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Pacific Northern Gas Ltd.

Application for a Certificate of Public Convenience and Necessity
for the Salvus to Galloway Gas Line Upgrade Project

Decision
and Order C-4-21

July 8, 2021

Before:
T. A. Loski, Panel Chair
M. Kresivo, Q.C., Commissioner

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COMMISSION ORDER C-4-21

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Executive summary

On October 9, 2020 Pacific Northern Gas Ltd. (PNG) applied to the British Columbia Utilities Commission (BCUC) for a Certificate of Public Convenience and Necessity (CPCN) for the Salvus to Galloway Gas Line Upgrade Project (Project) (the Application), pursuant to sections 45 and 46 of the *Utilities Commission Act* (UCA). The objective of the proposed Project is to remediate the Salvus to Galloway pipeline segment of the PNG Western Transmission Gas Line to address existing compliance deficiencies relating to applicable pipeline standards and to ensure the continued provision of safe, reliable natural gas service to PNG's customers in the Prince Rupert and Port Edward areas. The Project is scheduled to occur over a three-year period, between 2021 and 2023, with an estimated capital cost of approximately \$84.8 million.

By Order G-288-20 dated November 6, 2020, and amended by Order G-23-21 dated January 22, 2021, the BCUC established a regulatory timetable for the review of the Application which included two rounds of information requests (IRs). British Columbia Old Age Pensioners' Organization *et al.* actively participated as an intervener in this proceeding.

Following the initial close of the evidentiary record, on April 30, 2021 the Lax Kw'alaams Band submitted a letter of comment regarding the adequacy of consultation with it in respect of the Project. By Order G-152-21, dated May 20, 2021, the BCUC established a further regulatory timetable to hear the concerns raised regarding the adequacy of consultation to date. On June 17, 2021, the BCUC received a letter from the Lax Kw'alaams Band informing the BCUC that the Lax Kw'alaams has reached an agreement in principle with PNG and withdraws as an intervener. On the same day, PNG submitted a letter confirming it had reached an agreement in principle with the Lax Kw'alaams and requesting the BCUC to proceed with a decision on the Application without the further steps contemplated in Order G-152-21. As a result, the BCUC rescinded the remaining regulatory timetable as outlined in Order G-152-21 and closed the evidentiary record.

Having considered matters relevant to the approval of a CPCN, as set out in the BCUC Guidelines, the Panel finds that a CPCN for this Project is in the public interest. The Panel is satisfied that the public convenience and necessity require the completion of the Project in the timeframe proposed by PNG. Accordingly, pursuant to sections 45 and 46 of the UCA, the BCUC grants a CPCN to PNG for the Project.

The Panel finds there is a need for the Project to remediate the Salvus to Galloway pipeline segment to address existing compliance deficiencies relating to applicable pipeline standards and to ensure the continued safe, reliable delivery of natural gas to PNG's customers. The Panel is satisfied that the identification of alternatives and the evaluation process used by PNG is reasonable and appropriate and is persuaded that PNG's preferred option is the best option available at this time. The Panel considers that PNG has adequately addressed the risks inherent with the Project, and its process to mitigate risks during detailed design and Project execution is reasonable. The Panel is satisfied that the cost estimate for the Project is reasonable, including the proposed accounting treatment of the capital costs.

The Panel is satisfied that PNG has provided adequate information to describe the environmental and archaeological work undertaken to date as well as the risks, mitigation measures and next steps required. The Panel finds that PNG's consultation with Indigenous communities to date has been adequate and is satisfied

with the level of its public consultation to date. The Panel finds that the Project is consistent with BC's applicable energy objectives as set out in section 2 of the *Clean Energy Act*. The Panel also finds that the Project is consistent with PNG's most recently filed long-term resource plan.

Additionally, the Panel directs various reporting requirements which are set out in the decision.

1.0 Introduction

1.1 Background

On October 9, 2020 Pacific Northern Gas Ltd. (PNG) applied to the British Columbia Utilities Commission (BCUC) for a Certificate of Public Convenience and Necessity (CPCN) for the Salvus to Galloway Gas Line Upgrade Project (Project) (the Application), pursuant to sections 45 and 46 of the *Utilities Commission Act* (UCA).¹

The objective of the proposed Project is to remediate the Salvus to Galloway pipeline segment of the PNG Western Transmission Gas Line to address existing compliance deficiencies relating to applicable pipeline standards and to ensure the continued provision of safe, reliable natural gas service to PNG's customers in the Prince Rupert and Port Edward areas.²

Project activities are focused on works necessary to repair metal loss (corrosion) and dent anomalies along the pipeline segment, increasing depth of cover in high risk areas, improving pipeline right of way access, as well as addressing geohazards that have been determined to be cost effective to remediate. The Project has an estimated capital cost of approximately \$84.8 million to be incurred over a three-year period, between 2021 and 2023.³

1.1 Approvals Sought

PNG seeks approval of a CPCN for its Salvus to Galloway Gas Line Upgrade Project, pursuant to sections 45 and 46 of UCA.⁴

PNG requests approval for the Project no later than June 30, 2021, to accommodate the project schedule and enable PNG to meet anticipated new customer contractual obligations.⁵

1.2 The Applicant

PNG is a wholly owned subsidiary of TriSummit Utilities Inc. (TSU, formerly AltaGas Canada Inc. (ACI)), the owner of a number of Canadian utilities and renewable power infrastructure.⁶

PNG owns and operates the Western Transmission Gas Line, which has been providing transportation and utility service for more than 50 years and presently serves over 20,400 residential, commercial, and industrial customers in twelve communities and surrounding areas.⁷

PNG provides natural gas transmission, distribution and sales services to approximately 20,400 residential, commercial and industrial customers located in communities in north western British Columbia via its PNG-West division. The PNG-West division's transmission pipeline connects with the Enbridge Inc. (previously Spectra

¹ Exhibit B-1, Section 1.1, p. 1.

² Ibid., pp. 2-3.

³ Ibid., p. 1.

⁴ Ibid.

⁵ Ibid., p. 7.

⁶ Ibid., p. 9.

⁷ Ibid., p. 1.

Energy Corp.) pipeline system near Summit Lake, British Columbia and extends to the west coast of British Columbia at both Prince Rupert and Kitimat. The PNG-West division owns and operates approximately 1,050 kilometres of transmission pipeline, including 592 kilometres of mainline transmission pipeline and the remaining lateral transmission lines extending into the various communities served by PNG, the most significant being dual lines extending approximately 57 kilometres from Terrace to Kitimat.

PNG also owns and operates natural gas distribution facilities in the PNG-West division including approximately 950 kilometres of distribution mains and 690 kilometres of service lines to deliver gas from its transmission pipeline system to homes and businesses in Prince Rupert, Port Edward, Kitimat, Terrace, Smithers, Telkwa, Houston, Burns Lake, Fraser Lake, Fort St. James and Vanderhoof.

1.3 Regulatory Process

By Order G-288-20 dated November 6, 2020, the BCUC established a regulatory timetable for the review of the Application which consisted of public notice, intervener registration and one round of information requests (IRs).

By Order G-23-21 dated January 22, 2021, the BCUC amended the regulatory timetable to allow for a second round of IRs, and dates for final and reply arguments.

Initially, only one intervener registered in the proceeding, British Columbia Old Age Pensioners' Organization *et al.* (BCOAPO), which actively participated in this proceeding. Two interested parties registered: Nootka Road Construction Ltd. and K. Warren.

Following reply arguments, on April 30, 2021, the Lax Kw'alaams Band (Lax Kw'alaams) submitted a letter of comment regarding the adequacy of consultation with it in respect of the Project.⁸

On May 4, 2021, the BCUC issued a letter seeking submissions on the regulatory process to review the concerns raised by Lax Kw'alaams.

Following submissions received from PNG, BCOAPO and Lax Kw'alaams, by Order G-152-21, dated May 20, 2021, the BCUC established a further regulatory timetable to hear the concerns raised regarding the adequacy of consultation to date, providing for intervener registration, filing of intervener evidence, rebuttal evidence, one round of IRs, and final and reply arguments.

On May 25, 2021, Lax Kw'alaams registered as an intervener.

On June 17, 2021, the BCUC received a letter from Lax Kw'alaams⁹ informing the BCUC that the Lax Kw'alaams has reached an agreement in principle with PNG and withdraws as an intervener. By letter dated June 17, 2021, PNG confirmed it had reached an agreement in principle with the Lax Kw'alaams. As a result, the BCUC rescinded the remaining regulatory timetable as outlined in Order G-152-21 and closed the evidentiary record.

⁸ Exhibit E-1.

⁹ Exhibit C2-3.

1.4 Legal and Regulatory Framework

Section 45(1) of the UCA stipulates that a person must not begin the construction or operation of a public utility plant or system, or an extension of either, without first obtaining from the BCUC a certificate that public convenience and necessity require, or will require, the construction or operation of the plant or system.

Section 46(3) states that the BCUC may issue or refuse to issue a CPCN or may issue a CPCN for the construction or operation of only a part of the proposed facility, line, plant, system or extension, and may attach terms and conditions to the CPCN. Section 46 (3.1) and (3.2) require the BCUC to consider:

- a) the applicability of British Columbia's energy objectives,¹⁰
- b) the most recent long-term resource plan filed by the public utility under section 44.1, if any, and
- c) the extent to which the application for the certificate is consistent with the applicable requirements under sections 6 and 19 of the *Clean Energy Act* (CEA).¹¹

The BCUC has jurisdiction to approve the establishment of deferral accounts, pursuant to sections 59 to 61 of the UCA.

The BCUC's CPCN Guidelines provide general guidance regarding the information that should be included in a CPCN application and the flexibility for an application to reflect the specific circumstances of the applicant, the size and nature of the Project and the issues raised by the application.¹²

1.5 Oil and Gas Activities Act

The British Columbia Oil and Gas Commission (BC OGC) is a Crown agency mandated under the *Oil and Gas Activities Act*¹³ (OGAA) to regulate oil and gas activities and pipelines in British Columbia that do not cross provincial boundaries, and that operate at pressures greater than 700 kilopascals. The acceptable standard for the design, construction, operation and maintenance of a gas pipeline is CSA Z662, Oil and Gas Pipeline Systems, developed by the Canadian Standards Association (CSA). The Pipeline Regulation¹⁴ under the OGAA requires natural gas pipeline permit holders to comply with CSA Z662. The BC OGC also requires companies to periodically test, inspect, and monitor pipelines to ensure compliance with regulatory standards, and to carry out integrity management programs to ensure pipelines are fit for service.¹⁵

As the entity responsible for oversight of oil and gas operations in British Columbia, the BC OGC has the authority to issue permits related to works on oil and gas infrastructure. The BC OGC requires demonstrated consultation with potentially impacted Indigenous nations, as well as engagement with landowner and/or rights holders. In addition, engineering, design and other technical information are required to support the permit applications.¹⁶

¹⁰ BC's energy objectives are defined in section 2 of the *Clean Energy Act*.

¹¹ Sections 6 and 19 of the CEA do not apply to PNG.

¹² BCUC Order G-20-15, 2015 Certificate of Public Convenience and Necessity Application Guidelines.

¹³ S.B.C. 2008, c. 36.

¹⁴ B.C. Reg. 281/2010.

¹⁵ Exhibit B-1, p. 17.

¹⁶ Ibid., p. 119.

1.6 Decision Framework

The structure of this Decision largely follows that of the Application and the BCUC's CPCN Guidelines. Relevant evidence submitted by PNG and interveners is summarized in each section.

Section 2 addresses the Project need and its justification.

Section 3 discusses the alternatives that PNG considered were capable of meeting the overall Project objectives. This section also describes the Project evaluation criteria and methodology.

Section 4 describes the Project, while Section 5 outlines project costing, accounting treatment, and rate impact.

Sections 6 through 8 of the Decision address environmental permitting, stakeholder and First Nations consultation, as well as alignment with provincial energy objectives and PNG's internal long-term resource planning.

Panel determinations are provided in Section 9, as well as BCUC directives relating to detailed reporting requirements. Section 10 summarizes the Panel's approvals and directives.

2.0 Project Need and Justification

The objective of the proposed Project is to remediate the Salvus to Galloway pipeline segment of the PNG Western Transmission Gas Line to address existing compliance deficiencies relating to applicable pipeline standards and to ensure the continued safe, reliable delivery of natural gas to PNG's customers in the Prince Rupert and Port Edward areas.¹⁷

The PNG Western Transmission Gas Line is considered critical infrastructure as it is the only source of natural gas supply to the northwest coast of British Columbia, providing service to approximately 3000 residential, commercial, and industrial customers in the communities of Prince Rupert and Port Edward and the surrounding region in Coast Tsimshian territory.¹⁸

The Salvus to Galloway Pipeline segment from Terrace to Prince Rupert that PNG proposes to address in the Project is the western-most section of its Western Transmission Gas Line. It traverses extremely rugged and challenging mountainous and river valley terrain, resulting in geotechnical and hydrotechnical challenges throughout the pipeline route. These geohazards are not typical of those faced by pipelines outside of this difficult topography and terrain. The ongoing challenges have been heightened by the vintage of the original pipeline system and the accepted design and construction specifics for this pipeline segment when originally constructed in 1968. For all these reasons, the pipeline faces integrity threats that require intervention as well as risks that require mitigation in environmentally sensitive and habitat rich areas with varying degrees of access challenges.¹⁹

¹⁷ Exhibit B-1, p. 25.

