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6911 Southpoint Drive (B03)
Burnaby, BC
V3N 4X8

November 24, 2025

[redacted]

via email: [redacted]

RE: CEAP IR #82 – [redacted] – Interconnection Feasibility Study

Dear [redacted]

Enclosed is the Interconnection Feasibility Study for the proposed Interconnection Request (IR), [redacted], submitted under Attachment M-2: Transmission Service and Interconnection Service Procedures for Competitive Electricity Acquisition Process (CEAP) of the Open Access Transmission Tariff (OATT). This letter provides a non-binding good faith estimate of the cost and time to construct the facilities required to interconnect your project to BC Hydro's Transmission System, being the Network Upgrades, based on the findings of the Interconnection Feasibility Study.

Open Access Transmission Tariff

The OATT defines Network Upgrades as additions, modifications, and upgrades to BC Hydro's Transmission System required at or beyond the Point of Interconnection to accommodate the interconnection of the Generating Facility to the BC Hydro's Transmission System. Pursuant to the OATT, BC Hydro will design, procure, construct, install, and own the Network Upgrades. While BC Hydro will pay the costs for the Network Upgrades, the Interconnection Customer provides security for such costs.

Interconnection Study Costs

The Interconnection Customer is responsible for paying the full cost of all Interconnection Studies in cash. Interconnection Study costs vary depending on the scope, complexity, and other factors such as whether any scope is shared with another Interconnection Customer (not applicable to this Interconnection Feasibility Study). The deposit amounts specified in the OATT are not proxy Interconnection Study costs. If actual Interconnection Study costs exceed the deposit amount, the Interconnection Customer must pay the remaining balance in cash. Please refer to the answer for question no. 53 in the posted Questions & Answers for 2025 Call for Power for typical study cost ranges.

Cost Estimate

Based on the Interconnection Feasibility Study, the non-binding good faith estimated cost (typical accuracy range of +150%/-50%) for Network Upgrades required to interconnect your project is $281.3 M.

Major Scope of Work Identified:

- Add one230 kV line position with associated substation equipment including one new outdoor dead-tank type 230kV circuit breaker and disconnects at BC Hydro Tumbler Ridge (TLR) substation
- Relocate and re-terminate the existing line terminal 2L323 along with associated equipment
- Remove the temporary connection between bus 2B3 and 2B9 at Tumbler Ridge (TLR) substation

- Install a new 230kV line terminal with associated motorised disconnect switches, surge arrester, and one 230kV capacitor voltage transformer.
- Expand the control building, if required, and the existing 230kV switchyard
- Upgrade required substation facilities, infrastructures, and bus work to support new station equipment
- Thermal upgrade of 2L313 from Sukunka Switching Station (SNK) to KGP Tap, KGP Tap to MNK Tap, and MNK Tap to Meikle Wind Terminal Station (MKT), plus conductor and structure replacements as required.
- Supply and install required Protection, Control and Telecommunications equipment

Exclusions:

- GST
- Permits
- Right-of-Way & property costs
- The removal cost for foundation demolition is not included

Key Assumptions:

- Construction by contractor
- 24 months of construction is considered
- Execution of early Engineering and Procurement Agreement
- A certificate of public convenience and necessity (CPCN) requirement will be exempt.
- No construction during winter season
- Impact Benefit Agreements with First Nations are not considered
- Control room expansion costs are excluded in the estimate
- New line in parallel to the existing line was assumed for line upgrade

Key Risks:

- Expansion of the existing control building may be required leading to increased costs and/or a longer project schedule
- Major equipment delivery presents potential project cost and schedule risks, based on variance in equipment lead times
- Transmission scope and routing may be different than assumed, including number of structures and types
- If a CPCN is required for the project, it may impact project cost and schedule risks
- No defined supply chain strategy; construction costs may increase depending on delivery method
- Project schedule may be longer than expected, leading to increased overhead costs
- Ground improvements may be required leading to increased construction costs
- Contaminated soil may be encountered leading to increased construction costs
- Cost of materials and major equipment may be affected by market conditions and escalation

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Study Limitations and Exclusions

Protection, Control, and Telecommunications

The Interconnection Feasibility Study does not include a detailed review of the protection, control, and telecommunications system requirements specific to your Interconnection Request. Based on a high-level review, we have identified proxy costs for protection, control, and telecom Network Upgrades drawn from comparable interconnection projects with similar scope and complexity; these proxy costs have been included solely for indicative budgeting purposes. The relative interconnection cost determined by the Interconnection Feasibility Study includes a telecommunications component based on an assumed solution to deliver teleprotection and telecontrol circuit requirements necessary for the Interconnection Request. Protection, control, and telecommunications system requirements will be reviewed in detail in the System Impact Study if you are a successful participant of the CEAP and meet applicable requirements.

