existing access [EPP Section 1.0]. The Project parallels existing or proposed linear developments for approximately 71.9 km (81.7%) of its length [EPP Section 1.0].</p> <p>SFN indicated that quality wildlife habitat for moose and other game is available at several sites located in the RSA, and the Kiskatinaw River was noted as an important wildlife corridor. NGTL’s primary pipeline crossing methods for the Kiskatinaw River and Pouce Coupé River is Horizontal Directional Drill (HDD), a trenchless crossing method that will avoid direct disturbance to the river bed and banks.</p> <p>The following mitigation measures are planned during construction to reduce the potential adverse effects on wildlife habitat from Project clearing in the Project footprint, including moose, deer, elk, and fisher:</p> <ul style="list-style-type: none"><li>• Limit the disturbance to vegetation (i.e., crops and native vegetation) to the extent practical; and reduce surface disturbance to the extent practical [EPP Section 8.2 Objective].</li><li>• Develop and implement an environmental orientation program to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and sensitivities [EPP Section 4.0 #13].</li><li>• Clearly mark all sensitive resources identified on the Environmental Alignment Sheets and environmental tables (Table 1 to 6) within the immediate vicinity of the ROW and meter station sites before the start of clearing. Following clearing, markings will be installed to delineate the sensitive resources [EPP Section 6.0 #3].</li><li>• The Environmental Inspector(s) will confirm the accuracy of all environmentally sensitive resource locations, and will ensure marking is maintained during construction [EPP Section 6.0 #5]</li><li>• Post signs to clearly identify sensitive environmental features to ensure they are protected. See the Environmental Alignment Sheets as well as Table 1 and Table 3 for a listing of sensitive environmental features located along the pipeline ROW and at the meter station sites [EPP Section 7.1 #1].</li><li>• Restrict all construction activities to the approved surveyed ROW, meter station sites, and approved TWS, existing roads and approved shoo-flies. All construction traffic will adhere to safety and road closure regulations [EPP Section 8.1 #10].</li><li>• Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32].</li><li>• Seed wetlands in privately-held agricultural areas (including forested areas on private land) with native wetland species after consultation with landowners and use only Certified No. 1 seed, unless Certified No 1 is not available for select reclamation seed species (i.e., native species) [EPP Section 7.1, Table 1].</li></ul> <p>In addition to the above, NGTL will also implement the following mitigation measures to reduce the potential effects on wildlife movement patterns:</p> <ul style="list-style-type: none"><li>• Leave gaps in windrows (i.e., grubbing piles, topsoil, grade spoil, rollback) and strung pipe at obvious drainages and wildlife trails, and to allow for livestock and vehicle/machinery passage across the ROW. Locations where wildlife gaps are appropriate will be determined in the field by the Environmental Inspector(s). Gaps should align [EPP Section 7.1 #12].</li><li>• The Environmental Inspector(s) will identify and notify the Contractor of the appropriate locations for wildlife gaps [EPP Section 6.0 #6]</li><li>• To facilitate free movement of livestock and wildlife, follow trenching operations as closely as possible with lowering-in and backfill operations, unless for construction purposes there is a need to have the trench open for an extended period of time [EPP Section 8.5 #3].</li><li>• If wildlife or livestock are discovered in the trench, or in association with any other activity or facility, report to the Environmental Inspector(s) who will contact the applicable regulatory agencies, as required. In the case of livestock, the land agent assigned to the Project will contact the landowner [EPP Section 7.1 #6].</li></ul> <p>In addition to the mitigation measures above, NGTL will also implement the following mitigation measures to reduce the potential effects on breeding birds:</p> <ul style="list-style-type: none"><li>• It is recommended that the Project Footprint be cleared prior to May 1 to discourage nesting of migratory birds (EPP Table 1, Section 7.1).</li><li>• In the event of clearing or construction activities within the primary nesting period of migratory birds for this region (May 1 to August 10), when 10% or more of the species within a given nesting zone are expected to be breeding, implement the Breeding Bird and Nest Management Plan (EPP Annex F) [EPP Section 7.1 #7]</li><li>• NGTL has committed to conducting non-invasive surveys for breeding birds and nests during the primary nesting period, as per the Project-specific Breeding Brid and Nest Management Plan (EPP Annex F) [NGTL Final Argument].