¹⁸ Ibid., p. 28.

¹⁹ Ibid., p. 13.

The Salvus to Galloway pipeline segment has been assessed as being at a considerably higher risk of rupture than the rest of the Western Transmission Gas Line due to pipeline integrity issues related to overall physical condition and external forces imposed by geohazards.²⁰ Over the past 20 years, PNG deferred certain maintenance and integrity management practices to “operate within an economic circumstance void of significant industrial customers.”²¹ As a result, PNG states it must now look to undertake pipeline repairs and upgrades in order to address existing compliance deficiencies relating to applicable pipeline standards and to safeguard the integrity and safety of its pipeline system.²² PNG warns that unless the proposed Project is completed, there is a potential for loss of service to customers beyond the Salvus to Galloway pipeline segment.²³

PNG submits that the proposed Project is a cost-effective solution to address existing compliance deficiencies relating to applicable pipeline standards and to ensure the continued provision of safe, reliable natural gas service to PNG’s customers in the Prince Rupert and Port Edward areas.²⁴

Figure 1 shows the location of the Salvus to Galloway segment of the PNG Western Transmission Gas Line.

Figure 1: Salvus to Galloway Section of PNG Western Transmission Gas Line²⁵



The Salvus to Galloway pipeline segment was constructed in 1968 through remote, mountainous and river valley terrain.²⁶ PNG acknowledges that the topography and construction practices at the time resulted in this pipeline

²⁰ PNG Final Argument, p. 7.

²¹ Exhibit B-1, Section 4.1, p. 25

²² Ibid.

²³ Ibid., p. 29.

²⁴ Ibid., p. 1.

²⁵ Ibid., p. 2.

²⁶ Ibid., p. 2.

segment having a higher risk of physical damage from geohazards.²⁷ In recent years, PNG has carried out technical studies in this area, which have further revealed the degree of pipeline integrity defects that are of concern and require intervention.²⁸ Presently, the majority of the pipeline route has no established access.

Geohazards comprise a subgroup of natural hazards associated with geotechnical, hydrotechnical, tectonic, rockslide, rock fall, avalanche, debris flow, debris slide, and glaciomarine landslide that can threaten the integrity of the pipeline. PNG's operating history shows that there have been 36 geohazard incidents on the Salvus to Galloway pipeline segment since 1972.²⁹

PNG states that prior to the first in-line inspection in the early-1990s, the Salvus to Galloway pipeline segment experienced at least 15 recorded significant repair or section replacement projects to address corrosion, dents, low depth of cover and pipeline exposure concerns. Since then, PNG has experienced at least 35 additional pipeline incidents along this segment, one of which resulted in an order from the BC OGC.³⁰

The PNG Western Transmission Gas Line is regulated by the BC OGC. The rules pertaining to pipelines regulated by the BC OGC are defined in the provincial *OGAA* and applicable Canadian Standards Association (CSA) standards, most notably CSA Z662.³¹

The BC OGC requires operators to carry out integrity management programs (IMP) in accordance with CSA Z662 to ensure pipelines are fit for service. The IMP includes requirements associated with managing the risk of and addressing pipeline threats such as corrosion and mechanical damage and geohazards, and the need for access management for the purposes of routine inspection, repair, and emergency response.

PNG states that its current IMP was most recently internally assessed for conformance against CSA Z662 and updated in 2020.³² PNG has received the final version of the BC OGC's 2020 IMP audit findings report including a listing of required Corrective Action Plans derived to ensure ongoing continuous improvement of PNG's IMP. PNG submitted its Corrective Action Plans to the BC OGC for review and approval on February 17, 2021. PNG notes that the BC OGC audit findings and associated requested corrective actions are in alignment with those presented by PNG in response to IRs.³³

PNG identified through its IMP that the Salvus to Galloway pipeline segment is susceptible to "high hazard and risk" associated with threats such as corrosion, mechanical damage (dents) and geohazards.³⁴

The specific work that PNG has identified as necessary along this pipeline segment to ensure the continued safe, reliable delivery of natural gas to its customers focuses on addressing the following critical matters:

²⁷ Exhibit B-1, p. 14.

²⁸ *Ibid.*, p. 15.

²⁹ *Ibid.*, p. 31.

³⁰ *Ibid.*, p. 22.

³¹ *Ibid.*, p. 17.

³² *Ibid.*, p. 19.

³³ Exhibit B-6, BCUC IR 43.2; Exhibit B-2, BCUC IR 3.2.1.

³⁴ Exhibit B-1, p. 25.

- Geohazard mitigation;
- Repairs to address corrosion and dents;
- Depth of cover; and
- Access management.³⁵

PNG acknowledges that certain maintenance and integrity management activities on the Salvus to Galloway segment were deferred in the past 20 years. PNG explains these activities were deferred “in order to operate within an economic circumstance void of significant industrial customers.”³⁶ PNG states that it must know invest in significant pipeline repair and upgrade projects to safeguard the integrity and safety of its pipeline system.³⁷

PNG submits that the scope of the Project set out in the Application is intended to achieve an acceptable level of maintenance and mitigation required to continue to provide safe, reliable service to PNG customers and to meet the regulatory requirements of the BC OGC and operational and maintenance requirements of CSA Z662.

PNG states that the proposed scope of work cannot be deferred given that the proposed scope of the Project is limited to the highest-priority corrosion-related metal loss features impacting operating pressure, dents identified as defects by CSA Z662 and one geohazard site of very-high risk that is cost favorable to mitigate now versus conducting future emergent pipeline repairs in its vicinity.

PNG states that unless the Project is completed, there is a potential for a pipeline rupture causing a prolonged loss in service to customers in the Prince Rupert and Port Edward areas. Gas supply would potentially be out for all the customers in those areas until mainline gas was reestablished. Depending on the extent of the rupture, PNG may have to sustain a prolonged outage situation.³⁸

PNG has entered long-term contracts with new customers for the reactivated capacity (RECAP) on the Western Transmission Gas Line.³⁹ PNG acknowledges that while meeting incremental load from RECAP customers is not the driver for the Project, it would be unable to reliably meet the demand related to the RECAP loads without the work contemplated in the Project.⁴⁰ However, PNG submits that although the Project would allow it to meet future loads related to RECAP, the Project scope does not include any activities needed solely to service future RECAP customers. All Project scope and costs are associated with CSA Z662 compliance and the requirements of the BC OGC as they pertain to the safe and reliable operation of the pipeline irrespective of whether PNG has RECAP customers.⁴¹

³⁵ Exhibit B-1, p.29.

³⁶ Ibid.

³⁷ Ibid., p 24.

³⁸ Exhibit B-2, BCUC IR 8.3.

³⁹ Exhibit B-1, p. 29.

⁴⁰ Ibid.

⁴¹ Exhibit B-2, BCUC IR 6.3.

Positions of the Parties

PNG states:

Through PNG's risk management processes, expert studies, operational experience and institutional knowledge, PNG has confirmed that the Salvus to Galloway segment of the Western Gas Transmission Line is of considerably higher risk than the rest of that line and requires immediate remediation.⁴²

BCOAPO submits that PNG has presented enough evidence to justify the need for the Project. Further, BCOAPO states that "it appears that failing to undertake the recommended remediation or choosing a project that undertakes the recommended remediation at a slower pace are not acceptable options."⁴³

Panel Determination

The Panel finds that PNG has established the need for the Project. The Panel is persuaded that it is necessary to remediate the Salvus to Galloway pipeline segment of the PNG Western Transmission Gas Line to address existing compliance deficiencies relating to applicable pipeline standards and to ensure the continued safe and reliable delivery of natural gas to PNG's customers in the Prince Rupert and Port Edward area. Further, the Panel is persuaded that this remediation should be undertaken in the timeframe proposed by PNG.

3.0 Description and Evaluation of Alternatives

PNG identified four conceptual level alternatives to be assessed against the project objectives of addressing integrity concerns on the Salvus to Galloway pipeline segment and ensuring long-term compliance with codes, standards and regulations. The four conceptual level alternatives assessed in this initial screening process are:

1. Status Quo;
2. Replace Pipeline;
3. Deactivate Pipeline and Utilize Alternative Gas Supply; and
4. Upgrade Pipeline.⁴⁴

A description of the initial screening process is provided below.

3.1 Description of Alternatives

Status Quo

This alternative is simply to continue operating the Salvus to Galloway pipeline segment in its current state. PNG submits this is not a viable option as it would result in a non-compliance with CSA Z662, and would not align with PNG's own IMP nor would it align with industry accepted practices.⁴⁵

⁴² PNG Final Argument, p. 7.

⁴³ BCOAPO Final Argument, p. 6.

⁴⁴ Exhibit B-1, p. 52.

⁴⁵ Ibid.

Replace Pipeline

PNG considered the feasibility of replacing the entire approximate 80 km Salvus to Galloway pipeline segment with a new pipeline. The new pipeline concept utilized the alignment of the existing pipeline, with some rerouting to mitigate against geohazards.⁴⁶ The estimated cost to build a new 8 NPS pipeline is greater than \$420 million (as-spent dollars) and would require significantly more time to complete compared to other alternatives being considered as part of the initial screening process.⁴⁷ Due to the high project costs and lengthy schedule, PNG does not consider the Pipeline replacement alternative as a viable option.

Deactivate Pipeline and Utilize Alternative Gas Supply

As part of its initial screening process, PNG assessed the feasibility of deactivating the Salvus to Galloway pipeline segment and then continuing to serve the communities of Prince Rupert and Port Edward with liquefied natural gas (LNG). PNG developed a conceptual design involving the ownership, construction and operation of a liquefaction and storage facility in Terrace. LNG from this facility would be sent by truck to a vaporization, storage, compression and metering facility serving both Price Rupert and Port Edward.⁴⁸ The capital cost of these facilities was estimated to be between \$235 million and \$364 million.⁴⁹ Operating costs associated with this alternative are also considered to be significant.

In response to IR's, PNG states that having control of the supply of LNG deliveries would improve reliability. PNG noted its concerns with relying on a third party for LNG to supply baseload operation given the relatively few LNG facilities in the geographic area which limits sourcing options in the event of a disruption.⁵⁰ PNG submits that it has not had any discussion with LNG Canada in Kitimat for baseload supply of LNG, as this would not make business sense considering the contracts PNG has already entered into with RECAP customers.⁵¹

This alternative is rejected by PNG for two reasons. First, it is inconsistent with PNG's long-term goal of providing reliable gas service to the region, including RECAP customers.⁵² Secondly, PNG submits that supplying a baseload gas operation with LNG deliveries is not a feasible option as it contains higher capital costs, higher operational costs, and greater risk.

Upgrade Pipeline

The Upgrade Pipeline alternative includes the capital repairs to selected segments of the Salvus to Galloway pipeline, addressing pipeline integrity features such as dents and corrosion, as well as geohazards. PNG submits that this alternative is focused on remediating all immediate and high-priority corrosion features and addresses dents and geohazards on a risk-adjusted basis.⁵³ As such, some residual pipeline risk would remain. This alternative warranted a more detailed evaluation; evaluation methodology and outcomes are described below.

⁴⁶ Exhibit B-1, p. 52.

⁴⁷ Ibid.

⁴⁸ Ibid., p. 54.

⁴⁹ Ibid.

⁵⁰ Exhibit B-2, BCUC IR 13.1.

⁵¹ Ibid., BCUC IR 13.2.

⁵² Exhibit B-1, p. 56.

⁵³ Ibid., p. 53.

3.2 Alternatives Evaluation

The initial screening process determined that the Upgrade Pipeline alternative to be the only feasible alternative to meet PNG's long-term capacity and reliability needs. PNG identified four sub-options to the Upgrade Pipeline alternative with varying scope, costs and scheduling. These Upgrade Pipeline sub-options were evaluated against the following criteria.

3.2.1 Evaluation Criteria

PNG applied a weighted-scoring methodology based on three main criteria to evaluate the Upgrade Pipeline sub-options. The following three criteria were considered:

1. Pipeline Integrity and Asset Management (Evaluation weighting = 40%);
2. Project Delivery, Operational Assurance and Stakeholder impact (Evaluation weighting = 20%); and
3. Financial and Customer impact (Evaluation weighting = 40%).⁵⁴

PNG submits that the weightings were developed using expert judgement from within PNG as well as from external subject matter experts.⁵⁵

3.2.2 Detailed Evaluation of Upgrade Pipeline Sub-options

The four Upgrade Pipeline sub-options (UA1, UA2, UA3 and UA4) each take a risk-adjusted approach to extending the serviceable life of the Salvus to Galloway pipeline segment through varying degrees of repair and refurbishment.⁵⁶ The scope of UA1 includes repairs to the highest risk metal loss features and dents as defined as defects in CSA Z662, as well as assessments of pipeline anomalies not expected to meet code. However, UA1 does not include any geohazard mitigations.⁵⁷ UA2, and subsequent sub-options, build on the scope of the prior sub-alternative. PNG confirms that the level of residual risk associated with Upgrade Pipeline sub-options UA2, UA3 and UA4 are within PNG's acceptable level of risk, with only the levels of residual geohazard risk setting them apart materially.⁵⁸ A description of the scope for each sub-options is shown in the following table, reproduced from the Application.⁵⁹

⁵⁴ Exhibit B-1, p. 60.

