

September 21, 2015

Prince Rupert Gas Transmission Ltd.
450 – 1st Street SW
Calgary, AB T2P 5H1

Attention: Prince Rupert Gas Transmission

RE: Pipeline Permit (Section 5)

Date of Issuance: September 21, 2015
Commission File No: 9708461
Job No.: 014697243-001

PERMISSIONS

1. The BC Oil and Gas Commission (the “Commission”), under section 25(1) of the *Oil and Gas Activities Act*, hereby permits the holder to construct and operate a pipeline for the purpose of conveying natural gas subject to the following conditions, any applicable exemptions and authorizations:
 - a. The permissions and authorizations granted under this permit are limited to the areas described in the following construction plans by Focus Surveys(BC) Limited Partnership as submitted to the Commission in the permit application dated March 13, 2015:

FOCUS File: 130275CP05R1, sheet 1-49, revision 1, dated December 31, 2014, excluding all areas located within the Nisga’a Lava Bed Memorial Protected Area
2. This permit expires two years from the date of issuance as per section 8 of the *Oil and Gas Activities Act* General Regulation if the permit holder has not begun the construction of the pipeline permitted unless the permit has been extended.
3. The permit holder is authorized to construct and operate the pipeline segment to transmit natural gas under a maximum operating pressure of 9930 kPa, and under a maximum concentration of H₂S of 0.002 mol%¹ unidirectionally, and in accordance with Piping & Instrumentation Diagram(s), 004776-01-ML-006, revision DD, dated September 3rd, 2014.
4. 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;

¹ Note: 0.002 mol% means 0.0016, mol%, rounded.

- 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 a consultation under the Consultation and Notification Regulation; and
- d. the design and operation of the pipeline continues to meet all regulatory requirements and the requirements of CSA Z662, as amended from time to time.

CONDITIONS

Notification and Reporting

1. At least 30 days prior to commencing any construction activities under this permit, the permit holder must provide the Nisga'a Nation, as represented by the Nisga'a Lisims Government (NLG); Lax Kw'alaams First Nation; Gitanyow Hereditary Chiefs; and Gitksan Nation: Lax Xsin Djihl Laxwiiyip, Luu Andilgan, Naa Dax Deet Laxwiiyip, Sax Geen Laxwiiyip, Sgan Snaat Laxwiiyip, Waulp, Xau Willi Wakw Laxwiiyip, Xsan Seegit Laxwiiyip, and Xsi Git Gat Gaitin with the proposed construction schedule.
2. At least one week prior to the beginning of each month, the permit holder must submit a schedule to the Commission indicating the location and timing of horizontal directional drilling, microtunnelling, direct pipe installation, or in-stream work planned to commence in the following month.
3. Unless a submission has been made under Condition 4, the permit holder must annually, on or before March 31 of each year, submit to the Commission's KERMIT system, a Post Construction Plan map showing the location and nature of any construction activities completed under this permit during the previous calendar year.
4. Within 60 days of completion of construction activities under this permit, the permit holder must submit to the Commission a Post Construction Plan as an ePASS shape file accurately identifying the location of the total area actually disturbed under this permit.

First Nations

5. At the completion of construction activities the permit holder must restore any identifiable trails traditionally used by NLG or the First Nations listed in Condition 1 that were impacted by construction, to the level of access that existed prior to construction, if the location of the trail is made known to the permit holder by NLG, a First Nation, or the Commission prior to the permit holder's notice of construction start.
6. Prior to commencement of construction activities on any portion of the pipeline right of way or work space, the permit holder must consider relevant information made available by NLG or a First Nation listed in Condition 1 in the development of site specific mitigation plans. Relevant information includes culturally modified trees, cache pits, house pits, grave sites, pictograph sites, smoke houses, cabins, artifacts and areas traditionally used on a recurring basis for camping, intensive fishing and berry picking located within the pipeline right of way or work space.

The permit holder must submit, at least 30 days prior to the commencement of construction, the information, along with site-specific mitigation plans for any of the specified items identified that may be impacted by construction activities, to the satisfaction of the Commission.

Clearing

7. Clearing and site preparation must:
 - a. be limited to areas needed for the pipeline right of way and work space;

- b. inclusive of work space, be confined to the construction corridor; and
 - c. not exceed 873.91ha on Crown land.
- 8. Except with leave of the Commission, clearing and site preparation, inclusive of work space, must not occur within:
 - a. 100 meters of where water is diverted by a waterworks, water supply well or water storage reservoir;
 - b. an area containing a mineral lick, bald eagle, osprey, goshawk or great blue heron nest unless the mineral lick or nest is not damaged by activities authorized under this permit;
 - c. a permanent sample site on Crown Land used as a snow course; and
 - d. an area that would require harvest or disturbance of whitebark pine trees.
- 9. Clearing and site preparation, inclusive of work space, must not occur within a riparian management area (RMA) except:
 - a. as shown on the construction plans;
 - b. to facilitate a stream or wetland crossing;
 - c. where it does not involve new clearing and existing clearings do not have a reestablished vegetative cover; or
 - d. with leave of the Commission.
- 10. Clearing and site preparation, inclusive of work space, must not occur within a wildlife tree retention area except:
 - a. as shown on the construction plans; or
 - b. with leave of the Commission.
- 11. Except as shown on the construction plans or with leave of the Commission, incremental clearing for additional work space is not permitted within:
 - a. a wildlife habitat area;
 - b. an ungulate winter range (UWR);
 - c. old growth management areas (OGMAs); or
 - d. Ecosystem Networks or Ecosystem Network Buffers as defined in the Gitanyow Lax'yip Land Use Plan (2012).
- 12. Except with leave of the Commission, incremental clearing for additional work space is not permitted within the riparian reserve zone of streams with a riparian classification of S1-S4.
- 13. Clearing and site preparation, except shooflies identified in the construction plans referenced in Permissions, must be confined to the area approved in the Certified Project Description of the associated Environmental Assessment Certificate.
- 14. Clearing and site preparation must be limited to the area necessary to safely construct the pipeline taking into account the influence of terrain, safe equipment operations, clearing debris, worker safety and egress, protection of adjacent infrastructure, and other conditions relevant to safe construction operations.

