

January 10, 2023

FortisBC Energy Inc.
16705 Fraser Highway
Surrey, BC V4N 0E8

Attention: FortisBC Energy Inc.

RE: Amendment to Application Determination Number 100084403

Permit Holder: FortisBC Energy Inc.
Amendment Date of Issuance: January 10, 2023
Amendment Effective Date: January 10, 2023
Application Submission Date: October 5, 2022
Amendment Application Number: 100116788
Approved Disturbance Footprint: 0.0 ha

AMENDMENT DETAILS

Pipeline Project No.: 000025418 Seg No.: 1, 2, 3, 4, 5, 6	Amendment to install a second 24" diameter pipeline within the tunnel to enhance reliability by adding redundancy.
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GENERAL PERMISSIONS, AUTHORIZATIONS AND CONDITIONS

PERMISSIONS

Oil and Gas Activities Act

1. The BC Oil and Gas Commission (the "Commission"), under section 31(7) of the *Oil and Gas Activities Act*, hereby grants an amendment to the permit issued for the above referenced Application Determination Number, any associated authorizations subject to the original permit, any subsequent amendments and any additional or revised conditions as set out herein, as per the Amendment Details table above and, if required, as detailed in the Technical Specification Details and/or Activity Details table(s) below.
2. The permissions and authorizations granted under this amendment are limited to the area identified in the spatial data submitted to the Commission in the amendment application as identified and dated above; herein after referred to as the 'activity area'.

CONDITIONS

Notification

3. The Permit Holder must notify the First Nation(s) copied on this permit/authorization at least 5 (five) working days prior to project commencement.

Clearing/Forest Act

4. 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.

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

Land Area Number: 100020301

Pipeline Project Number: 000025418

TECHNICAL SPECIFICATION DETAILS

Seg No.: 1	From: B-063-J/092-G-11 To: B-063-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet Installation Number(s):	
Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0.0	
Seg No.: 2	From: B-063-J/092-G-11 To: B-010-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet Installation Number(s):	
Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0.0	
Seg No.: 3	From: B-010-J/092-G-11 To: B-010-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet Installation Number(s): 1, 2	
Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0.0	
Seg No.: 4	From: B-063-J/092-G-11 To: B-063-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet Installation Number(s): 1, 2	
Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0.0	
Seg No.: 5	From: B-063-J/092-G-11 To: B-010-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet Installation Number(s):	
Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0.0	
Seg No.: 6	From: B-010-J/092-G-11 To: B-010-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet Installation Number(s): 1, 2	
Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0.0	

Technical Pipeline Permissions

5. Piping & Instrumentation Diagram(s) submitted by FortisBC Energy Inc.:
- 62034-X-OGC-3002 Revision R1-A, dated February 15, 2022,
 - 62034-X-OGC-3003 Revision R1-A, dated February 2, 2022,
 - 61001-X-OGC-3001 Revision R1-A, dated February 2, 2022,
 - 61001-X-OGC-3002 Revision R1-A, dated February 2, 2022,
 - 61001-X-OGC-3003 Revision R1-A, dated February 2, 2022,

ADVISORY GUIDANCE

1. Construction Plan - 20192187PL_0.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.

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



Justin Anderson
Authorized Signatory
Commission Delegated Decision Maker

Copied to:

First Nations – Musqueam Indian Band, Squamish Nation, Tsleil-Waututh Nation
Work Safe BC

August 24, 2020

FortisBC Energy Inc
16705 Fraser Highway,
Surrey, BC V4N0E8

Attention: FortisBC Energy Inc.

RE: Determination of Application Number 100084403

Permit Holder: FortisBC Energy Inc.
Date of Issuance: August 24, 2020
Effective Date: August 24, 2020
Application Submission Date: November 8, 2019
Application Determination Number: 100084403
Approved Disturbance Footprint: 6.8220ha

AUTHORIZED ACTIVITIES

Pipeline Project No.: 000025418	Segment No.: 1, 2, 3, 4
Short Term Water Use No.: 0005407	Point of Diversion No.: 001
Changes In and About a Stream: 0005644	

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 610mm OD (NPS24) pipeline 8.9 km in length as detailed in the Technical Specification Details tables below.

Seg No.: 1	From: B-063-J/092-G-11 To: B-063-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet	Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0
Seg No.: 2	From: B-063-J/092-G-11 To: B-10-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet	Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0
Seg No.: 3	From: B-10-J/092-G-11 To: B-10-J/092-G-11
Flow Direction: Bi-Directional Product: Natural Gas - Sweet	Maximum Operating Pressure (kpa): 14890 Max H₂S (mol%): 0

Seg No.: 4	From: B-10-J/092-G-11 To: B-10-J/092-G-11
Flow Direction: Bi-Directional	Maximum Operating Pressure (kpa): 14890
Product: Natural Gas - Sweet	Max H₂S (mol%): 0
Installation Number(s): 1, 2	

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 above; herein after referred to as the 'activity area'.