⁵⁵ Exhibit B-2, BCUC IR 14.1.

⁵⁶ Ibid., BCUC IR 11.1.

⁵⁷ Exhibit B-1, p. 64.

⁵⁸ Exhibit B-6, BCUC IR 46.2.2.

⁵⁹ Exhibit B-1, p. 63.

Table 5-6: Upgrade Pipeline – Description of Sub-alternatives

	UA 1 Upgrade Alternative 1 Metal Loss / Dent Capex	UA 2 Upgrade Alternative 2 Metal Loss / Dent Capex + Very High Risk Sites	UA 3 Upgrade Alternative 3 Metal Loss / Dent Capex + Very High Risk + Hydro/Geohazards in Area	UA 4 Upgrade Alternative 4 All Capex Identified in High Risk Sites Multi-year Program
Scope	<ul style="list-style-type: none"> • All ranked Metal Loss Features (MLF) will be exposed and repaired • All immediate /Priority 1 dents exposed and repaired • Priority 2 dents exposed assessed. • Engineering assessment with Finite Element Analysis (FEA) used to reduce quantity of required repairs. Presents risk of cost uncertainty. • Priority 3 dents exposed and repaired <ul style="list-style-type: none"> ▪ FEA conducted on Priority 3 dents with opportunity for cost savings • Strategic access improvements 	<ul style="list-style-type: none"> • All items in UA 1 plus: • Repair treatment of all Priority 2 dents with use of FEA for potential repair avoidance and opportunity for cost reduction • Mitigation of very high-risk geohazard sites with Cost Benefit Ratio (CBR) ≤ 1.0 – Refer to Tables 4-4 and 4-5 • Line lowering in high risk areas • Includes 2 block valve site installations 	<ul style="list-style-type: none"> • All items in UA 2 plus: • Mitigation of geohazards sites with CBR ≤ 2.0 – Refer to Tables 4-4 and 4-5 • Additional line lowering 	<ul style="list-style-type: none"> • All items in UA 3 plus: • Mitigation of all remaining high/very high geohazards • All remaining line lowering
Cost Estimate (As-spent \$)	\$65.1 million (Class 4)	\$84.8 million (Class 3)	\$147.3 million (Class 4)	\$279.8 million (Class 4)
Schedule	3 Years	3 Years	3-5 Years	3-5 Years
Risk	Highest			Lowest

3.2.3 Selection of Preferred Alternative

Application of the weighted-scoring methodology resulted in the selection of Upgrade Pipeline UA2 as the preferred alternative. Along with the highest overall score, sub-option UA2 scored highest in both the Project Execution, Operational Assurance and Stakeholder Impact category.⁶⁰

⁶⁰ Exhibit B-1, p. 73.

Positions of the Parties

BCOAPO notes no significant issues with PNG's evaluation process and that, when compared to the other sub-options, UA2 represents a far better balancing of PNG's needs and goals. BCOAPO submits that PNG has reasonably balanced its project objectives by assigning a slightly higher weight to non-financial criteria.⁶¹

Panel Discussion

The Panel is satisfied that the identification of alternatives and the evaluation process used by PNG is reasonable and appropriate for addressing integrity concerns on the Salvus to Galloway pipeline segment and ensuring long-term compliance with codes, standards and regulations. The Panel is persuaded that PNG's preferred option, Upgrade Pipeline alternative number 2, is the best option available at this time. The Panel agrees with BCOAPO that this option better balances needs and objectives compared to the other identified options.

4.0 Project Description

4.1 Introduction

PNG has proposed the following pipeline remediation work to address integrity concerns on the 8-inch nominal pipe size Salvus to Galloway segment of its Western Transmission Gas Line:

- Repairs to the highest risk metal loss features and dents;
- Line lowering activities in high risk areas;
- Two valve site installations deemed essential for future strategic system isolation; and
- Mitigation of one very high risk geohazard (Lachmach to Debris Slides, milepost (MP) 347 – 350).⁶²

The NPS 8 Salvus to Galloway pipeline segment spans approximately 80 km, beginning at Salvus Station (54 km west of Terrace, MP 311) to Galloway Station (12 km southeast of Prince Rupert, MP 361).⁶³ The Salvus to Galloway pipeline is divided into 4 section:

1. Salvus to Razorback (MP 311 – 326);
2. Razorback to Lachmach (MP 326 – 340);
3. Lachmach to Prudhomme Summit (MP 340 – 352); and
4. Prudhomme Summit to Galloway Station (MP 352 – 361).⁶⁴

The proposed scope of repairs to the Salvus to Galloway pipeline segment is based on the scope outlined in Alternative UA2, as described in Section 3.2 of this Decision. Details regarding the basis of design and engineering, as well as the Project cost estimate, are discussed in the following section.

⁶¹ BCOAPO Final Argument, p. 9.

⁶² Exhibit B-1, p. 75.

⁶³ Ibid., Appendix J, p. 5.

⁶⁴ Ibid., p. 6.

4.2 Basis of Design and Engineering

PNG has assessed dents and metal loss features identified along the Salvus to Galloway pipeline segment following recent in-line inspections (ILI). The assessment of these pipeline integrity features resulted in each feature being assigned a repair priority level; the most urgent repairs were identified as “Immediate” priority level, with the remaining features assigned “Priority 1”, “Priority 2” or “Priority 3”.⁶⁵ PNG identified and prioritized 100 remediation locations along the Salvus to Galloway pipeline segment.⁶⁶

PNG engaged the external consultant Lauren Services to support repair methodology selection for the identified pipeline integrity features.⁶⁷ For most remediation locations, the installation of a pressure containing sleeve was selected as the repair methodology. Pipeline replacement (e.g. cut-out) was selected as the repair methodology for 11 remediation locations.⁶⁸ All new piping used in remediation and repair work will be NPS 8 to match the current pipeline diameter.⁶⁹ PNG confirms that all remediation measures will be in accordance with the OGAA and will meet or exceed the minimum requirements of CSA Z662-19, applicable PNG Standard Practice Instructions (SPIs) and other applicable CSA pipeline standards.⁷⁰

As mentioned in Section 3.2.2, certain high-priority dent features have been identified as candidates for Finite Element Analysis (FEA) – an engineering assessment which determines the necessity of a repair. PNG states that dents classified as Priority 2 have been selected for FEA as these were the only features recommended by the consultant Dynamic Risk as “High Priority” but not being classified a defect by CSA Z662, and therefore have the highest probability of successful FEA results.⁷¹ PNG has identified 25 dent features as candidates for FEA.⁷² For any of these dent features that will require repair following FEA, the repair methodology will be the same as other dents; either cut-out replacement or repair sleeve application. PNG has included within its Project budget an allowance for the costs of repair sleeves for all FEA candidate dent features, should repairs be considered necessary. An opportunity for cost savings should FEA results be favourable has been accounted for in the Project cost estimate.⁷³

PNG notes that the BC OGC has recently begun a compliance review related to assets greater than 50 years of age, which includes PNG’s Salvus to Galloway pipeline segment. The review by the BC OGC is intended to assess overall pipeline condition and CSA Z662 integrity-based compliance.⁷⁴ The review is on-going, with results and discussion around any outcomes not expected until at least late in the third quarter of 2021.⁷⁵ PNG submits it is not in a position to speculate whether the aged pipeline review will result in mandated remediation work on the Salvus to Galloway pipeline segment which isn’t already included in the proposed scope of this Project. PNG notes, however, that scope growth in terms of additional, discrete, remediation activities identified by the BC OGC aged asset review would be considered as candidates for draw down on project contingency and/or

⁶⁵ Exhibit B-1, Appendix J, p. 23.

⁶⁶ Exhibit B-2, BCUC IR 20.1.

⁶⁷ Exhibit B-1, p.75.

⁶⁸ Exhibit B-1, Appendix J, p. 23.

⁶⁹ Ibid., p. 76.

⁷⁰ Ibid., p. 75.

⁷¹ Exhibit B-2, BCUC IR 19.1.

⁷² Ibid.

⁷³ Ibid., BCUC IR 19.3

⁷⁴ Exhibit B-1, p. 18.

⁷⁵ Exhibit B-6, BCUC IR 43.1.

management reserve.⁷⁶ It is unlikely that PNG would consider incorporating any significant additional scope into this Project, as it would require considerable engineering study and design before proceeding. In any event, PNG states that if additional remediation were mandated by the BC OGC, it would evaluate its regulatory options which may include seeking an amendment to the approved CPCN, filing an application for a new CPCN, or seeking approval in a future revenue requirements application.⁷⁷ PNG commits to informing the BCUC and consulting with BCUC staff as to the appropriate course of action in this scenario.

4.3 Pipeline Remediation Specifications and Design Criteria

PNG states the design of pipeline replacement segments will meet the requirements of CSA Z662-19.⁷⁸ Similarly, PNG confirms that welding, non-destructive examination, pressure testing and corrosion control will meet CSA Z662 requirements. Issues pertaining to other pipeline remediation specifications and design criteria, such as class location, installation of block valves and assessment of existing girth welds, are elaborated on below.

i. Class Location

PNG notes that CSA Z662 defines class locations as a geographical area classified according to its approximate population density and other characteristics.⁷⁹ The Salvus to Galloway pipeline segment is situated entirely within a Class 1 location, however PNG has opted to select and design both repair materials and pressure testing specifications for a CSA Z662 Class 2 location.⁸⁰ PNG submits this approach allows for future development near the right of way and results in negligible cost impact.⁸¹

In response to IRs, PNG confirmed that the assumption of Class 2 location only applies to selection of repair materials, although the Salvus to Galloway pipeline does comply with Class 2 related design criteria – such as valve spacing.⁸² The assumption of Class 2 location generally results in an increase in pipe wall thickness of the pipeline replacement sections. PNG submits this would have the beneficial effect of reducing the Probability of Failure (PoF) from geohazards with no appreciable impact on overall project costs.⁸³

ii. Block Valves

The current project scope includes the addition of two new block valves to increase operational flexibility and to limit the volume of gas release in the case of a pipeline rupture. PNG explains that one of the new block valves will be located in the Lachmach to Prudhomme segment, while the other new block valve will be located on the Prudhomme to Galloway segment.⁸⁴ PNG notes that the existing block valves on the Salvus to Galloway segment already comply with the requirements of CSA Z662.⁸⁵

⁷⁶ Exhibit B-6, BCUC IR 43.4.1.1.

⁷⁷ Ibid.

⁷⁸ Exhibit B-1, p. 76.

⁷⁹ Ibid., p. 77.

⁸⁰ Ibid.

⁸¹ Ibid.

⁸² Exhibit B-2, BCUC IR 17.1.

⁸³ Ibid.

⁸⁴ Ibid., BCUC IR 17.3.

⁸⁵ Ibid., BCUC IR 17.1.

iii. Existing Girth Welds

In 2011 the BC OGC issued General Order 2011-03 directing PNG to, among other things, develop hazard assessment and mitigation methodologies to manage and further assess the hazards imposed by the quality of existing girth welds on the Terrace to Prince Rupert transmission pipeline – which includes the Salvus to Galloway segment.⁸⁶ PNG states that, as a result of this order, all existing pipeline girth welds that are exposed must undergo non-destructive examination (NDE) and be repaired as needed.⁸⁷ PNG further states, that from its own historical experience, there is a 50-75% chance that the existing girth welds will not pass NDE per current standards, and will therefore require remediation by either cut-out and replacement or by sleeve repair.

For any of the pipeline integrity features slated for cut-out and replacement as a repair methodology, the length of pipeline to be replaced is planned to be extended to include adjacent girth welds. For the pipeline integrity features with sleeve repair as the selected repair methodology, it is assumed that two girth welds will be exposed at each integrity feature site.⁸⁸ The estimated cost to conduct two sleeve repairs for the girth welds exposed at all sites is \$3.66 million.⁸⁹ PNG submits that it has included a probabilistic cost related to girth weld sleeve repair of approximately \$3.285 million.⁹⁰ Therefore, if all exposed girth welds require repair, additional costs of \$374,055 would be incurred above costs currently estimated.⁹¹

iv. Geohazard Mitigation – Lachmach River Area Debris Slides

PNG proposes to mitigate the risk associated with debris slides in one area of the Salvus to Galloway pipeline segment. The debris slide hazard in the Lachmach River area presented as the highest PoF of all geohazards inventoried and assessed by PNG's consultant, BGC.⁹² PNG intends to mitigate the geohazard at this location by increasing the depth of cover to at least 1 metre and to relocate the pipeline into a new trench on the east side of the existing right of way with careful regrading to promote debris deposition.⁹³

4.4 Project Schedule

PNG submits an anticipated construction start for the Project in the third quarter of 2021, based on BCUC approval by June 30, 2021.⁹⁴ Construction is planned to occur in 2021, 2022, and 2023 – generally during summer months due to the project location and aquatic and terrestrial habitat-related least risk timing windows. PNG has identified a number of permits that will be required throughout the execution of the Project scope, including from the BC OGC, DFO, Heritage Conservation Act and BC Parks.⁹⁵ PNG expects to submit a Pipeline Approval Applications to the BC OGC in each year of the Project for the subsequent year's scope of work.