15. Clearing and site preparation, other than those identified in the construction plans referenced in Permissions, must be located on any previously disturbed areas located within the construction corridor unless:
 - a. a previously disturbed area is less than 2 hectares;
 - b. such clearing and site preparation is required to avoid one or more of the areas or features identified in Conditions 8, 9, 10, or 11; or
 - c. the permit holder is granted leave by the Commission to carry out such clearing and site preparation.
16. Except with leave of the Commission, no harvesting may occur within 75 metres of the Dragon Lake (Project ID: 0813.61.34) and Tenas Hill (Project ID: EP0886.01.29) research installations.
17. The permit holder must maintain vegetation and minimize stumping or ground disturbance within 10 metres of the high water mark of a fish bearing watercourse and delay grading of the banks of watercourses until immediately before construction of either pipeline crossings or crossings for vehicle access, except where necessary to address terrain related constraints, safe equipment operations, clearing debris, worker safety and egress, protection of adjacent infrastructure or environmental values, and other conditions relevant to safe construction operations. Appropriate erosion and sediment control structures must be installed as necessary to ensure debris and soil are not deposited into watercourses.
18. The permit holder must fall any tree that is harvested within its tree length of a stream or a wetland away from the stream or wetland, and must immediately remove any debris or soil deposited below the high water mark.

Wildlife

19. Except with leave of the Commission, the permit holder must not undertake clearing activities between April 1 and July 31, unless pre-clearing surveys are completed and, where appropriate, mitigation is implemented as per the methods outlined in the Bird Nest Mitigation and Management Plan (Appendix F-2 of the Construction Environmental Management Plan).
20. Except with leave of the Commission, the permit holder must implement the setbacks that are identified in Attachment F of the Bird Nest Mitigation and Management Plan (Summary of Setbacks from Active Bird Nests for the Project) for any construction or significant maintenance activities on the pipeline right of way and work spaces that are within a wetland where an active waterfowl nest is present.
21. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within 200 meters of any active grizzly bear or black bear den that was identified by the survey conducted in accordance with condition 55, between December 1 and April 30.
22. Except with leave of the Commission, the permit holder must not undertake construction or significant maintenance activities within 500 meters of any active wolverine den that was identified by the survey conducted in accordance with condition 55, between February 1 and August 1.
23. Except with leave of the Commission, the permit holder must not, with respect to fisher:
 - a. undertake clearing or significant maintenance activities within 200 metres of any den that was identified by the survey conducted in accordance with condition 55; and

- b. undertake construction or significant maintenance activities within 400 metres of any active den that was identified by the survey conducted in accordance with condition 55, between March 15 and July 31.
24. Between April 15 and August 31, the permit holder must implement measures to direct Western Toads away from the pipeline right of way and work spaces during construction activities and must make efforts to facilitate the passage of Western Toad across the pipeline right of way during construction.
 25. When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation, directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou.
 26. When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation, directly approach, hover over or circle near, or land within 500 metres of known wolverine den sites between February 1 and June 30.
 27. When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation, occur below 400 meters elevation when flying directly above UWR U-6-010 or occur within 2000 metres horizontal distance of UWR U-6-010 between November 1 and June 15 except where there is no line of site.
 28. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities between November 15 and May 15 in the following areas:
 - a. UWR U-6-009, designated as moose winter range; and
 - b. Proposed moose winter range UWR U-6-040.
 29. The permit holder must construct line of sight barriers across the width of the pipeline right of way within UWR U-6-009 and proposed UWR U-6-040 in consultation with the Commission.
 30. The permit holder must implement appropriate measures to reduce the obstruction of wildlife movement across the pipeline right of way during construction and operations.
 31. The permit holder must collect and store garbage in a manner that does not attract bears or other wildlife.

Terrain Stability, Acid Rock Drainage and Mineral Leaching

32. Prior to operating the pipeline, the permit holder must prepare and file with the Commission a report satisfactory to the Commission for the monitoring and maintenance of ground and slope stability on areas where the stability:
 - a. may be affected by clearing or construction of the pipeline; or
 - b. may affect the safe operation of the pipeline.

The report must be prepared by a qualified professional and must include an assessment of a monitoring plan for any areas where karst or ground subsidence may be located/occur.
33. The permit holder must submit prior to construction an acid rock assessment and mitigation information to the Commission, all to the satisfaction of the Commission, with respect to potentially acid generating (PAG) rock along the proposed pipeline route. The information must include, at a minimum, the following elements:

- a. the criteria used to classify acid rock drainage/metal leaching potential;
- b. the process used to delineate PAG rock including desktop and field/laboratory assessments;
- c. results of engineering evaluation of expected PAG rock locations and associated construction-related quantities;
- d. additional planned characterization to complement initial assessment results;
- e. protocols to be followed during construction to verify results of PAG characterization and engineering assessments;
- f. a flowchart outlining material handling steps for confirmed PAG rock;
- g. associated mitigation and monitoring programs for exposed in situ and disposed PAG rock;
- h. mitigation selection criteria;
- i. typical drawings and typical specifications for mitigation such as soil covers and rock slope face barriers (e.g., shotcrete and synthetic spray cover); and
- j. gradational specifications for cover layer barriers composed of glacial till and/or other materials.

The above information must be prepared by a qualified professional and any protocols, mitigation or monitoring associated with e through j must be implemented by permit holder.

