

December 11, 2019

LNG Canada Development Inc.  
400 - 4th Avenue SW  
Calgary, AB T2P 0J4

Attention: LNG Canada Development Inc.

**RE: Determination of Application Number 100106075**

**Permit Holder:** LNG Canada Development Inc.  
**Date of Issuance:** December 11, 2019  
**Effective Date:** December 11, 2019  
**Application Submission Date:** November 18, 2019  
**Application Determination Number:** 100106075  
**Approved Disturbance Footprint:** 0 ha

**AUTHORIZED ACTIVITIES**

<b>Pipeline Project No.:</b> 000025377	<b>Segment No.:</b> 1
<b>Changes In and About a Stream:</b> 0005581	

**GENERAL PERMISSIONS, AUTHORIZATIONS AND CONDITIONS**

**PERMISSIONS**

**Oil and Gas Activities Act**

1. The BC Oil and Gas Commission, under section 25 (1) of the *Oil and Gas Activities Act*, hereby permits the permit holder referenced above to carry out the following activities, indicated in the Authorized Activities table above, subject to the conditions contained herein, any applicable exemptions and authorizations:
  - a. To construct and operate a pipeline as detailed in the Technical Specification Details tables below.
2. The permissions and authorizations granted under this permit are limited to the area identified in the spatial data submitted to the Commission in the permit application as identified and dated above; herein after referred to as the 'activity area'.
3. Notwithstanding the above permissions and authorizations, this permit does not authorize the following Associated Oil and Gas Activity(s):

**Access – 00200267, 00200268, 00200269, 00200270**

**Workspace – 00200266, 00200271, 00200272, 00200273, 00200274, 00200275, 00200276, 00200277, 00200278, 00200279, 00200280, 00200281, 00200282, 00200283**

## AUTHORIZATIONS

### Forest Act

4. The Commission, pursuant to section 47.4 of the *Forest Act*, hereby authorizes the removal of Crown timber from the activity area under the cutting permits associated with the Master Licence(s) as follows:

**Master Licence to Cut No.:** M02415  
**Cutting Permit No.:** 2  
**Timber Mark No.:** MTC609  
**Total New Cut:** 0.13 ha  
**Forest District:** (DKM) Coast Mountains Natural Resource District  
**Region:** Coastal

5. The cutting permits are deemed spent upon the submission of the post-construction plan or upon either the cancellation or expiry of the activities authorized under the permit.

## CONDITIONS

### Notification

6. Within 60 days of the completion of construction activities under this permit, the permit holder must submit to the Commission a post-construction plan as a shapefile and PDF plan accurately identifying the location of the total area actually disturbed under this permit. The shapefile and plan must be submitted via eSubmission.
7. A notice of maintenance activities must be submitted, as per the relevant Commission process at the time of submission, at least two (2) working days prior to the commencement of any changes in or about a stream associated with maintenance activities.
8. At least ten (10) working days prior to the commencement of any changes in or about a stream associated with maintenance activities, the permit holder must provide a notice of works to any First Nation(s) who may have Aboriginal Interests identified, as per the BC First Nations Consultative Areas Database, within the area in which the works are to occur.
9. The permit holder must notify any First Nation(s) who may have Aboriginal Interests identified, as per the BC First Nations Consultative Areas Database, within the area in which the works are to occur at least five (5) working days prior to project commencement.

### General

10. The rights granted by this permit in relation to unoccupied Crown land are subject to all subsisting grants to or rights of any person made or acquired under the Coal Act, Forest Act, Land Act, Mineral Tenure Act, Petroleum and Natural Gas Act, Range Act, Water Sustainability Act or Wildlife Act, or any extension or renewal of the same.
11. The permit holder must not assign, sublicense or permit any person other than its employees, contractors or representatives, to use or occupy any Crown land within the activity area without the Commission's written consent.
12. The permit holder must ensure that any Crown land within the activity area is maintained in a condition so as to minimize hazards, including but not limited to hazards associated with storage of materials and equipment.
13. The permit holder must ensure that any Crown land within the activity area is maintained free of garbage, debris and derelict equipment.

### Environmental

14. Construction activities must not result in rutting, compaction or erosion of soils that cannot be reasonably rehabilitated to similar levels of soil productivity that existed on the activity area prior to the construction activities taking place.