⁸⁶ Exhibit B-1, Appendix B, p. 1 of 2.

⁸⁷ Exhibit B-2, BCUC IR 18.1.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Ibid., BCUC IR 18.2.

⁹¹ Ibid.

⁹² Exhibit B-1, p. 80.

⁹³ Ibid., p. 81.

⁹⁴ Ibid., p. 88.

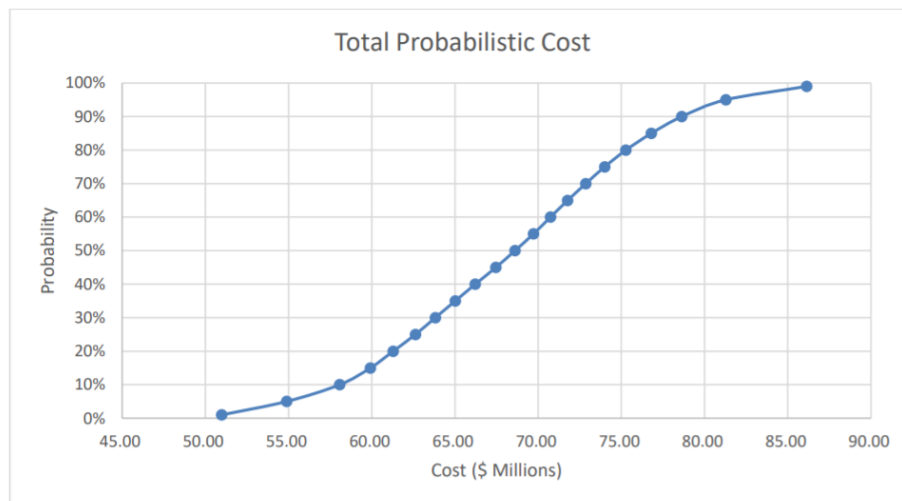
⁹⁵ Ibid., p. 96.

4.5 Project Risks

In the Application, PNG describes its risk identification process for the Salvus to Galloway remediation Project. This risk identification process included a series of workshops undertaken in 2020 which led to the creation of a risk register. PNG provides a brief summary of 16 major identified project risks within the risk register; a more detailed discussion of one of these identified risks is included in Section 4.5.1 below.

In addition to recent workshops, PNG notes that development of the risk register was also informed by past project risk registers, organizational lessons learned and interviews conducted with people with historical working knowledge in the area.⁹⁶ Specifically, the current risk register includes lessons learned from the 1993-era Salvus to Galloway dent and corrosion-focused integrity repair campaign. One of the notable lessons learned from this 1993-era repair campaign was that the locations, quantities, severity, or complexity of repairs can be appreciably different than those indicated by ILI data or scoping studies.⁹⁷ PNG submits that risk-related allowances and considerations have been made in both the current Project's scope and cost estimate to account for the anticipated disparity between preliminary studies and actual eventual repairs.⁹⁸

A quantitative cost risk analysis was conducted based on the proposed scope of work. Through this analysis, PNG developed a total probabilistic project cost curve which is reproduced below.⁹⁹ This curve illustrates that, at an 85% confidence level (P85), the total project cost including contingency is estimated to be \$76.8 million.¹⁰⁰



4.5.1 Achieving Required Depth of Cover

As previously mentioned, PNG proposes to mitigate against identified geohazards by increasing the pipeline depth of cover for certain pipeline segments. PNG has identified the risk that the desired depth of cover determined at the design phase may not be achievable because of site conditions such as shallow bedrock or challenging soil types.¹⁰¹ As a result, increased rock blasting may be required to achieve the desired depth of

⁹⁶ Exhibit B-1, p. 97.

⁹⁷ Exhibit B-2, BCUC IR 5.2

⁹⁸ Ibid., BCUC IR 5.2.1

⁹⁹ Exhibit B-1, p. 101.

¹⁰⁰ Ibid., p. 102.

¹⁰¹ Ibid., p. 97.

cover. If the desired depth of cover cannot be achieved, other geohazard mitigations should be planned for – including the potential need to accept a higher residual pipeline integrity risk.¹⁰²

In response to IR's, PNG states that its consultants have conducted terrain mapping along the pipeline alignment to, in part, estimate depth to bedrock to support geohazard mitigation designs. This mapping has informed geohazard mitigation scope development, including the assumption that 75% of pipeline length to be installed in areas of estimated shallow bedrock will require blasting.¹⁰³ Alternative mitigations if rock blasting is not feasible have been identified by PNG and include installation of pipe armouring, installation of mechanical protection and/or installation of pipe at reduced cover with continued monitoring.¹⁰⁴ PNG has also considered adding to surface grade elevation as a mitigation.¹⁰⁵

PNG discusses both the risk of cost escalation due to the pursuit of alternative geohazard mitigations and the processes PNG would ultimately undertake if circumstance encountered during execution required the acceptance of higher residual pipeline integrity risk. PNG submits that during further detailed design and construction execution, field level decisions such as adding pipe protection in place of increase depth of cover can be made for similar Probability of Failure (PoF) reduction at similar costs.¹⁰⁶

Regarding the acceptance of higher residual pipeline integrity risk, PNG states that when the cost and effort intensiveness increases to the point where it is met with unbalanced incremental improvement in risk reduction, the decision may be made to move closer to its defined risk tolerance limit, effectively accepting higher risk relative to the lowest risk possibly achieved in the presence of infinite time, money, and resources.¹⁰⁷ PNG submits this residual risk assessment approach is in line with its Integrity Management Program, which itself is aligned with the requirements of CSA Z662.¹⁰⁸

Positions of the Parties

Although not in direct response to the issue raised regarding the potential outcomes of the BC OGC's aged pipeline review, BCOAPO does submit its support for further cost-effective remediation work on the Salvus to Galloway pipeline segment that may be identified as construction progresses. BCOAPO bases its support for incorporating such cost-effective remediation work on the challenges associated with this pipeline segment and the risk to safe and reliable service to customers.¹⁰⁹

BCOAPO states it has no concerns with PNG's approach with respect to the Project Definition and the Capital Cost Estimate.

¹⁰² Exhibit B-1, p. 97.

¹⁰³ Exhibit B-2, BCUC IR 23.1

¹⁰⁴ Exhibit B-2, BCUC IR 23.2.

¹⁰⁵ Ibid., BCUC IR 23.3.

¹⁰⁶ Ibid., BCUC IR 23.2.1.

¹⁰⁷ Ibid., BCUC IR 23.3.

¹⁰⁸ Exhibit B-6, BCUC IR 47.1.1.

¹⁰⁹ BCOAPO Final Argument, p. 13.

Panel Determination

The Panel is persuaded that the scope of work as proposed under the preferred alternative, is appropriate to address the Project need. The Panel considers that PNG has adequately addressed the risks inherent with the Project, its process to mitigate risks during detailed design and Project execution is reasonable. However, the Panel is concerned that the need for additional significant work on the Salvus to Galloway segment of the pipeline may be identified by the BC OGC in the future, **Accordingly, PNG is directed to file the BC OGC aged pipeline review report as a compliance filing within 30 days of its receipt from the BC OGC.**

5.0 Project Costs and Rate Impact

PNG submits that the capital cost of the Project is forecast at \$84.8 million in as-spent dollars (\$80.6 million in 2020 dollars) which represents a P85 confidence level.¹¹⁰

5.1 Project Contingency and Management Reserve

PNG has included a contingency of 20 percent and a management reserve of 5 percent within its cost estimate for the Project. With support from consultants, PNG developed a comprehensive project quantitative risk analysis to identify and assess project risks and their impact on project costs. The total probabilistic project cost at a confidence level of P85 output from the risk analysis established the contingency amount of 20 percent.¹¹¹ Regarding the management reserve, PNG states the 5 percent amount was established to provide allowance for any potential changes to project scope or unforeseen events.¹¹²

PNG acknowledges that P85 represents a higher than typical confidence level estimate.¹¹³ PNG submits that the associated level of contingency associated with this higher confidence level is appropriate due to the unique nature of the pipeline remediation work, the remoteness of the Project locations and the general complexity of the Project scope.¹¹⁴

The addition of a 5 percent management reserve to the Project estimate is considered by PNG to be appropriate given the remoteness, uncertainty and uncommon nature of the Project. PNG further states the use of 5 percent management reserve is reasonable given the potential for unconsidered scope items or other high consequence/low likelihood risks to present themselves throughout the execution of this remediation Project.¹¹⁵

5.2 Project Cost Estimate

PNG developed the Project cost estimate to an Association for the Advancement of Cost Engineering International (AACE International) Class 3 definition, in conjunction with Lauren Services.¹¹⁶ The Project cost is forecast at \$84.8 million in as-spent dollars which represents a P85 confidence level.¹¹⁷ With the help of cost risk

¹¹⁰ Exhibit B-1, p. 82.

¹¹¹ Ibid., p. 84.

¹¹² Ibid.

¹¹³ Ibid., p. 85.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

¹¹⁶ Ibid., p. 82.

¹¹⁷ Ibid., p. 82.

experts at Revay and Associates, the accuracy range of this specific Class 3 cost estimate is -25 percent to +10 percent.¹¹⁸ A summary of the estimated Project capital costs is provided in Table 1.

Table 1: Summary of Estimated Project Capital Costs (\$ millions)¹¹⁹

Cost Element (\$ millions)	As-spent \$	2020 \$
Indirect Costs:		
Engineering and Project Development	\$ 1.25	\$ 1.19
Permitting (Lands, Environmental, Archaeological)	2.02	1.92
S2G Project and Construction Management	8.55	8.13
	11.82	11.24
Direct Costs:		
Procurement	0.90	0.86
Construction (Equipment and Labor)	54.55	51.90
	55.45	52.75
Subtotal	67.27	63.99
Contingency (20%)	13.45	12.80
Subtotal including Contingency	80.73	76.79
Management Reserve (5%)	4.04	3.84
Total Capital Cost	\$ 84.76	\$ 80.63

PNG submits that the Project cost estimate will be used as the control budget and will be refined following certain critical project stages such as contractor and materials procurement. The performance of the Project against the control budget will be tracked through implementation of a project-specific cost control and reporting plan.¹²⁰

Positions of the Parties

BCOAPO understands that, given the physical complexities and legacy construction practices associated with the Salvus to Galloway segment pipeline, construction-related issues pose a significant risk to the Project in terms of both schedule and cost. Therefore, BCOAPO recommends that the BCUC direct PNG to file material change reports on any material changes to Project scope or costs within 30 days of the date on which a material change occurs, and on a semi-annual basis, based on criteria specified by the BCUC.¹²¹ BCOAPO also asks the Panel to define “material” in its order.¹²²

In reply, PNG does not object to BCOAPO’s suggested reporting requirement. PNG observes that the BCUC has defined materiality in the recent FortisBC Inc. (FBC) application for its Kelowna Bulk Transformer Addition Project CPCN,¹²³ and would not object to similar reporting metrics for the Project.¹²⁴

¹¹⁸ Exhibit B-2, BCUC IR 25.1.

¹¹⁹ Exhibit B-1, , p. 102.

¹²⁰ Ibid., p. 83.

¹²¹ BCOAPO Final Argument, p. 13.

¹²² Ibid., p. 4.

¹²³ FortisBC Inc. Application for a Certificate of Public Convenience and Necessity for the Kelowna Bulk Transformer Addition Project, Decision and Order C-4-20 dated November 30, 2020, p. 35: where a “material change” was defined as a change in the project plan that would have a significant impact on the schedule (by 3 months or more), cost (by 10 % or more) or scope (from that per the application).

¹²⁴ PNG Reply Argument, p. 3.

BCOAPO has no concerns with PNG's approach for the Class 3 cost estimate and the associated contingency.¹²⁵ BCOAPO would be supportive of using the contingency and management reserve for further cost-effective remediation work on the Salvus to Galloway segment that may be identified as construction progresses.¹²⁶

Panel Discussion

The Panel is persuaded that PNG's cost estimate for the Project is reasonable. The cost estimate was prepared in accordance with the CPCN Guidelines and to an AACE Class 3 level of accuracy. The Panel also considers the proposed contingency and management reserve for the Project are reasonable. The Panel notes that BCOAPO did not express concern with PNG's cost estimate for the Project and the associated contingency.

The Panel agrees with BCOAPO's recommendation that the BCUC direct PNG to file material change reports on any material changes to Project scope or costs. PNG does not object to this reporting requirement or similar reporting metrics as in FBC's Kelowna Bulk Transformer Addition Project CPCN. The Panel considers it appropriate to define materiality for this directive to be prudent and provide clarity of expectations, as suggested by PNG and BCOAPO.

Accordingly, the Panel defines a material change as a change in PNG's plan for the Project that would reasonably be expected to have a significant impact on the schedule, cost, or scope, such that:

- The Project schedule and/or the in-service date is delayed by 3 months or longer;
- The total Project cost exceeds 10 percent of the estimated Project cost provided in Table 7-1 of the Application; or
- There is a change to the Project scope provided in section 6 of the Application.