</li></ul> <p>NGTL will continue to engage with Aboriginal communities throughout the life of the Project and NGTL is willing to discuss any areas of interest including breeding bird management.</p> <p>One mineral lick was observed during the June 2016 wildlife and wildlife habitat survey. The mineral lick was observed near KP 14.22, approximately 15 m northwest of the Project Footprint on the Groundbirch Mainline Loop.</p> <p>In addition to the mitigation measures above, NGTL will implement the following mitigation measures to reduce potential effects to mineral licks:</p> <ul style="list-style-type: none"><li>• Clearly mark all sensitive resources identified on the Environmental Alignment Sheets and environmental tables (Table 1 to 6) within the immediate vicinity of the ROW and meter station sites before the start of clearing. Following clearing, marking will be installed to delineate the sensitive resources [EPP Section 6.0 #3].</li></ul> | <ul style="list-style-type: none"><li>• Supplemental TK report, Section 3.2.1.2</li><li>• EPP Section 1.0</li><li>• EPP Section 4.0</li><li>• EPP Section 6.0</li><li>• EPP Section 7.1</li><li>• EPP Section 8.1</li><li>• EPP Section 6.0</li><li>• EPP Section 8.2</li><li>• EPP Section 8.5</li><li>• EPP Annex F</li><li>• NGTL Reply Argument</li><li>• NGTL Final Argument</li></ul> |

Attachment 6: Saulneau First Nations Knowledge and Use Information Project-Specific Issues and Concerns Summary (cont'd)

| Community Issues / Concern Identified  | Approximate Location Relative to the Project <sup>1</sup>  | NGTL Response / Proposed Mitigation Measures <sup>2</sup>  | Where Addressed  |
|--|--|--|--|
| Wildlife and wildlife habitat (cont'd)   | See above  | <ul style="list-style-type: none"><li>Develop and implement an environmental orientation program to ensure that all personnel working on the construction of the Project are informed of the environmental requirements and sensitivities [EPP Section 4.0 #13].</li><li>Provide Aboriginal communities with the proposed construction schedule and pipeline route and meter station maps [EPP Section 5.0 #3].</li></ul>  | See above  |
| Access <ul style="list-style-type: none"><li>Potential for increased access for hunters</li><li>SFN recommends installing control management measures for all terrain vehicles, such as the installation of a steel gate</li></ul>   | <ul style="list-style-type: none"><li>Kiskatinaw River (crossed by the Project at approximately KP 25.5, Tower Lake Section</li></ul>  | NGTL has confirmed that the requested locations [of gates] are on private land in areas that are not accessible with developed public access. As a result, no new public access is available to these areas without trespassing on private land. Construction of a new steel gate is therefore not required.<br><br>NGTL will implement the following mitigation measures to reduce potential adverse effects resulting from increased public access to the Project footprint: <ul style="list-style-type: none"><li>Project personnel are not permitted to hunt or fish on the work site [EPP Section 7.1 #8].</li><li>Discourage unauthorized public vehicle access along the ROW and at the meter station sites during construction through the use of signs [EPP Section 8.1 #25].</li><li>Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the ROW. Firearms are not permitted in Project vehicles, on the ROW, or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the ROW. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable [EPP Section 7.1 #9].</li><li>Implement measures outlined in the Traffic Control Management Plan to reduce traffic effects on highways [Table 6.18-1 of the ESA]</li></ul>   | <ul style="list-style-type: none"><li>EPP Section 7.1</li><li>EPP Section 8.1</li><li>EPP Annex F</li><li>NGTL Reply Evidence Section 6.3.2</li></ul>  |
| Horizontal Directional Drilling (HDD) <ul style="list-style-type: none"><li>Stability concerns related to the trenchless crossing of the Kiskatinaw River</li><li>SFN recommends that the river be drilled farther north</li></ul>   | <ul style="list-style-type: none"><li>Kiskatinaw River (crossed by the Project at approximately KP 25.5, Tower Lake Section</li></ul>  | As outlined in the report for the Kiskatinaw crossing (Appendix 8-2 of the Project Application), an analysis of the underlying geology was conducted as part of the HDD feasibility determination. Based on that analysis a setback was recommended from the watercourse valley margin and banks of the river. This setback is in addition the “No Drill Zone” that was defined in the Kiskatinaw HDD crossing design. Based on the inclusion of these measures within the HDD design, the banks of the Kiskatinaw River will likely not be affected by the HDD.   | <ul style="list-style-type: none"><li>NGTL Reply Evidence, Section 6.3.2</li></ul>   |