15. Any temporary access must be constructed and maintained in a manner that provides for proper surface drainage, prevents pooling on the surface, and maintains slope integrity.

### **Clearing/Forest Act**

16. The permit holder is permitted to fell any trees located on Crown land within 1.5 tree lengths of the activity area that are considered to be a safety hazard according to Workers Compensation Act regulations and must be felled in order to eliminate the hazard. Trees or portions of these trees that can be accessed from the activity area without causing damage to standing timber may be harvested.
17. The holder of the cutting permit must pay to the government, stumpage and any waste billing determined in accordance with the terms of this authorization.
18. The authorized cutting permit does not grant the permit holder the exclusive right to harvest Crown timber from the activity area. Authority to harvest some or all of the timber may be granted to other persons. The permit holder's right to harvest timber applies to any timber found on the site at the time they undertake harvesting activities.
19. All harvested Crown Timber must be marked with the cutting permit's associated Timber Mark.
20. Any waste assessments applied under the Master Licence to Cut are subject to the merchantability specifications and monetary waste billing requirements in the Provincial Logging Residue and Waste Manual specific to the region associated with the Cutting Permit authorization.
21. Stumpage will be calculated in accordance with the Coast Appraisal Manual (volume based).

### **Water Course Crossings and Works**

22. Stream, lake and wetland crossings must be constructed in accordance with the methods and any mitigations, as specified in the application.
23. In-stream activities within a fish bearing stream, lake or wetland must occur:
  - a. during the applicable reduced risk work windows as specified in the Skeena Region - Reduced Risk Work Windows;
  - b. in accordance with alternative timing and associated mitigation recommended by a Qualified Professional and accepted by the Commission; or
  - c. in accordance with an authorization or letter of advice from Fisheries and Oceans Canada that is provided to the Commission.
24. At any time, the Commission may suspend instream works authorized under this permit. Suspensions on instream works will remain in place until such time as the Commission notifies permit holders that works may resume. Reasons for suspension of works may include, but are not limited to, drought conditions and increased environmental or public safety risks.
25. Equipment used for activities under this Permit must not be situated in a stream channel unless it is dry or frozen to the bottom at the time of the activity.
26. The permit holder must ensure any instream works related to maintenance are planned and overseen by a qualified professional. This individual must assess and determine whether planned works pose a risk to any of the features listed below, and is responsible for developing and implementing mitigation measures to reduce any potential impacts on these features, as required:
  - a. fish or important fisheries habitat;
  - b. species identified as special concern, threatened, or endangered under the federal *Species at Risk Act*; or
  - c. species identified by Order as a species at risk under the *Forest and Range Practices Act* or the *Oil and Gas Activities Act*.

This assessment must be provided to the Commission upon request.

27. Following initial construction, stream, lake and wetlands crossings are authorized for necessary pipeline maintenance activities on the activity area except for:
- a. works within the boundary of a provincial park;
  - b. stream bank or stream bed revetment works in a stream classified as S1, S2, S3, S4 or S5;
  - c. pipe replacement within the stream channel where the original application specified a trenchless crossing method and the planned works involve a trenched crossing method;
  - d. permanent alteration of a stream bank;
  - e. works within a Temperature Sensitive Stream established by order under s. 27 of the Environmental Protection and Management Regulation; or
  - f. works within a Fisheries Sensitive Watershed established by order under s. 28 of the Environmental Protection and Management Regulation.
28. Open cut crossings and works within streams, lakes or wetlands must be planned and conducted in accordance with the following requirements:
- a. an open cut of a stream classified as S1, S2, S3 or S4 must not occur, unless the stream is frozen to its bed or is completely dry with no evidence of subsurface flow;
  - b. unless otherwise authorized by Fisheries and Oceans Canada, spawning gravels must not be disturbed when redds that contain eggs or alevins are present. The authorization must be provided to the Commission; and
  - c. channels, banks and beds of streams, including any disturbed stable natural material must be restored, to the extent practicable, to the structure and conditions that existed before the crossing construction was initiated.
29. Flow isolation crossings and works must be planned and conducted in accordance with the condition above regarding open cut crossings, and the following additional requirements:
- a. construction of the crossing or works, including the location and operation of any equipment, must be isolated from water flowing in the stream;
  - b. water from flumes, pump-arounds, diversions, or other methods must be released to downstream areas in a manner that avoids erosion or sediment release;
  - c. pump intakes must not disturb beds of fish bearing streams, except as necessary to ensure safe installation and operation of equipment, and must be screened with maximum mesh sizes and approach velocities in accordance with the Fisheries and Oceans Canada Freshwater Intake End-of-Pipe Fish Screen Guideline; and
  - d. water flows downstream of in-stream construction sites must be maintained at volume and discharge consistent with upstream flows.
30. Mechanical stream crossings must be constructed, maintained and deactivated according to the following requirements, as applicable:
- a. To facilitate construction of a crossing, a machine is permitted to ford the stream a maximum of one time in each direction at the crossing location.
  - b. Only bridges, culverts, ice bridges or snow fills may be constructed at stream crossings;
  - c. The permit holder must ensure that permanent bridges are designed and fabricated in compliance with:
    - i. the Canadian Standards Association Canadian Bridge Design Code, CAN/CSA-S6; and
    - ii. soil property standards, as they apply to bridge piers and abutments; set out in the Canadian Foundation of Engineering Manual.
  - d. Except with leave of the Commission, the permit holder must ensure that:
    - i. culverts are designed and fabricated in compliance with the applicable:
      - a. Canadian Standards Association CSA G401, Corrugated Steel Pipe Products; or