Stream, Wetland and Lake Crossings

34. Subject to sections 11 and 12 of the EPMR, crossings of non-fish bearing streams and wetlands must be constructed in accordance with the methods and any mitigations that are specified in a supplemental stream and wetland crossing submission that has been submitted to the satisfaction of the Commission. No crossings of non-fish bearing streams and wetlands may be constructed within the Nisga'a Lava Bed Memorial Protected Area.
35. Subject to sections 11 and 12 of the EPMR, crossings of fish bearing streams and wetlands must be constructed in accordance with the timing, methods and any mitigations that are specified in a supplemental stream and wetland crossing submission that has been submitted to the satisfaction of the Commission. Any contingency method specified in a supplemental stream and wetland crossing submission may only be utilized with leave of the Commission. No crossings of fish bearing streams and wetlands may be constructed within the Nisga'a Lava Bed Memorial Protected Area.
36. Except with leave of the Commission, the permit holder must only carry out construction activities within a wetland with a riparian class of W2 in accordance with the timing, methods and any mitigations for such works that are specified in a supplemental W2 workspace submission that has been submitted to the satisfaction of the Commission.
37. Open cut crossings of watercourses must be planned and conducted in accordance with the relevant detail in a supplemental stream crossing submission that has been submitted to the satisfaction of the Commission, and the following requirements:
 - a. An open cut of a stream classified as S1, S2, S3, S4, S5 or S6 may only occur with leave of the Commission, unless the stream is frozen to its bed or is completely dry with no evidence of subsurface flow;

- b. where the streambed consists of rocks, pebbles or coarse gravel overlaying finer material, this material must be removed and stockpiled separately above the high water mark of the stream for replacement during restoration;
 - c. spawning gravels must not be disturbed when redds that contain eggs or alevins are present;
 - d. excavated materials must be contained using appropriate techniques, so that that sediment-laden water and spoil do not re-enter the waterbody;
 - e. any sediment-laden trench water must be pumped onto stable surfaces in a manner that does not cause erosion of soils or release of suspended sediments to watercourses;
 - f. where feasible, aquatic vegetation, freshwater mussels, and organic debris removed from the construction area must be salvaged and returned following trench backfilling;
 - g. 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; and
 - h. fish streams must be restored based on pre-construction surveys, including restoration of areas containing rearing potential with adequate stream depth and in-stream structures and restoration of spawning areas with gravel placement.
38. Open cut crossings of wetlands must be planned and conducted in accordance with the relevant detail in a supplemental wetland crossing submission that has been submitted to the satisfaction of the Commission, and the following requirements:
- a. where the wetland substrate consists of rocks, pebbles or coarse gravel overlaying finer material, this material must be removed and stockpiled separately above the high water mark of the stream for replacement during restoration;
 - b. materials referred to in a) must be excavated and stockpiled in a manner that minimizes sediment dispersal within the wetland and must be replaced in a manner that minimizes disturbance to the wetland following pipeline installation;
 - c. channels, banks and beds of wetlands, 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; and
 - d. any sediment-laden trench water must be pumped onto stable surfaces in a manner that does not cause erosion of soils or release of suspended sediments to watercourses.
39. Flow isolation crossings must be planned and conducted in accordance with the relevant detail in a supplemental stream crossing submission that has been submitted to the satisfaction of the Commission, and in accordance with b to g of condition 37 and the following additional requirements:
- a. crossings of fish-bearing streams may commence only after confirming that sufficient equipment and supplies are available to complete the crossing in an efficient and timely manner;
 - b. crossing construction, including the location and operation of any equipment must be isolated from water flowing in the stream;
 - c. spawning gravels must not be disturbed when redds that contain eggs or alevins are present;

- d. activities must be suspended if high stream flows present a material increased risk to safety and effectively completing the intended crossing installation technique;
 - e. welding, coating, weighting and, where applicable testing, of the pipe must be completed prior to commencement of trenching within fish-bearing water bodies;
 - f. water from flumes, pump-arounds, diversions, or other methods must be released to downstream areas using dissipation structures to avoid causing erosion or sediment release;
 - g. pump intakes must not disturb beds of streams or wetlands 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*";
 - h. water flows downstream of in-stream construction sites must be maintained at volume and discharge consistent with upstream flows; and
 - i. hard ditch plugs must be installed at or near the banks of the crossing and left in place until the crossing has been initiated.
40. Equipment to be used in or adjacent to a stream, lake or wetland must be clean or otherwise free of external grease, oil or other fluids, excessive muds, soil and vegetation, prior to entering the waterbody.
41. Within the riparian management area, generators and other stationary equipment that requires refueling, must be situated in secondary containment capable of containing the fuel capacity of the generators.
42. Unless otherwise authorized by the Commission, prior to construction activities in a stream classified as S1, S2, S3 or S4; or the Riparian Reserve Zone of a stream classified as S1, S2, S3, or a S4 stream, the permit holder must develop a Freshwater Water Quality Monitoring Program to the satisfaction of the Commission. The Freshwater Water Quality Monitoring Program must:
- a. be developed, implemented and supervised by a qualified professional;
 - b. be consistent with the Ministry of Environment's approved water quality guidelines;
 - c. include environmental water quality monitoring, including field monitoring of turbidity, pH and total suspended solids for potential exceedance of BC Water Quality Guidelines for the protection of aquatic life, as they may be amended from time to time;
 - d. require pre and post construction monitoring upstream (baseline) and downstream of the location of potential disturbance from construction activities;
 - e. require sampling that is representative of water quality variation across the stream; and
 - f. require documentation of pre and post construction monitoring completed under e.
43. Unless otherwise authorized by the Commission, prior to construction activities in a wetland, the permit holder must develop a Freshwater Water Quality Monitoring Program to the satisfaction of the Commission. The Freshwater Water Quality Monitoring Program must:
- a. be developed, implemented and supervised by a qualified professional;
 - b. be consistent with the Ministry of Environment's approved water quality guidelines;