For Interconnection Feasibility Study purposes, it is assumed that any applicant-proposed works that could obstruct or impair the performance of existing BC Hydro microwave systems or new links from the proposed Interconnection Customer Interconnection Facilities (ICIF) to the BC Hydro microwave system would be identified and either relocated or repositioned as determined in a System Impact Study if you are a successful participant of the CEAP and meet applicable requirements. Such works may include, but are not limited to, towers, turbines, dams, support structures, panels, surface materials deposited or redistributed, water surface changes, or vegetation.

Generation Shedding/Curtailment Scheme and Electromagnetic Transient (EMT) Studies

The generation shedding/curtailment scheme reviews (e.g., Remedial Action Scheme (RAS), and a direct transfer trip for anti-islanding scheme) and EMT studies are completed in a System Impact Study. The outcomes of these studies may result in additional requirements, which could include Network Upgrades or ICIF. Any costs associated with completion of these studies, and resulting requirements, are not included in the Interconnection Feasibility Study cost estimate.

Revenue Metering

Please note that revenue metering requirements have not been determined with the Interconnection Feasibility Study. As such, any costs associated with revenue metering and other interconnection components are not included in the cost estimate provided above. Once these requirements are defined, costs that are attributable to the Interconnection Customer are to be paid in cash. For more details on revenue metering requirements and responsibilities, please refer to:

https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/distribution/standards/ds-rmr-complex-revenue-metering.pdf.

Schedule

Based on the Interconnection Feasibility Study, the non-binding good faith estimated in-service date for your Interconnection Request's Network Upgrades is Quarter 3, 2033 (calendar year). To achieve this timeline, we may need to expedite certain activities, including engineering design and procurement of long-lead equipment.

Timely actions required from you to minimize risks to the schedule:

- Submission of additional technical data required for the System Impact Study and Facilities Study
- Submission of any required information or document such as demonstration of Site Control
- Execution of Combined Study Agreement and Standard Generator Interconnection Agreement
- Financial commitments and securities

Please note that changes to your Interconnection Request or delays in data submission or financial commitments may also impact the target in-service date.

If you have any questions, please contact the BC Hydro CEAP team at ceap2025@bchydro.com.

Sincerely,

[redacted]

Manager, Customer Interconnections

BC Hydro

Encl.: CEAP_2025_IR82_[redacted]_Feasibility_Study.pdf

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[redacted]

Interconnection Feasibility Study

BC Hydro EGBC Permit to Practice No: 1002449

2025 CEAP IR # 82

Prepared for: [redacted]

Prepared by: [redacted]

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Accepted by: [redacted]

Manager, Transmission Planning

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Prepared for:	[redacted]
Prepared by:	[redacted]
Title:	Specialist Engineer, Transmission Operations Services
Checked by:	[redacted]
Title:	Specialist Engineer, Transmission Operations Services
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Revision	Date	Description
0	2025 Nov	Initial release

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Entire report except listed below	Transmission Planning

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Section:	Discipline:
5.4	Transmission Lines Engineering

Contributed by:

[redacted]

Sr. Engineer, Transmission Lines Engineering

[redacted]

Executive Summary

[redacted], the interconnection customer (IC), requests to interconnect its [redacted] - 2025 CEAP IR # 82 - to the BC Hydro system. [redacted] has thirty-four (34) [redacted] Type 4 wind turbine generators, with total installed capacity of 200 MW, and a maximum power injection of 190.85 MW into the BC Hydro system at the proposed Point of Interconnection (POI). The IC's proposed POI is on BC Hydro's Tumbler Ridge (TLR) 230 kV substation. The proposed commercial operation date (COD) is Oct 1, 2031.

To interconnect the [redacted] and its facilities to the BCH Transmission System at the proposed POI, this Feasibility Study has made the recommendations and conclusions as follow:

1. Three 2L313 line sections from SNK to KGP Tap, KGP Tap to MNK Tap, and MNK Tap to MKT shall be thermally upgraded to achieve a summer normal rating of 1265 A or greater at 30°C ambient.