In the event of a material change, the Panel directs PNG to file a material change report with the BCUC explaining the material change with reasons, PNG's consideration of the Project risk and the options available, and actions PNG is taking to address the material change. PNG must file the material change report as described in Section 9 of this Decision, as soon as practicable and within 30 days of the date on which the material change occurs.

The Panel reminds PNG that the recoverability of the Project's final costs, including whether any budgeted overhead or contingency amounts were properly spent, is subject to prudence review.

5.3 Accounting Treatment

The Project will consist of multiple discrete undertakings on specific pipeline segments which are scheduled to be placed into service as each undertaking is completed. PNG will transfer the associated capital costs of each asset or undertaking that has been placed into service into the appropriate plant asset account and include the amounts in PNG's rate base for the year the asset is placed into service, in accordance with PNG's historical practice for capital projects undertaken and completed within a calendar year. Further, in accordance with

¹²⁵ BCOAPO Final Argument, p. 10.

¹²⁶ Ibid., p. 13.

PNG's established practice, depreciation of project costs will commence in the year following the year the asset is placed into service.¹²⁷

The net salvage provision for the Project is forecast to be approximately \$17.0 million as calculated by applying PNG's approved net salvage rate of 20 percent on transmission mains.¹²⁸

PNG expects that the majority of the Project capital will be placed into service in the year that the capital is spent. However, if capital expenditures are carried over into a future period, in accordance with PNG's established practice, the expenditures will attract an Allowance for Funds Used During Construction (AFUDC) at PNG's after-tax weighted average cost of capital.¹²⁹

Positions of the Parties

BCOAPO accepts PNG's proposals with respect to the capitalization of project costs, depreciation, net salvage, and Allowance for Funds Used During Construction (AFUDC) as reasonable.¹³⁰

Panel Discussion

The Panel is satisfied that the proposed accounting treatment of the capital costs is in accordance with PNG's established practice.

5.4 Rate Impact and RECAP

In June 2020, PNG initiated the RECAP auction to assess the demand for capacity on the Western Transmission Gas Line. As a result of the RECAP, PNG has executed long-term Transportation Service Agreements (TSAs) to support 65 MMSCFD of new contract demand. However, there is inherent risk associated with development projects such as those underlying the RECAP demand, including the requirement to obtain BCUC approval of CPCNs for incremental capital expenditures.¹³¹

PNG has considered the expected impact on average delivery rates of the Project, both alone and in combination with potential incremental demand from RECAP at both 30 MMSCFD and 65 MMSCFD.¹³²

On a standalone basis, PNG states that PNG-West residential customers would see a delivery rate increase of approximately \$2.23 per GJ relative to rates proposed for 2021 in PNG's 2020-2021 Revenue Requirements Application, which is equivalent to an annual bill increase of \$152 or approximately 11 percent.¹³³ However, under both the 30 MMSCFD and 65 MMSCFD RECAP scenarios the RECAP revenues are expected to more than offset the entire cost of service impact of the Project over the average initial 20-year term of the RECAP TSAs.¹³⁴

¹²⁷ Exhibit B-1, p. 104.

¹²⁸ Ibid., p. 105.

¹²⁹ Ibid.

¹³⁰ BCOAPO Final Argument, p. 14.

¹³¹ Exhibit B-2, p. 105.

¹³² Ibid., pp. 105–106.

¹³³ Exhibit B-1, Section 7.3.1, p. 106.

¹³⁴ Exhibit B-2, Section 1.2.4, p. 4.

PNG's most recent analysis indicates that with both the Project and the realization of 65 MMSCFD or 30 MMSCFD in RECAP volumes, residential delivery rates would decline by approximately a cumulative 34 percent or 4 percent, respectively, from 2021 and 2025.¹³⁵

In the absence of revenue and margin generated by the RECAP volumes, PNG believes that it has limited opportunity to mitigate the rate impacts of the Salvus to Galloway Project. In the near term, PNG may be able to utilize a rate smoothing deferral account to avoid potential swings in rates arising from the impact of the Salvus to Galloway Project.¹³⁶

Positions of the Parties

While rate impact mitigation is not the subject of this Application, PNG submits it has given the issue consideration and it will refine its strategies as events unfold and make an application in future revenue requirements submissions for approval.¹³⁷

BCOAPO agrees with the objective of rate stability and the use of rate smoothing mechanisms to mitigate rate volatility. However, BCOAPO is concerned about the potential magnitude of the balance building up in the rate smoothing deferral accounts relative to size of PNG's overall revenue requirement. It questions whether the imposition of 1.7 percent to 1.8 percent inflationary annual rate increases would be an appropriate balancing of the public interest when considering the absolute magnitude of the rate smoothing deferral account balances as projected.¹³⁸

Further, BCOAPO is concerned about the formalization of a plan for rate stability being delayed to future RRA's. BCOAPO's view is that the conceptual discussion with respect to rate stability needs to be developed into a rate impact mitigation plan on a pro-active basis and in a timely fashion, as opposed to a reactive basis in a future RRA. Therefore, BCOAPO recommends that the BCUC direct PNG to develop and file a Rate Impact Mitigation Plan as part of its forthcoming RECAP CPCN Application.¹³⁹

In reply, PNG is of the view that no direction in this regard is required or should be made. On March 5, PNG filed its RECAP CPCN Application with the BCUC, which includes a section on "Future Rate Impact Mitigation" addressing prospective deferral accounts. PNG believes it is premature at this stage to go further and anticipates filing its next revenue requirements application in the latter part of 2021, by which point it hopes to have greater clarity on its rate impact mitigation plan.¹⁴⁰

Panel Discussion

The Panel notes that the RECAP revenues are expected to more than offset the entire cost of service impact of the Project over the average initial 20-year term of the RECAP TSAs. However, the Panel shares BCOAPO's concern with respect to the potential magnitude of the rate smoothing deferral account balances. BCOAPO

¹³⁵ Exhibit B-6, BCUC IR 49.1.1.

¹³⁶ Exhibit B-2, BCUC IR 33.1.

¹³⁷ PNG Final Argument, p. 11.

¹³⁸ BCOAPO Final Argument, p. 16.

¹³⁹ Ibid.

¹⁴⁰ PNG Reply Argument, pp. 7–8.

recommends that the BCUC direct PNG to develop and file a Rate Impact Mitigation Plan as part of its forthcoming RECAP CPCN application. The Panel rejects BCOAPO's recommendation, as the Panel considers this is neither appropriate nor necessary. The Panel recognizes that the RECAP CPCN was filed with the BCUC on March 5, 2021 and that proceeding is currently underway. Given that PNG has limited opportunity to mitigate the rate impacts of the Project without the RECAP revenues, the Panel finds it more appropriate for the BCUC to consider the issue of mitigating rate volatility in the RECAP CPCN proceeding. The Panel recommends that the panel in the RECAP CPCN review the issue in that proceeding.

6.0 Environment and Archaeology

PNG submits that the potential for environmental and archaeological impacts arising from the Project has been investigated and assessed. PNG has concluded that the Project is expected to have minimal irreversible or deleterious environmental and archaeological impacts.¹⁴¹ PNG further states that identified potential impacts can and will be mitigated through implementation of best management practices.

6.1 Environment

Khtada Environmental Services (Khtada) conducted an environmental analysis of the Salvus to Galloway pipeline alignment and produced an Environmental Constraints Report (ECR).¹⁴² The intent of the ECR is to characterize in general terms the environmental setting and sensitivities along the pipeline alignment, to identify environmental regulatory requirements, and then to determine the environmental constraints which result from integrating the identified environmental sensitivities and regulatory requirements.¹⁴³ As detailed in the ECR, all work will be done in accordance with PNG's Environmental Standard Practice Procedures and with applicable project-specific measures as identified by the appropriate Qualified Environmental Professionals (QEPs).¹⁴⁴

Khtada selected Environmental Components, defined as features of the natural environment that are normally considered to possess ecological importance, for review in the ECR. The locations and regulated protections of Environmental Components, such as for example aquatic and terrestrial species and their habitats, were assessed for each segment of the Salvus to Galloway pipeline.¹⁴⁵ PNG submits that as the Project advances, it will continue to assess and document Environmental Components and any potential environmental impacts related to the Project. PNG states that site-specific mitigation plans in conjunction with Qualified Environmental Professionals shall be developed to minimize potential impacts as they are identified.¹⁴⁶

PNG notes that federal permitting, under the *Species at Risk Act* and the *Fisheries Act*, are expected to apply to the Project.¹⁴⁷ PNG also notes that Project activities will require permits from the BC OGC under the *BC Oil and Gas Activities Act*, as noted in Section 4.4 above dealing with the Project Schedule. The requirement for an amended park use permit from BC Parks for Project activities occurring within the Khyex Conservancy has not

¹⁴¹ Exhibit B-1, p. 112.

¹⁴² Ibid.

¹⁴³ Ibid., p. 113.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid., p. 115.

¹⁴⁶ Ibid., p. 117.

¹⁴⁷ Ibid., p. 118.

been determined, as the work in that area is not scheduled to occur until 2023.¹⁴⁸ PNG will investigate the need for an amended park use permit in 2021 and will endeavour to have an application, if required, to BC Parks in place so as not to impact Project schedule or Project costs.¹⁴⁹

6.2 Archaeology

PNG engaged Roy Northern to undertake a desktop archaeology review of the Project footprint (September 2019), as well as a preliminary field reconnaissance (PFR) of select study areas of the pipeline right of way (October 2019).¹⁵⁰ The desktop review and the PFR indicated that areas of archaeological potential exist within the Project footprint and an Archaeological Impact Assessment (AIA) was recommended. The AIA was substantially completed in November 2020 for the 2021 Project scopes of work.¹⁵¹ Recommendations from the AIA includes avoidance of identified areas of potential and avoidance of identified culturally modified trees (CMT).¹⁵² Should avoidance not be possible, further archaeological work is recommended. PNG submits that additional work may put pressure on the Project schedule, though material cost impacts are unlikely.¹⁵³ AIA works for future construction seasons will be done in conjunction with the applicable BC OGC permit application.¹⁵⁴

Positions of the Parties

BCOAPO states that overall it is satisfied with the information on the record with respect to the steps and assessment of environmental and archaeological impacts undertaken to date and those planned to be taken as the project progresses.¹⁵⁵

BCOAPO further submits, that despite PNG's overall assessment that the Project will have minimal irreversible or deleterious environmental and archaeological impacts and can be appropriately mitigated, there is always a risk of identifying areas of moderate to high potential as construction progresses given the Project's geographic location, topography and terrain.¹⁵⁶ BCOAPO recommends that the BCUC direct PNG to file the following:¹⁵⁷

- Information with respect to the identification of moderate to high environmental and archeological impacts as part of Semi-Annual Progress Reports on the STG Project; and
- Material Change Reports on any material changes to environmental and archaeological impacts, within 30 days of the date on which a material change occurs, based on criteria specified by the BCUC.

PNG states in reply that it does not object to being required to report to the BCUC in the manner outlined by BCOAPO as the Project is a significant one and the request by BCOAPO aligns with monitoring and recording activities that PNG would have been undertaking in any event.¹⁵⁸

¹⁴⁸ Exhibit B-2, BCUC IR 23.5

¹⁴⁹ Exhibit B-2, BCUC IR 23.5.1

¹⁵⁰ Exhibit B-1, p. 120.

¹⁵¹ Exhibit B-2, BCUC IR 22.1

¹⁵² Ibid., BCUC IR 22.2

¹⁵³ Ibid.

¹⁵⁴ Ibid.

¹⁵⁵ BCOAPO Final Argument, p. 17.

¹⁵⁶ Ibid., p. 18.

¹⁵⁷ Ibid.

¹⁵⁸ PNG Reply Argument, para 9.

Panel Determination

The Panel is satisfied, based on the evidence, that PNG has provided adequate information to describe the environmental and archaeological work undertaken to date as well as the risks, mitigation measures and next steps required. **The Panel also considers that material changes to environmental and archaeological impacts would be useful information for the BCUC, and directs this information to be included in the Material Change Report as described in Section 9.**

7.0 Consultation

Section 3 of the BCUC's CPCN Guidelines outlines the information expected from an applicant regarding consultation with First Nations and the public, which includes: a description of consultation activities; issues and concerns raised; the applicant's assessment of the sufficiency of the consultation process; and a statement of planned future consultation.¹⁵⁹

Key components of PNG's project development process include consultation and engagement with Indigenous communities, identified stakeholders, and the general public and maintaining two-way communication with affected and interested parties.¹⁶⁰

The following subsections provide an overview of PNG's consultation activities with stakeholders such as local governments, landowners and customers, and with First Nations communities.