| Wetlands <ul style="list-style-type: none"><li>Potential for effects to a wetland site recorded near the Kiskatinaw River, and considered to be an important filtering system</li></ul>  | <ul style="list-style-type: none"><li>Kiskatinaw River (crossed by the Project at approximately KP 25.5, Tower Lake Section)</li></ul> | NGTL’s primary pipeline crossing methods for the Kiskatinaw River is Horizontal Directional Drill (HDD), a trenchless crossing method that will avoid direct disturbance to the river bed and banks.<br><br>Through application of a mitigation hierarchy (consisting of avoidance, minimization and compensation), NGTL is committed to implementing mitigation on the Project that will achieve the “no net loss of wetland functions” objective of the Federal Policy on Wetland Conservation (Government of Canada 1991) [NEB IR 3.4].<br><br>NGTL will also implement the following mitigation measures relevant to wetlands and trenchless crossings: <ul style="list-style-type: none"><li>Reduce the removal of vegetation in wetlands to the extent possible [EPP Section 7.1 #26]</li><li>Natural recovery is the preferred method of reclamation for wetlands on Crown land (i.e., do not seed wetland areas) [EPP Section 7.1 #32]</li><li>In the event of sediment releases or spills of deleterious substances during the construction of the trenchless crossings implement the Directional Drilling Procedures and Instream Drilling Mud Release Contingency Plan (Annex E). [EPP Section 8.4 #60]</li><li>Ensure that drilling mud composition is limited to bentonite-based systems (e.g., bentonite, water and industry standard additives). All bentonite-based systems shall meet applicable regulatory requirements and shall be limited to those that in composition and concentration, should an interaction with the environment occur, do not result in a significant adverse effect to the environment. At the Company’s request, the contractor shall provide all product Material Safety Data Sheets (MSDS) for approval. [EPP Annex E Section 7.0].</li><li>Where warranted, develop a water quality monitoring plan with input from an aquatics specialist that includes monitoring for total suspended solids (TSS) and/or turbidity if trenchless methods are used [EPP Section 8.4 #58].</li><li>Ensure that water from dewatering entry and exit sites with a high sediment load is not discharged or allowed to flow into any waterbody. Remove the sediment load (e.g., filtered or discharged into a vegetated area) before discharge water is allowed to enter any watercourse. [EPP Section 8.4 #57].</li><li>Install berms, cross ditches and/or silt fences between wetlands and disturbed areas when deemed necessary by the Environmental Inspector(s) [EPP Section 7.0 #31]</li></ul> | <ul style="list-style-type: none"><li>Supplemental TK report, Section 3.2.1.2</li><li>EPP Section 7.0</li><li>EPP Section 7.1</li><li>EPP Section 8.4</li><li>EPP Annex E</li><li>NEB IR 3.4</li></ul> |
| <p>Note:</p> <p>1. Distances are provided in relation to the Project footprint, LSA and RSA as defined in the ESA.</p> <p>2. Detailed mitigation measures are provided in the Environmental and Socio-Economic Assessment (NEB Filing IDs A4T0Z0, A4T0Z1 and A4T0Z2) and the Environmental Protection Plan for the Proposed Towerbirch Expansion Project, March 2016 (NEB Filing ID A4Y9W9). Additional information is available in the NGTL Towerbirch Expansion Project Supplemental Traditional Knowledge Report (NEB Filing ID A4Y9W5), Environmental Alignment Sheets (NEB Filing IDs A4Y9W6, A4Y9W7 and A4Y9W8), NGTL Reply Evidence (NEB Filing ID A4Z8S6), NGTL Reply Argument (NEB Filing ID A5D7Y3) and NGTL Final Argument (NEB Filing ID A5D0F8).</p> <p>N/A = Not applicable</p> <p><b>Sources:</b> Cameron, D. 2016. <i>Saulteau First Nations written submission for the proposed TransCanada’s Towerbirch Pipeline in North Eastern British Columbia</i>.</p> <p>d’Entremont, M.V. 2016. <i>Towerbirch Expansion Project - Technical Review of Wildlife and Wildlife Habitat Component – Final Report</i>. Unpublished report by LGL Limited environmental research associates, Sidney, BC, for the Saulteau First Nation, Moberly Lake, BC. 19 pp + appendices.</p> |  |  |  |