2. Under single contingency (N-1) conditions, connecting the [redacted] is expected to increase thermal overloads on BC Hydro's equipment in the Peace Regional system during certain contingencies. The existing Peace Region Local Gen-shedding RAS will continue to be relied upon to mitigate these overloads, and the IC is required to participate in the RAS. The IC is also required to participate in GMS Area Gen Shed RAS scheme for Peace 500 kV transmission line contingencies. Detailed Peace Region Local Gen Shed RAS and GMS Area Gen Shed RAS functional requirements modifications will be specified later if the IC's project proceeds to next stage of the call process.

3. Relocate the existing line terminal 2L323 at TLR substation along with associated equipment, so that the line egress is from the north side of the substation.

4. Install a new 230 kV outdoor dead-tank circuit breaker (3000 A, 40 kA interrupting rating, 950 kV BIL) with associated 3000 A disconnects, a new line terminal (2LXXX-[redacted]) including motorised disconnect switches (3000 A), a surge arrester, a 230 kV Capacitor Voltage

Transformer, and complete other related station works as detailed in Section 5.3.

5. [redacted] is not arranged for islanded operation. In addition, the IC is required to install anti-islanding protection within its facility to disconnect the IC's wind farm from the grid when an inadvertent island with the local loads forms.

6. The [redacted] is required to have the dynamic reactive power capability at a minimum of +/- 33% of its MPO at the high voltage side of the IC's switchyard over the full MW operating range, per BC Hydro's TIR Section 6.4.2.

7. The "STATCOM option" for the proposed type-4 WTGs is required so that each turbine can provide reactive power capability at zero MW output including during turbine standstill.

8. Fast Frequency Response (FFR), as per BCH TIR Section 6.4.5, is required at [redacted]. The proposed wind turbine generators, when the FFR function is enabled, are expected to temporarily boost the MW output to limit the system frequency drop during a major frequency event. The FFR settings should be determined in coordination with BC Hydro in the later stage of the interconnection process.

The above conclusions are made based on the IC's input data and study assumptions listed in Section 4, which represent the best available information on October 14, 2025.

A non-binding good faith cost for required network upgrades and estimated schedule for construction are included in a separate letter to the IC.

Please note that, this Feasibility Study report does not include the descriptions of Protection, Control, and Telecommunications requirements and the associated upgrade scopes; however, as discussed in Section 2 "Purpose and Scopes of Study, the associated cost implications are captured and delivered in the cover letter to the IC".

Contents

Appendices

Acronyms

The following are acronyms used in this report.

BCH	BC Hydro
CEAP	Competitive Electricity Acquisition Process
COD	Commercial Operation Date
DTT	Direct Transfer Trip
ERIS	Energy Resource Interconnection Service
FeS	Feasibility Study
IBR	Inverter-Based Resources
IC	Interconnection Customer
IR	Interconnection Request
LAPS	Local Area Protection Schemes
MPO	Maximum Power Output
NERC	North American Electric Reliability Corporation
NRIS	Network Resource Interconnection Service
OATT	Open Access Transmission Tariff
POI	Point of Interconnection
RAS	Remedial Action Scheme
TIR	BC Hydro “60 KV to 500 kV Technical Interconnection Requirements for Power Generators”
WECC	Western Electricity Coordinating Council
WTG	Wind Turbine Generator

1 Introduction

Table 1-1 below summarizes the project reviewed in this Feasibility Study.

Table 1-1 Summary of Project Information

Project Name	[redacted]	
Name of Interconnection Customer (IC)	[redacted]	
Point of Interconnection (POI)	Tumbler Ridge (TLR) 230kV	
IC's Proposed COD	1 October 2031	
Type of Interconnection Service	NRIS ☒	ERIS ☐
Maximum Power Injection (MW)	190.85 MW (Summer)	190.85 MW (Winter)
Number of Turbines	34 x 5.88 MW	
Plant Fuel	Wind	

[redacted], the interconnection customer (IC), requests to interconnect its [redacted] - 2025 CEAP IR # 82 - to the BC Hydro system. [redacted] has thirty-four (34) [redacted] Type 4 wind turbine generators, with total installed capacity of 200 MW and a maximum power injection of 190.85 MW into the BC Hydro system at the proposed Point of Interconnection (POI). The IC's proposed POI is on BC Hydro's Tumbler Ridge (TLR) 230 kV substation. The proposed commercial operation date (COD) is Oct 1, 2031.