- b. Canadian Standards Association Standard CSA B1800, Section B182.2, Plastic Non-pressure Pipe Compendium; or
- ii. any pipe installed in lieu of a culvert is of at least equivalent standard and strength as any culvert as specified above.
- e. Except with leave of the Commission, the permit holder must ensure that bridges or culverts meet the criteria set out in i., ii. or iii. below:
  - i. the bridge or culvert is designed to pass the highest peak flow of the stream that can reasonably be expected within the return periods set out in Column 2 of the table below for the period the permit holder anticipates the structure will remain on site, as set out in Column 1 of the table below:

Anticipated period crossing structure will remain on site	Peak flow period
Bridge or culvert, 3 years or less	10 years
Bridge other than a bridge within a community watershed, more than 3 years but less than 15	50 years
Bridge within a community watershed, more than 3 years	100 years
Bridge, 15 years or more	100 years
Culvert, more than 3 years	100 years

- ii. the bridge, or any component of the bridge:
  - a. is designed to pass expected flows during the period the bridge is anticipated to remain on the site;
  - b. is constructed, installed and used only in a period of low flow; and
  - c. is removed before any period of high flow begins.
- iii. the culvert;
  - a. is a temporary installation, and the permit holder does not expect to subsequently install a replacement culvert at that location;
  - b. is not installed in a stream, when the stream contains fish;
  - c. is sufficient to pass flows that occur during the period the culvert remains on the site;
  - d. is installed during a period of low flow; and
  - e. is removed before any period of high flow begins.
- f. Snow fills must consist of clean snow and may only be located on streams that are dry or frozen to the bottom during the period of construction, maintenance and use. Where periodic thaws are anticipated, the permit holder must ensure measures are in place that allows meltwater to pass through, ensure movement of fish is not impeded, and prevent pooling on the upstream side of the snow fill. Snow fill and any installed culverts must be removed prior to spring snow melt;
- g. Ice bridges on fish bearing streams may only be constructed where sufficient water depth and stream flows prevent the bridge structure from coming in contact with the stream bottom;
- h. Water applied to construct an ice bridge on a water body must be sourced in accordance with the *Water Sustainability Act* unless:
  - i. the water body is a stream with a stream channel width of at least 5 meters and is not designated as a sensitive stream under the *Fish Protection Act*, or has a riparian class of W1, W3, or L1;
  - ii. the water is sourced from the same water body proximal to the location on which the ice bridge is constructed;
  - iii. the water body is not within the boundaries of a public park;
  - iv. pump intakes do not disturb beds of streams or wetlands and are screened with a maximum mesh size and approach velocity in accordance with the Fisheries and Oceans Canada Freshwater Intake End-of-Pipe Fish Screen Guideline, and