7.1 Public Consultation

In the development of the Communication and Engagement Plan for the Project, PNG identified key stakeholders and assessed the potential impact of the Project to each stakeholder. The following public stakeholders have either already been engaged by PNG or will be engaged as the Project advances through its various phases:

- General Public – residents, businesses, industrial customers, RECAP customers as well as landowners that will be directly impacted by the Project.
- British Columbia Provincial Government Agencies – BC OGC; BC Parks; Ministry of Forests, Lands, Natural Resource Operations and Rural Development; Ministry of Environment; Ministry of Transportation & Infrastructure; and Ministry of Energy, Mines and Petroleum Resources.
- Federal Agencies – Transport Canada and Department of Fisheries and Oceans.
- Municipal and Regional Governments – City of Prince Rupert and District of Port Edward.¹⁶¹

¹⁵⁹ The BCUC's CPCN Guidelines, Section 3, pp. 5–7.

¹⁶⁰ Exhibit B-1, p. 124.

¹⁶¹ Ibid., p. 126.

PNG provides a table identifying the individual public stakeholders¹⁶² who were engaged via email or letter¹⁶³, including a Project Fact Sheet.¹⁶⁴ PNGs confirms that all stakeholders have been offered the opportunity to discuss the Project and answer any questions.¹⁶⁵ PNG also held two virtual public engagement sessions and advertised the Project across various media platforms to seek input from the public in general.¹⁶⁶

PNG received eight acknowledgement emails in response to its notification letters, and an additional 5 emails requesting additional information. One of these included a concern raised by the District of Port Edward regarding the potential of cost impacts to customers, noting that the region already pays some of the highest natural gas prices in the province. PNG received one other expression of concern from a member of the general public regarding increases to the pipeline capacity. PNG clarified the pipeline diameter remains the same and that the Project does not include twinning the pipeline, but rather repairing and replacing existing sections, as required. In addition to issues or concerns raised, PNG received thirteen vendor submission forms from various companies expressing an interest in providing construction services for the Project.¹⁶⁷

PNG submits there are no outstanding issues or concerns, and states that PNG will continue to engage with stakeholders throughout the construction phases as the Project progresses.¹⁶⁸

7.2 Consultation with First Nations

Section 3 of the BCUC's CPCN Guidelines specifically requires with respect to First Nations consultation that project proponents identify those First Nations potentially affected by the application, including the feasible project alternatives and the information considered to identify these First Nations, and provide a summary of the consultation to date for each potentially affected First Nation.¹⁶⁹

PNG worked in conjunction with the BC OGC to identify the Indigenous communities affected by the Project. Initial identification was based on corporate knowledge of the Indigenous communities and their territorial boundaries in relation to pipeline right-of-way. Identification has been further confirmed through Project footprint submissions to the BC OGC who in turn formally identified the First Nations whose territories overlapped the footprint based on the Provincial database.¹⁷⁰ PNG's review and evaluation identified six Indigenous communities including:

- Gitga'at First Nation;
- Gitxaala Nation;
- Kitselas First Nation;
- Kitsumkalum First Nation;

¹⁶² Exhibit B-1, Appendix R, Section 5.4; Exhibit B-2, BCUC 36.2, 37.1

¹⁶³ Exhibit B-1, Appendix S-3.

¹⁶⁴ Exhibit B-1, Appendix S-2.

¹⁶⁵ Exhibit B-2, BCUC IR 36.2.

¹⁶⁶ Exhibit B-1, pp. 129-132.

¹⁶⁷ Ibid., pp. 133-134.

¹⁶⁸ Ibid., pp. 133-134; Exhibit B-2, BCUC 36.2

¹⁶⁹ The BCUC's CPCN Guidelines, Section 3.

¹⁷⁰ Exhibit B-2, BCUC IR 40.1.

- Lax Kw'alaams Band; and
- Metlakatla First Nation.¹⁷¹

PNG's Communications and Engagement Plan states that PNG will work with the BC OGC to confirm the depth of consultation required for each First Nation (i.e., Notification or Consultation), and that the level of consultation will also be guided by the level of interest or concerns expressed by each First Nation.¹⁷²

PNG first notified these Indigenous communities in late 2019.¹⁷³ PNG states it engaged Indigenous communities to identify how they would like to participate in the Project process and began the discussions as to how they would meaningfully contribute to the planning, provide input and participate in economic activities through the construction phase of the Project.¹⁷⁴

PNG provides a summary of the Indigenous Community Engagement Activities for the period up to December 2020,¹⁷⁵ and a confidential copy of PNG's comprehensive Indigenous Communication Log, for each of the identified Indigenous communities.¹⁷⁶

The Indigenous Communications Log contains correspondence on PNG's engagement on the larger Salvus to Galloway Project (4 Work Phases based on 4 geographic areas) as well as the engagement on BC OGC Work Package 1 that includes integrity works started in 2020.¹⁷⁷

Each log includes details of all email exchanges, letters, information documents, photos and the like, as well as questions and concerns raised by the Nations and responses from PNG and/or BC OGC, and correspondence between the BC OGC and First Nations and PNG. PNG notes that the BC OGC determines the adequacy of engagement on the behalf of PNG and their own efforts in consultation with various Nations. PNG has received all relevant permits for the BC OGC Work Package 1. PNG submits that this demonstrates that the BC OGC was satisfied that concerns raised by the First Nations were addressed to the satisfaction of a Provincial Designated Decision Maker along with existing environmental legislation in place. PNG will continue to engage with First Nations on subsequent work packages and will continue to update the Communication Log accordingly.¹⁷⁸

PNG stated that there are no substantive outstanding issues or concerns related to engagement with Indigenous communities at the time of application. PNG is committed to continuing engagement on environmental impacts of the Project ahead of permit applications when more detailed information is available. PNG will work with the individual communities to accommodate and mitigate any concerns, where possible.¹⁷⁹

PNG notes that several of the Indigenous communities expressed an interest in how they could assist with project activities. At the time of application, crews from the various Indigenous communities have been involved

¹⁷¹ Exhibit B-1, p. 135; Appendix R, pp. 5-6.

¹⁷² Ibid., Appendix R

¹⁷³ Ibid., p. 124.

¹⁷⁴ Ibid., p. 125

¹⁷⁵ Ibid., Table 9-2, pp. 138-140, updated in Exhibit B-2, BCUC 41.1, Table G-1.

¹⁷⁶ Exhibit B-3, Confidential attachments 41.1a-f.

¹⁷⁷ Exhibit B-2, BCUC IR 41.1.

¹⁷⁸ Ibid.

¹⁷⁹ Exhibit B-1, p. 140.

in pre-project archaeological and environmental works. PNG will endeavour to employ environmental monitors from the Indigenous communities and is committed to identifying and helping to provide other local contracting opportunities to Indigenous community-owned and affiliated businesses.¹⁸⁰

7.2.1 Late Intervention by the Lax Kw'alaams Band

Following the close of arguments, the BCUC received a letter of comment from the Lax Kw'alaams Band on April 30, 2021 raising concerns regarding the adequacy of consultation with the Lax Kw'alaams.¹⁸¹

Following submissions on further process received from PNG, BCOAPO, and the Lax Kw'alaams in the BCUC established a further regulatory timetable to hear submissions regarding the adequacy of consultation to date.¹⁸²

On June 17, 2021, the BCUC received a letter from the Lax Kw'alaams¹⁸³ informing the BCUC that the Lax Kw'alaams has reached an agreement in principle with PNG and has decided to withdraw as an intervener. By letter dated June 17, 2021, PNG confirmed it has reached an agreement in principle with the Lax Kw'alaams.¹⁸⁴ As a result, the BCUC rescinded the remaining regulatory timetable.

Positions of the Parties

Overall, BCOAPO is of the view that the record with respect to PNG's stakeholder engagement activities thus far is adequate. BCOAPO is satisfied that PNG has expressed a willingness and commitment to continue to engage and consult with stakeholder groups (including the Indigenous communities and general public) that are most impacted by the Salvus to Galloway Gas Line (STG) Project.¹⁸⁵

However, BCOAPO notes that it is difficult to fully conclude on the sufficiency of Indigenous engagement activities to date. In BCOAPO's view, the current status of Indigenous engagement presents an element of risk to the execution of the STG Project and the BCUC should be proactive in monitoring the planning and construction of the STG Project.

BCOAPO expects that PNG will be vigilant in its commitment to encouraging Indigenous engagement in the STG Project and be open to adjusting its plans and developing appropriate strategies to incorporate Indigenous feedback and concerns, as well as economic opportunities, as the Project progresses.¹⁸⁶

BCOAPO recommends that the BCUC direct PNG to file the following:

- Information with respect to its on-going Indigenous engagement activities, feedback received and related project outcomes, as part of Semi-Annual Progress Reports on the STG Project; and

¹⁸⁰ Exhibit B-1, p. 140.

¹⁸¹ Exhibit E-1.

¹⁸² Exhibit A-11, Order G-152-21.

¹⁸³ Exhibit C2-3.

¹⁸⁴ Exhibit B-14.

¹⁸⁵ BCOAPO Final Argument, p. 19.

¹⁸⁶ Ibid.

- Material Change Reports on any material changes to the STG Project scope or costs precipitated by Indigenous feedback and concerns raised, within 30 days of the date on which a material change occurs, based on criteria specified by the BCUC.¹⁸⁷

In reply PNG confirmed it does not object to being required to report to the BCUC in the manner outlined above, and that the request aligns with monitoring and recording that PNG would be undertaking in any event.¹⁸⁸

Panel Determination

The Panel finds that PNG’s consultation with Indigenous communities to date has been adequate. The Panel considers that the agreement in principle reached between the Lax Kw’alaams and PNG, as well as Lax Kw’alaams’ withdrawal as an intervener, indicates consultation efforts to date have been adequate.

The Panel is also satisfied with PNG’s level of public consultation. The general public, including customers, residents, business and stakeholder groups were notified of the Project using a range of media, and PNG conducted two information sessions. The Panel considers that the concerns raised by stakeholders have been properly documented and PNG’s responses are adequate.

The Panel also notes PNG’s stated commitment to continue with its engagement and consultation efforts throughout the Project execution.

The Panel agrees with BCOAPO that PNG should keep the BCUC informed of its ongoing consultation efforts throughout the Project’s life. The Panel also considers that material changes to the STG Project scope or costs resulting from Indigenous feedback and concerns raised would be useful information for the BCUC. **Accordingly, the Panel directs PNG to report on its consultation efforts as part of the required semi-annual reporting requirements described in Section 9 of this Decision. The Panel also considers that material changes to environmental and archaeological impacts would be useful information for the BCUC, and directs this information to be included in the Material Change Report as described in section 9. Additionally, PNG is directed to file finalized agreements reached with the Lax Kw’alaams within 30 days after reaching such an agreement.**

8.0 Alignment with BC Provincial Government Energy Objectives and the Long-Term Resource Plan

Section 46 (3.1) of the UCA states that in deciding whether to issue a CPCN, the BCUC must consider:

- a) the applicability of British Columbia’s energy objectives;
- b) the most recent long-term resource plan filed by the public utility under section 44.1, if any; and
- c) the extent to which the application for the certificate is consistent with the applicable requirements under sections 6 and 19 of the Clean Energy Act (CEA).

¹⁸⁷ BCOAPO Final Argument, p. 20.

¹⁸⁸ PNG Reply Argument, p. 3.

8.1 British Columbia's Energy Objectives and applicable sections of the CEA

BC's Energy Objectives are set out in section 2 of the CEA.

PNG submits that only objective (k) is relevant to the Project. Objective (k) is "to encourage economic development and the creation and retention of jobs." PNG describes how the Project will provide local employment as well as positive benefits to the local and provincial economy during the construction phase. The Project will also support the connection of new large industrial customers including those who were successful proponents in PNG's RECAP process, which in turn will also provide employment benefits to the local and provincial economies.¹⁸⁹

In discussing the criticality of the infrastructure, PNG stated the pipeline provides fuel supply for BC Hydro's emergency backup generating facilities at Galloway Rapids, supporting sustained electric power supply to the Prince Rupert and Port Edward areas during both planned powerline maintenance and emergency response situations. In addition, the region also has a number of Indigenous communities that have long-term economic development opportunities tied to having a secure and reliable natural gas pipeline to serve the area.¹⁹⁰

PNG explained that it currently supplies gas to a number of communities that include residential customers, of which First Nations form part of that base, as well as commercial / industrial customers at which First Nation's members are employed. In the near future, a small LNG venture associated with the Metlakatla Band (Top Speed's "Totem LNG") is planned in the Prince Rupert Area. PNG is also working with the Kitsumkalum Band in using natural gas to operate a resort and work camp at Kasiks.¹⁹¹

8.2 Most Recent Long Term- Resource Plan

PNG confirms that the Salvus to Galloway Upgrade Project was identified in PNG's most recent resource plan, its 2019 Consolidated Resource Plan (CRP). The Salvus to Galloway remediation work was identified in Section 9.4 of the 2019 CRP dealing with Repairs and Betterment, and noted that repairs are required to sections of the Prince Rupert eight-inch pipeline traversing treacherous mountainous terrain in environmentally sensitive areas between Salvus and Galloway.¹⁹²

8.3 Sections 6 and 19 of the CEA

Sections 6 and 19 of the CEA concern electricity self-sufficiency and clean or renewable resources, respectively.

Section 6(4) of the CEA¹⁹³ provides:

- (4) a public utility, in planning in accordance with section 44.1 of the *Utilities Commission Act* for
 - a) the construction or extension of generation facilities, and

¹⁸⁹ Exhibit B-1, p. 142.