Figure 1-1 shows the Peace region 138/230/500 kV transmission system diagram. The Peace Regional System is connected to BC Hydro 500 kV bulk system through two 500 kV substations GMS and SBK:

- One 230 kV transmission line 2L308 and two 138 kV transmission lines 1L361 and 1L364 connecting GMS substation to Peace Regional system, and
- Two 230 kV transmission lines 2L391 and 2L392 and three 138 kV transmission lines 1L360, 1L370 and 1L374 connecting SBK substation to Peace Regional system.

- There are two 500 kV transmission lines 5L5 and 5L6 connecting SBK to PCN 500 kV substation, and through eight 500 kV transmission lines from GMS/PCN further down to BC Hydro load centre in the south.

[redacted] is connecting to BC Hydro's 230 kV substation at Tumbler Ridge (TLR), as showing in Figure 1.1 below. Currently there are a few wind farm IPPs connected at Tumbler Ridge area so there are pre-existing branch overloading concerns under single or multiple contingencies. The Peace Region Generation Shedding RAS is relied on to address these overloading concerns.

In addition to the existing generators, the Peace region has three (3) IRs / future proposed generating projects with higher queue priority — [redacted] project, [redacted] and an additional project ([redacted] in Figure 1-1 below) with a proposed POI at the BC Hydro Sukunka substation. Together, these three projects represent over 450 MW of generating capacity addition to the region.