- a. where the water body is a stream, the flow of water in the stream at the time and location of pumping exceeds 60 litres per second and the instantaneous pumping rate does not exceed 1% of the water flowing in the water body at the time and location the pumping occurs, or
- b. where the water body is a lake or pond, the cumulative volume of water withdrawn does not exceed 10 cm of lake or pond depth, calculated as the product of lake or pond surface area x 10 cm;
- v. records of water withdrawal and corresponding streamflow measurements are maintained by the permit holder and provided to the Commission upon request.
- i. Bridge or culvert abutments, footings and associated scour protection must be located outside the natural stream channel and must not constrict the channel width.
- j. Wetland crossings must be constructed, maintained and removed in accordance with the following:
  - i. organic cover within and adjacent to the wetland must be retained;
  - ii. minimize erosion or release of sediment within the wetland;
  - iii. any padding materials must be placed on the wetland surface only and must not be used for infilling;
  - iv. any padding materials must be removed as soon as practicable following construction, considering weather and ground conditions; and
  - v. the wetland, including banks and bed, must be restored, to the extent practicable, to the condition that existed before the crossing was initiated.

### Archaeology

30. If an artifact, feature, material or thing protected under the *Heritage Conservation Act* is identified within the activity area, the permit holder must, unless the permit holder holds a permit under Section 12.4 of the *Heritage Conservation Act* issued by the BC Oil and Gas Commission in respect of that artifact, feature, material or thing:
- a. Immediately cease all work in the vicinity of the artifacts, features, materials or things;
  - b. Immediately notify the BC Oil and Gas Commission; and
  - c. Resume work in the vicinity of the artifacts, features, materials or things in accordance with direction from the BC Oil and Gas Commission.

## **ACTIVITY SPECIFIC DETAILS, PERMISSIONS AND CONDITIONS**

### PIPELINES

**Land Area Number:** 100012149  
**Pipeline Project Number:** 000025377

#### TECHNICAL SPECIFICATION DETAILS

<b>Seg No.:</b> 1	<b>From:</b> C-055-B/103-I-02 <b>To:</b> C-025-B/103-I-02
<b>Flow Direction:</b> Uni-Directional	<b>Maximum Operating Pressure (kpa):</b> 1380
<b>Product:</b> Fresh Water	<b>Max H<sub>2</sub>S (mol%):</b> 0
<b>Installation Number(s):</b> 1, 2, 3, 4, 5, 6, 7	

### Technical Pipeline Permissions

31. Piping & Instrumentation Diagrams submitted by LNG Canada Development Inc.:

L001-04300-PX-2365-1002 Revision K, dated August 21, 2019,  
L001-04300-PX-2365-1001 Revision I, dated August 20, 2019,  
L001-04300-PX-2365-1003 Revision J, dated August 20, 2019,

Changes may be made to pigging design, and to above ground valves and piping, provided that:

- a. the changes do not affect direct connections to pipelines and facilities;
- b. there are no changes to approved pressure protection, H2S protection or isolation;
- c. there is no substantive impact to any aspect of the project that was included in the consultation; and
- d. the design and operation of the pipeline continues to meet all regulatory requirements and the requirements of CSA Z662.

### ADVISORY GUIDANCE

1. Construction Plan - 181-16025-00-005-00-PIP001-R4\_WATERLINE\_FINAL\_REV4.pdf is for the permit holder's internal reference only and was not reviewed as a decision tool for this permit, nor does it form an integral part of this permit.
2. Instructions for submitting notice of construction start, as required by regulation, can be found in the Oil and Gas Activity Operations Manual on the Commission's website.
3. The permit holder should be aware that there may be First Nation's traditional, cultural, or spiritual activities occurring concurrently with maintenance activities, as well as areas of current use or cultural resources that overlap the activity area. All reasonable efforts should be made to minimize interference with those activities while carrying out the activities authorized herein.

All pages included in this permit and any attached documents form an integral part of this permit.



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Tarilee Rauscher  
Authorized Signatory  
Commission Delegated Decision Maker

Copied to:

Land Agent – Roy Northern Land Service Ltd.  
First Nations – Haisla Nation Council  
Landowners  
Ministry of Forests District Office – (DKM) Coast Mountains Natural Resource District  
Engineering Firm – Fluor Canada Ltd.  
Work Safe BC