¹⁹⁰ Ibid., p. 28.

¹⁹¹ Exhibit B-2, BCUC IR 10.1.

¹⁹² Exhibit B-1, p. 142.

¹⁹³ https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/10022_01#section6

b) energy purchases,
must consider British Columbia's energy objective to achieve electricity self-sufficiency.¹⁹⁴

Section 19 of the CEA states:

- (1) To facilitate the achievement of British Columbia's energy objective set out in section 2(c), a person to whom this subsection applies
- a) must pursue actions to meet the prescribed targets in relation to clean or renewable resources, and
 - b) must use the prescribed guidelines in planning for
 - i. the construction or extension of generation facilities, and
 - ii. energy purchases.
- 2) Subsection (1) applies to
- a) the authority, and
 - b) a prescribed public utility, if any, and a public utility in a class of prescribed public utilities, if any.

PNG submits that sections 6 and 19 of the CEA are not applicable to the Salvus to Galloway Project.

Positions of the Parties

BCOAPO does not subscribe to PNG's interpretation of the applicability of the *CEA* to its operations. BCOAPO submits it is far from clear that the provincial energy objectives related to government climate change and decarbonization are not applicable to PNG aside from Section 2(k) and quite likely the *CEA*'s provisions are far more applicable to the Utility's operations than it is currently willing to consider, either directly or indirectly because there is no arguing that the *CEA* is fully applicable to its customer, British Columbia Hydro and Power Authority (BC Hydro).

BCOAPO notes that government climate change and decarbonization policies are continually evolving and, while the direct impacts of such policy on specific projects may not be readily discernible in the short-term, it is only prudent that where there is even a chance of it applying or becoming applicable, applicants like PNG should address the issues, risks and opportunities that are inherent in these evolving policies over the long-term. In their submission, this would satisfy the spirit and intent of section 6 of the BCUC CPCN Application Guidelines while reducing the risk to PNG and its ratepayers should its position on this matter be proven incorrect. Accordingly, BCOAPO recommends that this Panel take this opportunity to direct PNG to acknowledge and address to the extent possible, the issues, risks and opportunities associated with climate change and decarbonization policies in its future CPCN applications and long-term resource plans."¹⁹⁵

¹⁹⁴ Clean Energy Act [SBC 2010] Chapter 22

¹⁹⁵ BOAPO Final Argument, p. 7

In reply, PNG submits it has addressed other energy objectives as well where it considers them to be applicable in other applications, such as the most recent 2019 Consolidated Resource Plan.¹⁹⁶ It affirms that objective (k) is relevant to the Project specifically, rather than PNG's operations as a whole, and that this makes sense given the Application relates specifically to the remediation of existing infrastructure.¹⁹⁷

On page 4 of its Reply, PNG states:

Neither in the Application nor more generally has PNG taken the position that the only energy objective applicable to a natural gas utility is (k). Correspondingly, in other applications, PNG has addressed other energy objectives as well where it considers them to be applicable. This is reflected in the BCUC's recent decisions on PNG applications involving such matters as resource planning and energy conservation programs, which note PNG's position on, and address, other energy objectives.

PNG submits its statement was made specifically in relation "to the Project", as the wording expresses, rather than PNG's operations as a whole. PNG's view makes sense given the fact that the Application relates specifically to the remediation of existing infrastructure. Similarly, objective (k) was the one highlighted in the recent FortisBC Energy Inc. application for its Inland Gas Upgrades Project CPCN.¹⁸

PNG further submits that this proceeding should not become the forum for BCUC directions or orders that PNG address certain other of British Columbia's energy objectives in other applications. In this regard:

- (a) If PNG does not address an objective or subject in a future application that is relevant to that application, the BCUC would of course need to take that into account in determining whether or not to approve that particular application. That is the place in which to determine whether there has been an omission and, if so, to deal with its consequences.
- (b) However, in any event, the risk that BCOAPO points to (that PNG will ignore applicable objectives unless the BCUC intercedes) is not borne out either by the wording of the Application or by PNG's conduct in other applications to which other energy objectives do or may relate.

Panel Determination

The Panel finds that the Project is consistent with the objectives of the CEA.

The Panel finds that the Project is consistent with PNG's most recently filed long-term resource plan. The Panel agrees that sections 6 and 19 of the CEA are not applicable to the Salvus to Galloway Project.

Section 6(4) of the CEA concerns planning in accordance with section 44.1 of the UCA, which deals with long term resource plans. The Salvus to Galloway Gas Line Upgrade CPCN Application is not a long-term resource plan, and is not an application under section 44.1 of the UCA. Neither does the Application deal with the construction or expansion of new generation facilities, or with energy purchases as specified in section 6 of the CEA.

With respect to section 19 of the CEA, the Panel notes this section is specific in its applicability to the authority or "prescribed utilities." The Project does not involve either the construction or extension of generation

¹⁹⁶ PNG Reply Argument, p. 4

¹⁹⁷ PNG Reply Argument, p. 5.

facilities, nor is PNG a prescribed public utility or part of a class of prescribed public utilities for the purpose of section 19 of the CEA.

The Panel notes BCOAPO's recommendation that this Panel direct PNG to acknowledge and address to the extent possible, the issues, risks and opportunities associated with climate change and decarbonization policies in its future CPCN applications and long-term resource plans. The Panel considers that these important issues are most appropriately addressed in future IRPs or possibly revenue requirement applications.

9.0 CPCN Determination

PNG seeks BCUC approval for the Project no later than June 2021.¹⁹⁸

Positions of the Parties

BCOAPO submits there is sufficient, persuasive evidence on the record regarding the need for the Project, the identification and evaluation of the proposed alternatives, and the reasonableness of the Project's definition and cost estimate.¹⁹⁹

BCOAPO has concerns regarding the unmitigated rate impacts and the lack of certainty around the RECAP project, but notes that the following statements by PNG make enough of a difference that BCOAPO is prepared to support the project:²⁰⁰

- If considered necessary, apply to the BCUC for approval of a new deferral account to defer some or all of the incremental costs of service associated with the Project with amortization of the account planned to take place using RECAP revenues; and
- potentially seek approval of a rate smoothing deferral account to help mitigate its customers' rates if any such volatility occurs before the RECAP revenues are received.²⁰¹

Panel Determination

Having considered matters relevant to the approval of a CPCN, as set out in the BCUC CPCN Guidelines, the Panel finds that a CPCN for this Project is in the public interest. The Panel is satisfied that the public convenience and necessity require the completion of the Project in the timeframe proposed by PNG.

The Panel finds there is a need for the Project to remediate the Salvus to Galloway pipeline segment to address existing compliance deficiencies relating to applicable pipeline standards and to ensure the continued safe, reliable delivery of natural gas to PNG's customers. The Panel is satisfied that the identification of alternatives and the evaluation process used by PNG is reasonable and appropriate and is persuaded that PNG's preferred option is the best option available at this time. The Panel considers that PNG has adequately addressed the risks inherent with the Project, and its process to mitigate risks during detailed design and Project execution is

¹⁹⁸ PNG Final Argument, p. 12.

¹⁹⁹ BCOAPO Final Argument, p. 2.

²⁰⁰ *Ibid.*, p. 3.

²⁰¹ Exhibit B-1, pp 108-109.

reasonable. The Panel is satisfied that the cost estimate for the Project is reasonable, and including the proposed accounting treatment of the capital costs.

The Panel is satisfied that PNG has provided adequate information to describe the environmental and archaeological work undertaken to date as well as the risks, mitigation measures and next steps required. The Panel finds that PNG's consultation with Indigenous communities to date has been adequate, and is satisfied with the level of its public consultation to date. The Panel finds that the Project is consistent with BC's applicable energy objectives as set out in section 2 of the CEA. The Panel also finds that the Project is consistent with PNG's most recently filed long-term resource plan.

Accordingly, pursuant to sections 45 and 46 of the UCA, the BCUC grants a CPCN to PNG for the Project.

Given the magnitude of the Project and the extended timeline for its implementation, the Panel finds it appropriate to direct PNG to provide regular reporting to the BCUC for the duration of the Project, as detailed below.

1. Semi-annual Progress Reports on the Project

Each report is required to detail:

- **Actual costs incurred to date compared to the CPCN estimate highlighting variances with an explanation and justification of significant variances;**
- **Updated forecast of costs, highlighting the reasons for significant changes in Project costs anticipated to be incurred;**
- **The status of Project risks, highlighting the status of identified risks, changes in and additions to risks, the options available to address the risks, the actions that PNG is taking to deal with the risks and the likely impact on the Project's schedule and cost; and**
- **The status of ongoing consultation efforts with the public and Indigenous communities.**

PNG must file semi-annual progress reports within 30 days of the end of each semi-annual reporting period, with the first report covering the period ending December 31, 2021. Each report must provide the information set out in Appendix A to this Decision.

2. Material Change Report

A material change is a change in PNG's plan for the Project that would reasonably be expected to have a significant impact on the schedule, cost or scope, such that:

- **The Project schedule and/or the in-service date is delayed by 3 months or longer;**
- **The total Project cost exceeds 10 percent of the estimated Project cost provided in Table 7.1 of the Application; or**
- **There is a change to the Project scope provided in section 6 of the Application. (Material Change).**

In the event of a Material Change, PNG must file a Material Change report with the BCUC explaining the reasons for the Material Change, PNG's consideration of the Project risk and the options available, and actions

PNG is taking to address the Material Change. PNG must file the Material Change report as soon as practicable and in any event within 30 days of the date on which the Material Change occurs.

3. Final Report

A Final Report is to be filed within three months of substantial completion of the Project. The report is to include:

- the final cost of the Project, including a breakdown of the final costs;
- a comparison of these costs to the estimates provided in Table 7.1 of the Application and an explanation of all material cost variances for any of the cost items provided in Table 7.1 of the Application that exceed 10 percent; and
- details of any further consultation conducted, any issues raised, and measures undertaken by PNG to resolve the identified issues.

10.0 Summary of Approvals and Directives

This summary is provided for the convenience of readers. In the event of any difference between the approvals and directives set out in this summary and those in the body of the Decision, the wording in the Decision shall prevail.

	Approvals and Directives	Page
1.	The Panel finds that PNG has established the need for the Project.	8
2.	Accordingly, PNG is directed to file the BC OGC aged pipeline review report as a compliance filing within 30 days of its receipt from the BC OGC.	18
3.	In the event of a material change, the Panel directs PNG to file a material change report with the BCUC explaining the material change with reasons, PNG's consideration of the Project risk and the options available, and actions PNG is taking to address the material change. PNG must file the material change report as described in Section 9 of this Decision, as soon as practicable and within 30 days of the date on which the material change occurs.	20
4.	The Panel also considers that material changes to environmental and archaeological impacts would be useful information for the BCUC, and directs this information to be included in the Material Change Report as described in Section 9.	25
5.	The Panel finds that PNG's consultation with Indigenous communities to date has been adequate.	29
6.	The Panel is also satisfied with PNG's level of public consultation.	29
7.	Accordingly, the Panel directs PNG to report on its consultation efforts as part of the required semi-annual reporting requirements described in Section 9 of this Decision. The Panel also considers that material changes to environmental and archaeological impacts would be useful information for the BCUC, and directs this information to be included in the Material Change Report as described in section 9. Additionally, PNG is directed to file finalized agreements reached with the Lax Kw'alaams within 30 days after reaching such an agreement.	29
8.	The Panel finds that the Project is consistent with the objectives of the CEA.	32

	Approvals and Directives	Page
9.	Having considered matters relevant to the approval of a CPCN, as set out in the BCUC Guidelines, the Panel finds that a CPCN for this Project is in the public interest.	33

	Approvals and Directives	Page
10.	<p>Accordingly, pursuant to sections 45 and 46 of the UCA, the Panel grants a CPCN to PNG for the Project.</p> <p>Given the magnitude of the Project and the extended timeline for its implementation, the Panel finds it appropriate to direct PNG to provide regular reporting to the BCUC for the duration of the Project, as detailed below.</p> <p>1. Semi-annual Progress Reports on the Project</p> <p>Each report is required to detail:</p> <ul style="list-style-type: none"> • Actual costs incurred to date compared to the CPCN estimate highlighting variances with an explanation and justification of significant variances; • Updated forecast of costs, highlighting the reasons for significant changes in Project costs anticipated to be incurred; • The status of Project risks, highlighting the status of identified risks, changes in and additions to risks, the options available to address the risks, the actions that PNG is taking to deal with the risks and the likely impact on the Project's schedule and cost; and • The status of ongoing consultation efforts with the public and Indigenous communities. <p>PNG must file semi-annual progress reports within 30 days of the end of each semi-annual reporting period, with the first report covering the period ending December 31, 2021. Each report must provide the information set out in Appendix A to this Decision.</p> <p>2. Material Change Report</p> <p>A material change is a change in PNG's plan for the Project that would reasonably be expected to have a significant impact on the schedule, cost or scope, such that:</p> <ul style="list-style-type: none"> - The Project schedule and/or the in-service date is delayed by 3 months or longer; - The total Project cost exceeds 10 percent of the estimated Project cost provided in Table 7.1 of the Application; or - There is a change to the Project scope provided in section 6 of the Application. (Material Change). <p>In the event of a Material Change, PNG must file a Material Change report with the BCUC explaining the reasons for the Material Change, PNG's consideration of the Project risk and the options available, and actions PNG is taking to address the Material Change. PNG must file the Material Change report as soon as practicable and in any event within 30 days of the date on which the Material Change occurs.</p> <p>3. Final Report</p> <p>A Final Report is to be filed within three months of substantial completion of the Project. The report is to include:</p> <ul style="list-style-type: none"> - the final cost of the Project, including a breakdown of the final costs; - a comparison of these costs to the estimates provided in Table 7.1 of the Application and an explanation of all material cost variances for any of the cost items provided in Table 7.1 of the Application that exceed 10 percent; - details of any further consultation conducted, any issues raised, and measures undertaken by PNG to resolve the identified issues. 	34-35

DATED at the City of Vancouver, in the Province of British Columbia, this 8th day of July 2021.