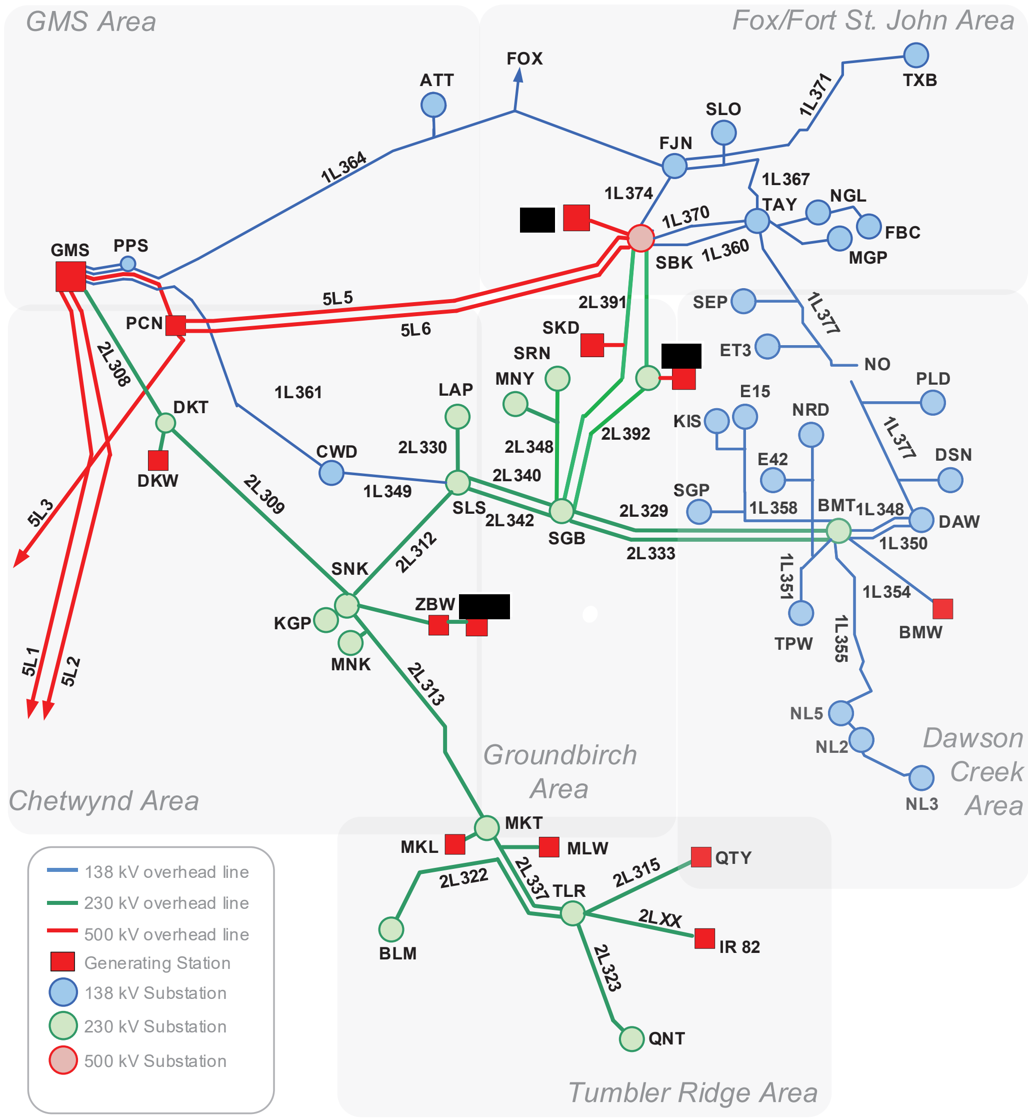

Figure 1-1: Peace Region 138/230 kV Transmission System Diagram

2 Purpose and Scopes of Study

This Feasibility Study is a preliminary evaluation of the system impact of interconnecting the proposed project to the BC Hydro system based on power flow and short circuit analysis in accordance with BCH's Open Access Transmission Tariff (OATT) and produces the estimated cost of required Network Upgrades and the implementation schedule.

Per OATT, the Feasibility Study is performed individually for each of the participating projects in the CEAP process and focuses specifically on the BC Hydro regional transmission system where the proposed generating project is connected and affects.

This is a "limited scope" study which is restricted to power flow studies of P0, P1 and P2 planning events as defined in TPL-001-4 and short circuit analysis. The study does not address other technical aspects such as transient stability and switching transients and impact of multiple contingencies. These subjects will be addressed in subsequent System Impact Study if the project proceeds further. In addition, any potential impacts to the adjacent external systems to BC Hydro would be addressed in subsequent detailed and coordinated studies with the relevant adjacent entities if the proposed generator project proceeds further.

Please note that, due to the compressed study timeline for CEAP 2025 Feasibility Study, this report does not include the descriptions of the Protection, Control, and Telecommunication requirements and the associated upgrade scopes. Instead, the network upgrades associated with Protections, Controls and Telecommunications are incorporated with cost estimates in a separate cover letter to the IC.

3 Standard and Criteria

The Feasibility Study is performed in compliance with the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) reliability standards, and the BCH interconnection requirements in the TIR, and upon the ratings of the existing BCH transmission facilities described in Operating Orders, specifically:

- NERC standards: TPL-001-4 and FAC-002-3 relevant to the scope of this Feasibility Study.
- WECC criteria TPL-001-WECC-CRT-4 Transmission System Planning Performance, July 1, 2023.
- BC Hydro's 60 kV to 500 kV Technical Interconnection Requirements for Power Generators, Rev 2.1.1, Effective: Sept 22, 2025.
- BC Hydro Operating Order 5T-10, Ratings for All Transmission Circuits 60 kV or Higher, Sept 17, 2025.
- BC Hydro Operating Order 5T-14, Ratings for All Transmission and Distribution Transformer, Sept 22, 2025.
- BC Hydro System Operating Order 7T-22 System Voltage Control, Sept 19, 2023.

4 Assumptions and Conditions

This Feasibility Study is performed based on the IC's submitted data and information available to BC Hydro on Oct 14, 2025 for the study purpose. Assumptions are made wherever the IC's input is unavailable. Appendix A shows the schematic diagram of the IC's Project IC's project used in the study model.

The power flow study cases used in this Feasibility Study are established based upon the BC Hydro's base resource plan and load forecasts available at the time of performing the study, which includes existing and future generators, transmission facilities, and loads in addition to the subject interconnection project in this study. Applicable seasonal conditions and the appropriate study years for the study planning horizon are also incorporated. Additional assumptions are listed as follows.

1) The generation in the study area are dispatched to the patterns that stress the transmission system in the study area. In these patterns, the associated generators are typically set to their Maximum Power Outputs (MPO) unless otherwise specified.

2) There are three earlier queued IRs in Peace Region system that have been planned in the future with a total generating capacity of approximately 450 MW.