- c. include environmental water quality monitoring for potential exceedance of the BC Water Quality Guidelines for the protection of aquatic life, as they may be amended from time to time;
 - d. where appropriate, require pre and post construction monitoring proximal to the location of potential disturbance from construction activities;
 - e. require sampling that is representative of water quality variation across the pipeline right of way through wetlands with a riparian classification of W1; and
 - f. require documentation of pre and post construction monitoring completed under d.
44. The permit holder must implement the Freshwater Water Quality Monitoring Program developed as per conditions 42 and 43 and do each of the following:
- a. provide records of documentation of all pre and post construction monitoring to the Commission;
 - b. immediately report to the Commission any exceedance of the BC Water Quality Guidelines for aquatic life, relative to the baseline, consistent with the thresholds defined in the Guidelines; and
 - c. immediately take steps to address the factors producing any exceedance of the BC Water Quality Guidelines for aquatic life, relative to the baseline, and where such steps do not result in addressing the exceedance, promptly suspend construction operations at the site of activities causing the exceedance until effective solutions, satisfactory to the Commission, have been developed and implemented.
45. As part of post construction monitoring, the permit holder must, for all watercourse and wetland crossings:
- a. inspect and provide a report to the Commission that includes assessment of:
 - i. RMA stability;
 - ii. erosion risk to the watercourse;
 - iii. vegetation re-establishment within the RMA, including species composition, percent establishment, and presence of invasive plant species; and
 - iv. identify where contingency measures may be required to address the items in i, ii or iii.
 - b. Where contingency measures are required, the permit holder must develop and implement an appropriate plan to the satisfaction of the Commission.

Engineering

46. Before beginning construction activities on any crossing of a road by the pipeline, the permit holder must submit, to the satisfaction of the Commission information, in tabular or other format, describing:
- a. the crossing location;
 - b. summary, including any outcomes, of engagement with the road tenure holder, primary road user or road owner;
 - c. whether the crossing will be constructed using trenchless methods;

- d. the approximate dates and maximum time that traffic at the crossing is expected to be restricted or obstructed;
 - e. pipeline specifications at the crossings, including pipeline diameter, wall thickness, depth of cover and grade; and
 - f. maximum vehicular weights expected at the crossing location.
47. The permit holder must construct any road crossing consistent with information accepted by the Commission under condition 46.
48. At least 45 days prior to commencement of welding, the permit holder must submit to the Commission's satisfaction, a fracture arrest and mitigation program.
49. Where the hoop stress during the pressure test exceeds 100% SMYS, the permit holder must submit to the Commission the P-V test and the pressure test results before beginning operation of a pipeline.
50. At least 90 days prior to pipe-stringing activities in areas where geohazards are present, the permit holder must submit, to the satisfaction of the Commission:
- a. a geohazard assessment that includes:
 - i. a description of the geohazard(s) identified that have reasonable probability of impacting the pipeline, with the location of each geohazard illustrated on either a map or in a table; and
 - ii. specific design measures, such as materials to be used, installation procedures, protective structures, depth of cover, and monitoring that will be implemented to mitigate the geohazard(s) identified in (i); and
 - b. a field changes manual for geohazards that includes:
 - i. criteria for measures, including those identified in a(ii) above, that will be implemented to mitigate any additional geohazards identified during construction; and
 - ii. qualification requirements for field staff who will implement the field changes manual.
51. Except with leave of the Commission, within 12 months of commencement of gas transmission to the Lelu Island Metering Station, 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.

Archaeology

52. An Archaeological Impact Assessment (AIA) must be completed for the pipeline right of way and work spaces prior to commencement of construction activities.
53. The permit holder must, as soon as practicable, submit an AIA report to the Commission.
54. If artifacts, features, materials or things protected under section 13(2) of *the Heritage Conservation Act* are identified the permit holder must, unless the permit holder holds a permit under section 12 of the *Heritage Conservation Act* issued by the 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 Commission; and
- c. refrain from resuming work in the vicinity of the artifacts, features, materials or things except in accordance with an appropriate mitigation plan that has been prepared in accordance with the *Heritage Conservation Act* and approved by the Commission.

Environment

55. Prior to commencing clearing or site preparation on any portion of the pipeline right of way or work space, the permit holder must conduct a survey identifying any:
- a. Bear, fisher or wolverine dens located within 200 metres of the pipeline right of way and work space, and within the construction corridor;
 - b. Western Toad breeding or migration areas located within 100 metres of the pipeline right of way or workspaces;
 - c. vascular plants, mosses or lichens listed under the *Species at Risk Act* as endangered, threatened or special concern and located within the construction corridor; and
 - d. individual plants, plant communities or residences species identified as species at risk in a subsisting order issued under the *Forest and Range Practices Act* or the *Oil and Gas Activities Act* and located within or adjacent to the construction corridor.

The permit holder must submit the survey results, along with site-specific mitigation plans for any of items identified in a to d that may be impacted by construction activities, to the satisfaction of the Commission prior to notice of construction start.

56. Within one year following completion of pipeline construction, the permit holder must prepare an amendment proposal for replacement or recruitment of any Ecosystem Network areas that require an amendment under the Gitanyow Lax'yip Land Use Plan (GLLUP), and initiate this Ecosystem Network amendment proposal with Gitanyow and the Ministry of Forests, Lands and Natural Resource Operations as required under Biodiversity Land Use Objective 7.0 in the GLLUP.
57. Within any OGMA, the permit holder must, to the extent practicable, retain coarse woody debris and redistribute it along the right of way post construction in a manner that supports forest biodiversity, habitat connectivity for fur-bearers and small mammals, and regeneration.
58. 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 site prior to the construction activities taking place.
59. The permit holder must, as soon as practicable, restore recreation sites, recreation trails or recreation facilities established or authorized under the *Forest and Range Practices Act* that are adversely affected by construction activities to their pre-construction condition to the Commission's satisfaction.
60. The permit holder must, as soon as practicable, restore range developments defined under the *Forest and Range Practices Act* that are adversely affected by construction activities to their pre-construction condition to the Commission's satisfaction.
61. At the completion of construction activities the permit holder must restore any identifiable trails used by trappers that were adversely affected by pipeline construction, to the level of access that existed prior to construction, if the location of the trail is made known to the permit holder by the registered trapper for the area specific to the trail or the Commission prior to the permit holder's notice of construction start.