Original signed by:

T. A. Loski
Panel Chair / Commissioner

Original signed by:

M. Kresivo, Q.C.
Commissioner



**ORDER NUMBER
C-4-21**

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

Pacific Northern Gas Ltd.
Application for a Certificate of Public Convenience and Necessity
for the Salvus to Galloway Upgrade Project

BEFORE:

T. A. Loski, Panel Chair
M. Kresivo, Q.C., Commissioner

on July 8, 2021

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

WHEREAS:

- A. On October 9, 2020, Pacific Northern Gas Ltd. (PNG) submitted an application to the British Columbia Utilities Commission (BCUC) pursuant to sections 45 and 46 of the *Utilities Commission Act* (UCA), seeking approval of a Certificate of Public Convenience and Necessity (CPCN) for the Salvus to Galloway Upgrade Project (Application);
- B. The Project involves the undertaking of significant remediation of the Salvus to Galloway section of the PNG Western Transmission Gas Line in order to align with current regulatory requirements and to ensure the continued safe, reliable delivery of natural gas to PNG customers (Project);
- C. By Order G-288-20 dated November 6, 2020, and as amended by Order G-23-21 dated January 22, 2021, the BCUC established a public hearing process for the review of the Application consisting of public notice, intervenor registration, two rounds of BCUC and intervenor Information Requests (IRs) to PNG, and arguments;
- D. By Letter dated April 30, 2021, the Lax Kw'alaams Band (Lax Kw'alaams) submitted a letter of comment requesting any decision on the merits of the Application be postponed pending further review of the consultation with Lax Kw'alaams with respect to the Project;
- E. By Order G-152-21 dated May 20, 2021, the BCUC issued a further regulatory timetable to review the adequacy of consultation with the Lax Kw'alaams consisting of intervenor registration, submission of intervenor and rebuttal evidence, and arguments;
- F. By Letter dated June 17, 2021, the Lax Kw'alaams submitted notice of withdrawal from the proceedings;

- G. By Letter dated June 17, 2021, PNG confirmed it has reached an agreement in principle with the Lax Kw'alaams and requested the BCUC proceed with a decision on the Application without the further steps contemplated in Order G-152-21;
- H. By Letter dated June 18, 2021, the BCUC rescinded the remaining regulatory timetable as outlined in Order G-152-21 and closed the evidentiary record; and
- I. The BCUC has reviewed the evidence and submissions in this proceeding and finds that certain approvals are warranted.

NOW THEREFORE pursuant to sections 45 to 46 of the UCA and for the reasons set out in the Decision issued concurrently with this order, the BCUC orders as follows:

- 1. PNG is granted a CPCN for the Salvus to Galloway Upgrade Project.
- 2. PNG is directed to comply with all the directives outlined in Section 10 of the Decision issued concurrently with this order.

DATED at the City of Vancouver, in the Province of British Columbia, this 8th day of July 2021.

BY ORDER

Original signed by:

T. A. Loski
Commissioner

Pacific Northern Gas Ltd.
Application for a Certificate of Public Convenience and Necessity
for the Salvus to Galloway Gas Line Upgrade Project

Table of Contents of Semi-Annual Progress Report

1. Project Status
 - 1.1. General Project Status
 - 1.2. Milestones Completed
 - 1.3. Project Challenges and Issues
 - 1.4. Plans for Next Period
2. Project Schedule
 - 2.1 Schedule Summary
 - 2.1.1 Schedule Performance to Date
 - 2.1.2 Schedule Projection Going Forward
 - 2.1.3 Schedule Difficulties and Variances
 - 2.2 Design Scope Change Summary with Description of Request, Explanation for Request, Request Amount, Approved Amount
 - 2.3 Construction Scope Change Summary with Description of Request, Explanation for Request, Request Amount, Approved Amount
3. Project Costs
 - 3.1 Project Cost Summary including explanation of variances relative to the cost estimate in the Application and the updated control budget. The report should show: “amount in CPCN Application”, amount in control budget”, “spent to date”, “estimate to complete”, “forecast total to complete”, and “variances”.
 - 3.2 Financial Summary including explanation of variances for the total project costs
4. Project Risks
 - 4.1 Significant Project Risks
 - 4.2 Impacts to Project Schedule or Costs
 - 4.3 Plans to Mitigate Risks
5. Environmental and Archaeology
 - 5.1 An ongoing report on the work undertaken to date as well as the risks, mitigation measures and next steps required regarding environmental and archaeological related activities
6. Public and First Nations Consultation
 - 6.1 An ongoing report on the status of consultation efforts including description of issues raised and addressed

Pacific Northern Gas Ltd.
Application for a Certificate of Public Convenience and Necessity
for the Salvus to Galloway Gas Line Upgrade Project

Glossary and List of Acronyms

Acronym	Description
AACE International	Association for the Advancement of Cost Engineering International
ACI	AltaGas Canada Inc.
AFUDC	Allowance for Funds Used During Construction
AIA	Archaeological Impact Assessment
Application	Application for a Certificate of Public Convenience and Necessity for the Salvus to Galloway Gas Line Upgrade Project
BC Hydro	British Columbia Hydro and Power Authority
BC OGC	British Columbia Oil and Gas Commission
BCOAPO	British Columbia Old Age Pensioners' Organization <i>et. al</i>
BCUC	British Columbia Utilities Commission
CEA	<i>Clean Energy Act</i>
CPCN	Certificate of Public Convenience and Necessity
CRP	Consolidated Resource Plan
CSA	Canadian Standards Association
ECR	Environmental Constraints Report
FBC	FortisBC Inc.
FEA	Finite Element Analysis
GJ	Gigajoules
IMP	Integrity Management Programs
IR	Information request
Khtada	Khtada Environmental Services
LNG	Liquefied Natural Gas
MMSCFD	Million Sandard Cubic Feet per Day
NDE	Non-destructive examination
OGAA	<i>Oil and Gas Activities Act</i>
PFR	Preliminary Field Reconnaissance

Acronym	Description
PNG	Pacific Northern Gas Ltd.
PoF	Probability of Failure
Project	Salvus to Galloway Gas Line Upgrade Project
QEPs	Qualified Environmental Professionals
RECAP	Reactivated Capacity
SPIs	Standard Practice Instructions
STG	Salvus to Galloway Gas Line
TSAs	Transportation Service Agreements
TSU	TriSummit Utilities Inc.
UCA	<i>Utilities Commission Act</i>

Pacific Northern Gas Ltd.
Application for a Certificate of Public Convenience and Necessity
for the Salvus to Galloway Gas Line Upgrade Project

EXHIBIT LIST

Exhibit No.	Description
<i>COMMISSION DOCUMENTS</i>	
A-1	Letter dated October 23, 2020 – Appointing the Panel for Pacific Northern Gas Ltd.’s Application for a Certificate of Public Convenience and Necessity for the Salvus to Galloway Gas Line Upgrade Project
A-2	Letter dated October 26, 2020 – BCUC Amending the Panel for the review of the Application
A-3	Letter dated November 6, 2020 – BCUC Order G-288-20 establishing a regulatory timetable for the review of the Application
A-4	Letter dated December 10, 2020 – BCUC Information Request No. 1 to PNG
A-5	CONFIDENTIAL – BCUC Confidential Information Request No. 1 to PNG
A-6	Letter dated January 22, 2021 – BCUC Order G-23-21 establishing a further regulatory timetable
A-7	Letter dated February 9, 2021 – BCUC Information Request No. 2 to PNG
A-8	CONFIDENTIAL – Letter dated February 9, 2021 – BCUC Confidential Information Request No. 2 to PNG
A-9	Letter dated May 4, 2021 – Request for submissions on further process
A-10	Letter dated May 10, 2021 – BCUC Notice to parties
A-11	Letter dated May 20, 2021 – BCUC Order G-152-21 establishing a further regulatory timetable
A-12	Letter dated June 1, 2021 – BCUC issuing Panel Amendment
A-13	Letter dated June 9, 2021 – BCUC Information Request No. 1 to Lax Kw'alaams Band on Evidence
A-14	Letter dated June 14, 2021 – Panel Information Request No. 1 to Lax Kw'alaams Band on Evidence
A-15	Letter dated June 18, 2021 – BCUC cancelling the regulatory timetable as outlined in Order G-152-21

APPLICANT DOCUMENTS

- B-1 **PACIFIC NORTHERN GAS LTD. (PNG)** - Application for a Certificate of Public Convenience and Necessity (CPCN) for the Salvus to Galloway Gas Line Upgrade Project dated October 9, 2020
- B-1-1 **CONFIDENTIAL** - PNG Confidential Application for a CPCN for the Salvus to Galloway Gas Line Upgrade Project dated October 9, 2020
- B-2 Letter dated January 14, 2021 - PNG Response to BCUC IR No 1
- B-3 **CONFIDENTIAL** – Letter dated January 14, 2021 - PNG Response to BCUC Confidential IR No. 1
- B-4 Letter dated January 14, 2021 – PNG Response to BCOAPO IR No 1
- B-5 Letter dated February 5, 2021 – PNG submitting public versions of Appendix N and confidential response to Confidential BCUC Information Request No. 16.0
- B-6 Letter dated February 23, 2021 – PNG responses to BCUC Information Request No. 2
- B-7 **CONFIDENTIAL** – Letter dated February 23, 2021 – PNG response to BCUC Confidential Information Request No. 2
- B-8 Letter dated May 6, 2021 – PNG Submission on Further Process
- B-9 Letter dated May 13, 2021 – PNG Reply Submission on Further Process
- B-10 Letter dated May 13, 2021 – PNG response regarding Panel member
- B-11 Letter dated June 3, 2021 – PNG Submission request for access to confidential Exhibit C2-2-1 and Confidential Undertakings
- B-12 Letter dated June 7, 2021 – PNG response to Staff request for additional information regarding Rights of Way
- B-13 Letter dated June 9, 2021 – PNG submitting Rebuttal Evidence
- B-13-1 **CONFIDENTIAL** - Letter dated June 9, 2021 – PNG submitting Rebuttal Evidence with Confidential Attachments
- B-14 **CONFIDENTIAL** - Letter dated June 17, 2021 – PNG submitting confidential submission on Further Process
- B-14-1 **REDACTED** - Letter dated June 17, 2021 – PNG submitting redacted confidential submission on Further Process

INTERVENER DOCUMENTS

- C1-1 **BC OLD AGE PENSIONERS' ORGANIZATION, ACTIVE SUPPORT AGAINST POVERTY, COUNCIL OF SENIOR CITIZENS' ORGANIZATIONS OF BC, DISABILITY ALLIANCE BC, TENANTS RESOURCE AND ADVISORY CENTRE, AND TOGETHER AGAINST POVERTY SOCIETY, KNOWN COLLECTIVELY IN REGULATORY PROCESSES AS "BCOAPO ET AL." (BCOAPO ET AL)** - Letter dated December 8, 2020 - Request for Late Intervener Status by Leigha Worth and Irina Mis
- C1-2 Letter dated December 17, 2020 – BCOAPO Information Request No. 1 to PNG
- C1-3 Letter dated May 10, 2021 – BCOAPO response on Lax Kw'alaams Band's Letter of Comment and Further Process
- C2-1 **LAX KW'ALAAMS BAND** – Letter dated May 25, 2021 – Request to Intervene
- C2-2 Letter dated June 2, 2021 –Lax Kw'alaams Band submitting Affidavit
- C2-2-1 **CONFIDENTIAL** - Letter dated June 1, 2021 –Lax Kw'alaams Band submitting Affidavit
- C2-3 Letter dated June 17, 2021 –Lax Kw'alaams Band submitting notice of withdrawal from proceeding

INTERESTED PARTY DOCUMENTS

- D-1 **NOOTKA ROAD CONSTRUCTION LTD. (NOOTKAROAD)** – Submission dated November 24, 2020 requesting Interested Party Status by N. Chapdelaine
- D-2 **WARREN, K. (WARREN)** – Submission dated March 9, 2021 requesting Interested Party Status

LETTERS OF COMMENT

- E-1 Lax Kw'alaams Band - Letter of Comment dated April 30, 2021
- E-1-1 Lax Kw'alaams Band – Additional Letter of Comment dated May 10, 2021 – submitted by Gregory J. McDade, Q.C. Ratcliff & Company LLP