Authorizations

Land Act

3. The Commission, pursuant to section 39 of the *Land Act*, hereby authorizes the occupation and use of any Crown land located within the activity area.
 - a. A licence authorized under section 39 of the *Land Act* for the Crown land portion of this application will follow. The permit holder is subject to the conditions contained in the Licence.
 - b. The authorization to occupy and use Crown land does not entitle the permit holder to exclusive possession of the activity area.
 - c. The total disturbance within the activity area must not exceed the total approved disturbance footprint as referenced above.

Water Sustainability Act

4. The Commission, pursuant to section 10 of the *Water Sustainability Act*, hereby authorizes the diversion, storage and use of Crown water from the point(s) of diversion detailed in the Short Term Water Use section of the permit .

Conditions

Notification

5. At least fourteen (14) working days prior to commencement of construction, the permit holder must notify any First Nations 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.
6. The permit holder must provide, to the Commission, a monthly construction schedule during the construction of the tunnel. The construction schedule must be sent via email to OGCPipelines.Facilities@bcogc.ca referencing application # 100084403.
7. The permit holder must provide, to the Commission, a monthly construction schedule during the construction and installation of the pipeline. The construction schedule must be sent via email to OGCPipelines.Facilities@bcogc.ca referencing application #100084403.
8. 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.
9. 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.
10. 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.

Security

11. The permit holder must prepare a Security Management Plan in accordance with the requirements of CSA Z246.1, before the commencement of activities, and must make a copy of the Security Management Plan available upon the request of the Commission.
12. The permit holder must keep a copy of the Security Management Plan on the activity area, and ensure that the security management measures identified in the Security Management Plan are implemented during activities.

Land Occupation

13. The permission to occupy and use Crown land excludes the area within *Land Act* Section 16 map reserve 0306439 unless the reserve has been amended to accommodate the authorized activity.
14. The permission to occupy and use Crown land excludes the area within *Land Act* Section 17 map reserve 2410413 unless a letter of compatible use has been received, or the reserve has been amended to accommodate the authorized activity.

Environmental

15. 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.

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 regulations under the Workers Compensation Act 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.

Water Course Crossings and Works

17. Stream, lake and wetland crossings must be constructed in accordance with the methods and any mitigations, as specified in the application.
18. 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.
19. Equipment used for activities under this Permit must not be situated in a stream channel unless it is dry at the time of the activity.
20. 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 according to regulations under the *Forest and Range Practices Act* or regulations under the *Oil and Gas Activities Act*.

This assessment must be provided to the Commission upon request.

21. Following initial construction, stream, lake and wetlands crossings are authorized for necessary pipeline maintenance activities on the activity area except for:
 - a. stream bank or stream bed revetment works in a stream classified as S1, S2, S3, S4 or S5; or

- b. pipe replacement within the stream channel where the original application specified a trenchless crossing method and the planned works involve a trenched crossing method; or
- c. permanent alteration of a stream bank.

Archaeology

22. Prior to the commencement of construction activities the permit holder must:
- a. In activity areas where ground disturbing activities will occur complete an archaeological assessment in accordance with applicable requirements of the *Heritage Conservation Act*, and
 - b. Complete and submit to the BC Oil and Gas Commission an acceptable report on the results of the assessment.
23. If the report required under the condition above recommends any further assessment work on an area, the permit holder must not begin construction activities on that area until the further assessment is completed.
24. 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: 100012613

Pipeline Project Number: 000025418

Technical Pipeline Permissions

25. Piping & Instrumentation Diagram(s) submitted by FortisBC Energy Inc.:
- 61001-X-OGC-3001-RO-A Revision RO-A, dated October 29, 2019,
 - 61001-X-OGC-3002-RO-A Revision RO-A, dated October 29, 2019,
 - 62034-X-OGC-3002-RO-A Revision RO-A, dated October 29, 2019,

All permissions for this activity are subject to the following conditions:

Pipeline Conditions

26. At least 30 days prior to start of construction of the tunnel, the permit holder must submit, to the satisfaction of the Commission, the tunneling procedure, including execution plan, monitoring plan, contingency plan and construction planning documentation as outlined in Clause 6.2 of CSA Z662:19. These documents must be sent to OGCPipelines.Facilities@bcogc.ca, referencing application # 100084403.
27. At least 30 days prior to start of construction of the tunnel, the permit holder must submit, to the satisfaction of the Commission, the issued for construction tunnel design drawings. The drawings must be sent to OGCPipelines.Facilities@bcogc.ca, referencing application # 100084403.
28. At least 90 days prior to start of construction of the tunnel, the permit holder must submit, to the satisfaction of the Commission, a geohazard assessment that includes a description of the geohazard(s) identified that have reasonable probability of impacting the pipeline or tunnel. The location of each geohazard must be illustrated on either a map or in a table; and the assessment must include specific

design measures, procedures, structures, etc. that will be implemented to mitigate the geohazard. These documents must be sent to OGCPipelines.Facilities@bcogc.ca , referencing application # 100084403.