62. In all locations where run-off from the area of the pipeline right of way or work space may flow into a watercourse, the permit holder must contour and stabilize banks and approach slopes and install berms, silt fences, cross ditches, or other alternative effective measures as appropriate to minimize erosion and avoid sediment deposit into the watercourse.
63. The permit holder must undertake dust control measures to ensure that dust resulting from construction activities does not affect safe travel on a road or significantly impair the use and enjoyment of lawfully occupied permanent dwellings, significant public use areas or other similar areas.
64. The permit holder must undertake reasonable measures to mitigate noise from construction activity that has the potential to affect public safety or significantly impair the use and enjoyment of lawfully occupied permanent dwellings, significant public use areas during periods of use or other similar areas.
65. Upon completion of construction of activities authorized under this permit, the permit holder must, to the satisfaction of the Commission:
 - a. re-vegetate, using seed or vegetative propagules of an ecologically suitable species or implement other measures that promote the restoration of the wildlife habitat that existed on the area before the oil and gas activity was begun and stabilize the soil if it is highly susceptible to erosion;
 - b. within UWR U-6-009 and proposed UWR U-6-040, take reasonably practicable measures to re-vegetate with species of high forage value to moose; and
 - c. take reasonably practicable measures to limit or prevent vehicular access to and along, and to reduce sightlines along the pipeline right of way.
66. The permit holder must determine timber hauling restrictions pertaining to the management of beetle infested timber recommended by the BC Ministry of Forests, Land, and Natural Resource Operations and adhere to all such restrictions unless otherwise specified by the Commission.

Nisga'a Lava Bed Memorial Protected Area #2 (Protected Area)

67. As part of its construction activities within the Protected Area, the permit holder will complete an analysis (Analysis) to examine the feasibility of salvaging and stockpiling lava rock that has lichen or moss growing on it so as to maintain the integrity of the lava rock and minimize the harm to or destruction of the lichen and moss.
68. The permit holder will share the results of the Analysis and collaborate with NLG in respect of suitable construction techniques in the Protected Area and will submit a construction and remediation plan (Plan), based on the Analysis and the collaboration with NLG, for the Protected Area to NLG and the Commission at least 30 days prior to the commencement of construction within the Protected Area.
69. Subject to results of the Analysis and in accordance with the Plan, the permit holder will, where practical, use construction techniques during the excavation, stockpiling and replacement of this lava rock, that:
 - a. maintain the integrity of the lava rock;
 - b. minimize harm to or destruction of lichen or moss; and
 - c. enable the replacement of the lava rock within the Protected Area upon completion of construction activities.

70. As soon as reasonably possible after the completion of construction activities within the Protected Area, the permit holder must, where practical, strategically place salvaged lava rock within the Protected Area. If lichen and moss is present on the lava rock, the permit holder will, where practical, orient the rock so that the lichen or moss is exposed.
71. Where it is not practical to excavate, stockpile, and replace lava rock in a way that preserves existing lichen and moss present on the rock, the permit holder will ensure, wherever practical, that lava rock material (as stockpiled during construction) is replaced as surface material over the pipeline right of way and work spaces and is of suitable size and composition to enable, to the greatest extent possible, the recolonization and regrowth of lichen and moss to minimize the establishment of vascular plants.

Potential Pinch Points

72. Except with leave of the Commission, the permit holder must provide the Commission with at least 7 days written notice of any proposed change to the pipeline centreline identified in the Construction Plans referenced in Permissions, that:
 - a. would result in a change to the horizontal alignment of the pipeline centreline of more than 100 metres; or
 - b. might reasonably limit the construction of any additional pipeline(s) at the location of the proposed change.
73. The permit holder must provide the Commission with a report summarizing its engagement with third parties regarding routing, pipeline alignment and the mitigation of pinch point locations within the construction corridor, at least 60 days prior to construction at such pinch point locations.

ADDITIONAL CONDITIONS

Additional Notifications to Nisga'a Lisims Government

74. The permit holder must notify NLG no more than one month and no less than one week prior to commencing construction of a horizontal directional drill, microtunneling, direct pipeline installation, aerial crossing, or trenched stream crossing located within the Nass Area.
75. The permit holder must provide NLG with a copy of any Post Construction Plan (in shapefile format) that is submitted to the Commission pursuant to condition 3 or 4 identifying the location of areas within the Nass Area that are disturbed under this permit.
76. The permit holder must provide to NLG for review and comment a copy of any pre-construction surveys and remediation plans that are submitted to the Commission for trenched stream crossings within the Nass Area.

Nisga'a Lands

77. On Nisga'a Lands, clearing and site preparation, inclusive of work space, must be confined to the construction corridor and, except for the pipeline right of way and work spaces shown on the construction plans approved by the Permissions, must not, without leave of the Commission, occur within:
 - a. 100 meters of where water is diverted by a waterworks, water supply well or water storage reservoir;

- b. an area containing a mineral lick, bald eagle, osprey, goshawk or great blue heron nest unless the mineral lick or nest is not damaged by activities authorized under this permit;
 - c. an area that would require harvest or disturbance of whitebark pine trees;
 - d. a riparian management area, except to facilitate a stream or wetland crossing, or where it does not involve new clearing and existing clearings do not have a reestablished vegetative cover;
 - e. Class 1 and Class 2 Moose Winter Foraging Habitat on Nisga'a Lands, except as identified in Appendix A – "*Class 1 and Class 2 Moose Winter Foraging Habitat, Nisga'a Lands*"; and
 - f. Nisga'a Old Forest Areas, except as identified in Appendix B – "*Areas Defined as Nisga'a Old Forest on Nisga'a Lands.*"
78. Except for the pipeline right of way and work spaces identified on the construction plans approved by the Permissions or except with leave of the Commission, on Nisga'a Lands, incremental new clearing for additional work space is not permitted within:
- a. Class 1 and Class 2 Moose Winter Foraging Habitat;
 - b. Riparian reserve zones; or
 - c. Nisga'a Old Forest Areas.
79. Except with leave of the Commission, on Nisga'a Lands, the permit holder must not undertake clearing or significant maintenance activities between November 15 and May 15 in Class 1 or Class 2 Moose Winter Foraging Habitat.
80. The permit holder must ensure that its activities do not cause a material adverse effect on the quality, quantity, or natural timing of flow of water in an aquifer located under the construction corridor within Nisga'a Lands.
81. The permit holder must, for each crossing of a stream, wetland and lake located within Nisga'a Lands, ensure that:
- a. the crossing is constructed and maintained at times and in a manner that is unlikely to harm fish or harmfully alter fish habitat and does not harm fish or fish habitat, except in accordance with an authorization or letter of advice from Fisheries and Oceans Canada that is provided to the Commission;
 - b. the crossing is constructed and maintained so that it does not prevent the movement and passage of fish;
 - c. the side of the stream, wetland or lake is protected at the crossing; and
 - d. any and all adverse effects on the stream channel, stream bank, lake shore, lake bottom, riparian reserve zone, riparian management zone, or wetland are mitigated.
82. The permit holder must ensure that the oil and gas activity does not result in any deleterious materials being deposited into a stream, wetland, or lake that is located wholly or partially within Nisga'a Lands.
83. In conducting the oil and gas activities on Nisga'a Lands, the permit holder must, to the extent practicable, maintain natural flow of water in any wetland areas and must ensure that wetland areas and functions are maintained in respect of hydrological, biogeochemical, and habitat parameters.
84. In conducting the oil and gas activities on Nisga'a Lands, the permit holder must:

- a. ensure that seeds, plant parts or propagules of an invasive plant are not transported into the area; and
 - b. minimize the risk of the establishment of invasive plants by implementing the requirements of Condition 88 and other applicable, standard industry practices; and ensure that any invasive plants that do become established are treated in a manner that eliminates such invasive plants and the risk of their spread.
85. In carrying out the oil and gas activities on Nisga'a Lands, the permit holder must make efforts to:
- a. stockpile topsoil/surface material and mineral soil for reclamation purposes;
 - b. maintain the stockpile so that the soil is retained and risks of sediment transport into nearby waterbodies are minimized; and
 - c. stockpile large woody debris for strategic placement in reclaimed areas at locations, including around wildlife habitat features, within areas of Nisga'a Old Forest and within areas identified in the Construction Environmental Management Plan at appropriate locations and densities as described in the Construction Environmental Management Plan.
86. In carrying out the oil and gas activities on Nisga'a Lands, the permit holder must not create conditions conducive to the spread of insects harmful to forest health.
87. In carrying out oil and gas activities on Nisga'a Lands, the permit holder must:
- a. Not cause the soil of the area to become unstable; and
 - b. Not cause any alteration to the natural surface drainage patterns of the area in way that results in adverse effects on vegetation or watercourses following restoration set out in condition 88 below.
88. During or as soon as reasonably possible upon completion of any construction or oil and gas activities, as applicable, on Nisga'a Lands, the permit holder must restore the construction corridor, including any work spaces, by:
- a. de-compacting any soils compacted by the construction or oil and gas activity and stabilize the soil to prevent erosion;
 - b. redistributing any retrievable surface materials that were removed from the construction corridor and any work spaces, during construction so that the soil profile is restored, to the extent practicable, to its condition before construction was begun;
 - c. if the natural surface drainage pattern was altered by the construction, restoring the drainage pattern to its condition before the alteration;
 - d. re-vegetating, using seed or vegetative propagules of an ecologically suitable species or implement other measures to the satisfaction of the Commission, that promote the restoration of the wildlife habitat that existed on the area before the oil and gas activity was begun;
 - e. unless otherwise required by NLG, removing any structure that was constructed to cross a stream, wetland or lake and ensuring that the site of the removed structure is returned to a stable condition;
 - f. stabilizing any cut slopes or fill slopes;

- g. re-contouring bladed areas or excavations;
- h. strategically placing stockpiled large woody debris in reclaimed areas at locations, including around wildlife habitat features, within Nisga'a Old Forest Areas and within areas identified in the Construction Environmental Management Plan, at appropriate locations and densities comparable to off right-of-way conditions at those locations, and, in the case of access management, as described in the Access Management Plan; and
- i. allowing for vegetation growth and placing natural materials, which may include but would not be limited to boulders, logs, and earthen berms, at strategic locations to minimize vehicular access and reduce line-of-sight distances from access roads.

AUTHORIZATIONS ASSOCIATED WITH THE PERMIT

Temporary Permit under Section 14 of the *Land Act*

89. Subject to 90 to 96 below, the Commission, under section 14 of the *Land Act* and pursuant to Authorization Number 948178, hereby authorizes the permit holder to occupy and use Crown land limited to the areas described in the following construction plans by Focus Surveys (BC) Limited Partnership as submitted to the Commission in the permit application dated March 13, 2015:

FOCUS File: 130275CP05R1, sheet 1-49, revision 1, dated December 31, 2014, excluding all areas located within Nisga'a Lands, the Nisga'a Lava Bed Memorial Protected Area, and those areas within *Land Act* section 16 reserves 6402679, 6405076, 6405690, 6404967, 6403263, 0347984, 6404445, 6405062, and 6404287.

90. The permit holder will:
- a. indemnify the Province of British Columbia (the "Province") and the Commission against all losses, damages, costs, and liabilities arising out of any breach or non-performance of any condition or agreement set out in this permit, and any personal injury, death or property damage occurring on the site or happening by virtue of the permit holder's occupation of the site, and this obligation to indemnify will include all of the foregoing from the first day that such losses, damages, costs and liabilities arose; and
 - b. immediately effect, and keep in force while occupying the site, insurance of an amount not less than \$1,000,000 protecting the Province, the Commission and the permit holder (without any rights of cross-claim or subrogation) against claims for personal injury, death, property damage, or third party or public liability claims arising from any accident or occurrence on the site.
91. The authorization to occupy and use Crown land does not entitle the permit holder to exclusive possession of the area. The permit holder will not interfere with the activities of another person entering on and using the area under a prior or subsequent authorization issued under the *Land Act*.
92. The rights granted by this section 14 permit are subject to all subsisting grants to or rights of any person made or acquired under the *Coal Act*, *Forest Act*, *Mineral Tenure Act*, *Petroleum and Natural Gas Act*, *Range Act*, *Water Act* or *Wildlife Act*, or any extension or renewal of the same, any prior dispositions made under the *Land Act*, and the exceptions and reservations of rights and interests under section 50 of the *Land Act*.