29. At least 90 days prior to start of construction of the tunnel, the permit holder must submit, to the satisfaction of the Commission, proposed methodology to be utilized when the tunnel and pipeline will be abandoned. These document(s) must be sent to OGCPipelines.Facilities@bcogc.ca , referencing application # 100084403.
30. At least 90 days prior to the start of installation of the pipeline the permit holder must submit, to the satisfaction of the Commission, the following:
 - a) The issued for construction (IFC) piping and Instrumentation Drawings (P&IDs);
 - b) The pipeline installation method;
 - c) The pipeline support design and or back fill design for the pipeline;
 - d) The pressure test plan for the pipeline;
 - e) The detailed procedure/specification for buoyancy design for the pipeline;
 - f) The design and monitoring of the cathodic protection system for the pipeline;
 - g) The welding procedure specification, procedure qualification record, and welder procedure qualification;
 - h) The design measures to provide control of fracture propagation as per clause 5.2.2.3 in CSA Z662:19;
 - i) The seismic design of the pipeline; and
 - j) The HAZID and threat analysis as submitted by the design builder.

These documents must be sent to OGCPipelines.Facilities@bcogc.ca, referencing application # 100084403.

31. Within 12 months of commencement of operation of this pipeline, the permit holder must submit to the Commission the results and interpretation of a high resolution in-line inspection tool run to establish an accurate position of the pipeline (GEOPIG) and to detect pipe deformation and defects. The results and interpretation must be sent to OGCPipelines.Facilities@bcogc.ca, referencing application # 100084403.

Short Term Water Use

Short Term Water Use Number - 0005407

Approval Period – From: July 1, 2021 **To:** June 30, 2023

ACTIVITY DETAILS

Point of Diversion No.: 001	Water Source Name: Squamish River
Type: Stream/River Purpose: Oil and Gas, Industrial & Storage Location (UTM): Zone 10, Northing 5507492, Easting 487877 Daily Withdrawal Volume (m³/day): 415 Total Withdrawal Volume (m³): 302950	

All authorizations for this activity are subject to the following conditions:

Short Term Water Use Conditions

32. No instream works are permitted under this authorization.
33. A copy of this authorization must be available for inspection at the point of diversion and use location(s).
34. Water withdrawn under this authorization must only be used for the purposes of carrying out the oil and gas activities or related activities.

35. Water must not be diverted or withdrawn from any beaver pond.
36. Water withdrawal must not occur where:
 - a. stream discharge is less than 55 L/s;
 - b. the diversion will cause the stream discharge to fall below 55 L/s;
 - c. stream (wetted) depth is less than 0.30 metres (12 inches) at the withdrawal location; or
 - d. the diversion will cause the stream (wetted) depth to fall below 0.30 metres (12 inches) at the withdrawal location.
37. End-of-pipe intakes must be screened with maximum mesh sizes in accordance with the Fisheries and Oceans Canada 'Interim Code of Practice End-of-pipe fish protection screens for small water intakes in freshwater'
38. The permit holder must maintain accurate records of all water withdrawal activities throughout the term authorized. Water withdrawal records for each diversion point, including '0' values for months where no water was withdrawn, must be recorded monthly. Water withdrawal records must be submitted to the Commission on a quarterly basis via eSubmission. Quarterly reports are due on or before April 25, July 25, October 25 and January 25.
39. At any time, the Commission may suspend short term water use previously authorized, including to address stream discharge and wetted depth minimum limits required by condition 36. Water use suspensions will remain in place until such time as the Commission notifies permit holders that water withdrawals may resume.

Advisory Guidance

1. Construction Plan - 20192187PL_0_Fully Executed.pdf, Diversion Map - 20192187SK_SEC10_CM_0.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.
4. Appropriate tenure may be issued upon acceptance of the post-construction plan. Submission of the original application and submission of the post-construction plan is considered an application for all subsequent applicable *Land Act* tenures. Upon the Commission's acceptance of the post-construction plan no further applications for replacement tenure are required

Permit Holder: FortisBC Energy Inc.

Application Submission Date: November 8, 2019

Application Determination Number: 100084403

Date Issued: August 24, 2020

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

A handwritten signature in blue ink, appearing to read 'K. Paulson', is positioned above the printed name and title.

Ken Paulson, P. Eng.
Chief Operating Officer and Authorized Signatory
Commission Delegated Decision Maker

Copied to:

First Nations – Musqueam Indian Band, Squamish Nation, Tsleil-Waututh Nation
Landowners/Rights Holders
Environmental Assessment Office
Work Safe BC
District of Squamish