93. The permit holder will acknowledge and agree that any interference with rights granted under this section 14 permit by virtue of the exercise or operation of the rights or interests set out in 91 or 92 above shall not constitute a breach of the Province's or the Commission's obligations under this permit and the permit holder will release and discharge the Province and/or the Commission from any claim for loss or damage arising directly or indirectly out of any such interference. The permit holder will also agree to pay all costs and expenses that arise out of the permit holder's interference with the rights or interests set out in sections 91 or 92 and that the permit holder will not commence or maintain proceedings under section 65 of the *Land Act* with respect to interference with the permit holder's rights arising out of exercise or operation of the rights set out in sections 91 or 92.
94. The permit holder must pay, when due, the Fees to the address set out in the attached covering letter.
95. The permit holder must not assign, sublicense or transfer this Permit or permit any person to use or occupy the land, other than its employees, contractors, or representatives, without the Commission's written consent.
96. This authorization of a permit to occupy and use Crown land expires two years from the date of issuance.

Changes in and about a Stream Authorization under section 9 of the *Water Act*

97. The Commission hereby authorizes the permit holder, under section 9 of the *Water Act*, to make changes in and about streams located in the areas described in a supplemental stream and wetland crossing submission that has been submitted to the satisfaction of the Commission.

Cutting Permit Authorization

98. Pursuant to section 47.4 of the *Forest Act*, the Commission hereby issues Cutting Permit No. 33, under Master License to Cut number M02374, Skeena Stikine Forest District, and Cutting Permit No. 13, under Master License to Cut number M02399, Coast Mountain Forest District, to cut and remove timber from the areas of Crown land within the area within the Site subject to the following conditions:
 - a. These Cutting Permits are deemed spent upon submission of the post-construction plan referenced in condition 4, or upon either the cancellation or the expiry of the permitted oil and gas activity;
 - b. These Cutting Permits are subject to the terms and conditions in the Master Licences to Cut;
 - c. All harvested Crown timber within Master License to Cut M02374, Skeena Stikine Forest District, must be marked with Timber Mark Number MTB 376;
 - d. All harvested Crown timber within Master License to Cut number M02399, Coast Mountain Forest District, must be marked with Timber Mark Number MTB 375;
 - e. The felling, bucking and utilization specifications in the Master Licenses to Cut apply to these Cutting Permits;
 - f. Stumpage for these Cutting Permits will be calculated as per the applicable appraisal manual. Where timber felled on the cutting authority area that will not be removed from the site, volume billed will be based on an approved alternate method of scale;
 - g. In accordance with the Master Licenses to Cut referenced above, "Within 60 days of completing operations on a cutting permit, the Licensee shall submit to the Commission a

map showing all disturbances that have occurred pursuant to that Cutting Permit, at a scale of 1:20,000 or 1:50,000";

- h. Timber that is stored in decks or piles must be marked with the correct timber mark before transportation, or at the end of every shift. The marking must be applied to one end of at least 10% of the timber pieces in each deck or pile using a hammer indentation or paint. Marking must be kept concurrent with decking;
- i. Where the Permit Holder is aware of overlapping forest tenure rights that have been granted to other persons, the Permit Holder is obligated to communicate to these persons the timing and extent of their harvest operations at least two weeks prior to commencement of harvest and take all reasonable steps to coordinate their activities with these persons;
- j. Prior to harvesting, any clearing authorized by these Cutting Permits must be clearly defined on the ground by ribboning or blazing; and
- k. This permit authorizes a maximum total new cut area of 822.80 ha within the construction corridor.

ADVISORY GUIDANCE

1. The permit holder must provide notices required by the Pipeline Regulation prior to beginning construction, maintenance or repair of the Pipeline.
2. As required by section 3 of the Pipeline Regulation, the permit holder must design, construct, operate and maintain the pipeline in accordance with CSA Z662, as amended from time to time.
3. As required by section 4(2) of the Pipeline Regulation, the permit holder must submit to the Commission the pipe and component specifications and the as-built drawings for the pipeline within 3 months after completion of construction of a pipeline.
4. As required by section 24(1) of the *Oil and Gas Activities Act* General Regulation, the permit holder must complete the surveying and posting of the pipeline right of way within 16 months after completing construction of the pipeline.
5. As required by section 7 of the Pipeline Regulation, the permit holder must include the pipeline authorized by this permit in its Integrity Management Plan and Damage Prevention Program.
6. Trenchless crossing must be planned and conducted in accordance with the Directional Drilling Procedures and Drilling Mud Release Contingency Plan and the relevant detail in the Typical Drawings of the Environmental Management Plan and any plans accepted by the Commission under Conditions 34 and 35.
7. The permit holder must avoid all archaeology sites unless issued a site alteration permit by the Commission, pursuant to section 12 of the *Heritage Conservation Act*.
8. All archaeological reports submitted to the Commission must also be provided to the archaeology branch of the Ministry of Forests, Lands and Natural Resource Operations.
9. All archaeological reports submitted to the Commission must also be provided to NLG and the First Nations listed in Condition 1 of this permit.
10. Prior to commencing construction on any pipeline stream crossing, the permit holder must:
 - a. identify any new streams not described in a supplemental stream and wetland crossing submission that has been submitted to the satisfaction of the Commission;

- b. for new streams or where there was outstanding fieldwork required for a stream described in a supplemental stream and wetland crossing submission that has been submitted to the satisfaction of the Commission, conduct the field work needed to complete stream classifications and identify the fish species presence for that stream, including any required confirmation of fish species presence in streams that were surveyed prior to issuance of this permit; and
 - c. submit the results of the field work required under (b) to the satisfaction of the Commission. The results must clearly describe the management and mitigation measures that will be employed in order to minimize impacts to the species present and their habitat.
11. Construction or maintenance activities within a fish bearing stream or wetland must occur:
- a. during the applicable reduced risk work windows as specified in the Skeena Region Reduced Risk In-stream Work Windows and Measures, as appropriate;
 - 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.
12. NLG, in accordance with the Nisga'a Final Agreement, enacts laws, regulations and policies in respect of the use of and activities on Nisga'a Lands, including, but not limited to the Nisga'a Land Act, the Nisga'a Forest Act and a Pesticide Use Policy that prohibits application of herbicides and pesticides on Nisga'a Lands without express, written permission from NLG. In addition to Nisga'a laws, construction and operation of the pipeline on Nisga'a Lands is subject to the specific terms of the statutory right of way and statutory access agreement granted by NLG in respect of the project. For more information, contact the Director of Lands & Resources, Nisga'a Lisims Government (PO Box 231 2000 Lisims Drive, Gitlaxt'aamiks BC / Tel: 250 633 2367).
13. Notwithstanding Condition 6 and in accordance with the Gitanyow Lax'yip Land Use Plan, the permit holder must seek consent from Gitanyow for any impacts to cultural heritage sites within the GLLUP area and as defined by the GLLUP.
14. For the portion of the pipeline that falls within the Gitanyow Lax'yip Land Use Plan area, the permit holder must ensure that final right of way location within the construction corridor and any amendments to this permit, consider, and, where relevant, are consistent with, the management goals and objectives of the Gitanyow Huwilp Recognition and Reconciliation Agreement, schedule B – Gitanyow Lax'yip Land Use Plan.

DEFINITIONS

Unless the condition or its context indicates otherwise, the terms in this permit have the same meaning as defined in the *Oil and Gas Activities Act* or the regulations under that Act.

“additional work space” means the work space, delineated in purple on construction plans, other than temporary work space, needed to facilitate pipeline construction and includes decking sites and staging areas.

“construction activities” or “construction” means clearing, site preparation, trench excavation, pipe installation and any other activities required to construct a pipeline.

“construction corridor” means:

- (a) the area of land extending on either side of the centerline of the pipeline as indicated in the application for this permit, and is labelled as either “construction corridor” or “review corridor” on the construction plans; and
- (b) notwithstanding anything to the contrary in the construction plans, in respect of Nisga’a Lands, the area identified on the plans attached to the statutory right of way granted to the permit holder by NLG, including any amendments thereto that are agreed to from time to time by NLG and the permit holder.

“environmental management plan” means the environmental management plan as revised, that supports the application for this permit, the relevant components of which are acceptable to the Commission.

“Nass Area” has the meaning ascribed to it in the Nisga’a Final Agreement.

“Nisga’a Final Agreement” means the Nisga’a Final Agreement between the Nisga’a Nation, Canada and British Columbia dated May 11, 2000.

“Nisga’a Lands” has the meaning ascribed to it in the Nisga’a Final Agreement.

“Nisga’a Lisims Government” or “NLG” means the government of the Nisga’a Nation as set out in the Nisga’a Final Agreement.

“pinch point” means a specific area delineated by topographic, terrain/geohazards, existing infrastructure, watercourses, or climatic conditions requiring non-routine design detail and/or construction execution for a single (first) pipeline, and/or multiple pipelines (with potentially more complex considerations related to project interactions), to ensure safe and commercially viable design, construction, and operations.

“qualified professional” means a member in good standing of a profession regulated in British Columbia and who is recognized by that profession as being qualified to work in area of practice for which an opinion or advice is required.

“qualified specialist” means a person who possesses an appropriate combination of formal education, knowledge, skills, and experience to conduct a technically sound and rational assessment for the area of practice, and be familiar with applicable regulations, standards, policies, protocols and guidelines.

“residence” means a dwelling-place, such as a den, nest or other similar area or place, that is occupied or habitually occupied by one or more individuals during all or part of their life cycles, including breeding, rearing, staging, wintering, feeding or hibernating.

“riparian areas on Nisga’a Lands” means, for each riparian class of stream, the minimum riparian management area width, riparian reserve zone width and riparian management zone width, on each side of the stream, as set out in the following table, except that if the width of the active flood plain of a stream exceeds the specified width for the riparian management zone, the width of the riparian management zone is the outer edge of the active flood plain:

Item	Riparian Class	Riparian Management Area (metres)	Riparian Reserve Zone (metres)	Riparian Management Zone (metres)
1	S1-A	100	50	50
2	S1-B	70	50	20
3	S2	50	30	20
4	S3	40	20	20

Item	Riparian Class	Riparian Management Area (metres)	Riparian Reserve Zone (metres)	Riparian Management Zone (metres)
5	S4	30	10	30
6	S5	30	0	30
7	S6	20	0	20

“road” means an existing road:

- a. that is a highway as defined in the *Transportation Act* and is currently being maintained by an agency of the provincial government or a local government, either directly or by agreement,
- b. that is a Forest Service Road,
- c. for which there is a subsisting permit under the *Forest Act*, *Land Act* or *Oil and Gas Activities Act*,
- d. that is an industrial road as defined under the *Industrial Roads Act*, or
- e. that is privately owned.

“temporary work space” means the work space, delineated in blue on construction plans, that runs adjacent to the pipeline right of way, which may be used to accommodate vehicle traffic as well as stringing, welding and placing pipe.

“work space” means both temporary work space and additional work space.

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

CC: Roy Northern Land Services Ltd.

MFLNRO, Skeena-Stikine Forest District, Coast Mountain Forest District

First Nations (Nisga’a Nation; Lax Kw’alaams First Nation; Gitanyow Hereditary Chiefs; and Gitksan Nation: Lax Xsin Djihl Laxwiiyip, Luu Andilgan, Naa Dax Deet Laxwiiyip, Sax Geen Laxwiiyip, Sgan Snaat Laxwiiyip, Waulp, Xau Willi Wakw Laxwiiyip, Xsan Seegit Laxwiiyip, and Xsi Git Gat Gaitin)

WorkSafe BC

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BC Environmental Assessment Office