3) BMT T4 300 MVA has planned to be in service by March 2027.

5 System Studies and Results

5.1 Power Flow Study Results

Power flow studies were performed to evaluate whether the IC's generating project would cause any unacceptable system performance (e.g. equipment overloads, steady-state voltage violation and voltage instability) and to determine the system reinforcement requirement based on steady state performance analysis.

The study focuses on the base scenario — 31HW/32LS/32HS system conditions after the [redacted] enters service. These base cases were prepared based on factors such as load conditions, seasonal variation in ambient temperatures, and generation patterns that stress the transmission system.

In addition to the base scenario, an additional scenario is studied for the future year system conditions that include all the higher-queued generating projects in the region (32HW/33LS/33HS).

The studies are performed for system normal conditions and under critical system contingencies specified in the P1 and P2 events by NERC TPL-001-4. Study results are summarized below.

5.1.1 Thermal Overload Analysis

Table 5-1 summarizes the thermal overload concerns identified in the study and the proposed solutions. Appendix B contains the details of thermal overload analysis results.

Table 5-1: Thermal Overload Concerns and Proposed Solutions

Equipment subject to overloads	Conditions observed	Contingencies that result in overloads	Solution Proposed
Under system normal conditions			
2L313 (SNK-MNK, MNK-MKT)	LS, HS	P0: system normal	Thermally upgrade 2L313 line sections from SNK to KGP Tap, KGP Tap to MNK Tap, and MNK Tap to MKT to achieve a continuous rating of 1265 A or greater at 30°C ambient.
Under contingencies			

2L312	LS	P1.2: 2L308, 2L309 P2.3: SNK 2CB1, DKT 2CB2/3/4.	Generation Shedding RAS.
2L308	LS	P1.2: 2L312 P1.2: 2L392(SBK-TAW) P2.3: SLS 2CB11/12/14, SNK 2CB12, SBK 2CB21/22.	
2L309	LS	P1.2: 2L312 P2.3: SLS 2CB11/12/14, SNK 2CB12.	
GMS T13	LS	P1.2: 2L312 P2.2 GMS_T14&12 P2.3: SLS 2CB11/12, SNK 2CB12.	
GMS T14	LS	P1.2: 2L312 P2.2 GMS_T13&11 P2.3: SLS 2CB11/12, SNK 2CB12.	
Note: For P1 and P2 contingencies, only the overloads in LS case, which is the worst case, are listed.			

The study shows that the addition of [redacted] would cause new thermal overload on 2L313 from SNK to KGP Tap, KGP Tap to MNK Tap, and MNK Tap to MKT under system normal conditions in both light and heavy summer cases. Thermally upgrade 2L313 to achieve a summer normal rating of 1265 A or greater at 30°C ambient is required.

For N-1 conditions, the connection of [redacted] will contribute to the pre-existing thermal overload on the BC Hydro lines 2L308 or 2L312 and cause new overloads on 2L309, GMS T13, or GMS T14 under single contingencies or breaker contingencies as listed in Table 5-1. The existing Peace Region Local Gen-shedding RAS will continue to be relied upon to mitigate these overloads and [redacted] is required to participate in the RAS (shedding at Feeder level).

In addition, the generators at this IC are also required to participate in GMS Area Gen Shed RAS scheme for Peace 500 kV transmission line contingencies.

Detailed Peace Region Local Gen Shed RAS and GMS Area Gen Shed RAS functional requirements modifications will be specified later if the IC's project proceeds to next stage of the call process.

5.1.2 Steady-State Voltage Analysis

With the connection of the IC's project, the voltage performance under system normal condition (P0) is acceptable for all the studied load conditions (32ls, 32hs, 31hw).

Voltage deviation violations are identified at buses DKT 230 and SNK 230 in 32LS and 32HS cases for 2L312 contingency. Gen-shedding RAS is required to mitigate the issues. Appendix B shows the details in the steady-state voltage study results.

5.1.3 Reactive Power Capability Evaluation

The BC Hydro TIR requires IBR power plant to have the dynamic reactive power capability at a minimum of +/- 33% of its MPO at the high voltage side of the IC's switchyard over the full MW operating range.

Based on the power flow model data submitted by the IC, the proposed [redacted] would be capable of meeting the BC Hydro's reactive capability requirement at the plant's maximum MW output, which is subjected to further verification in the next stage of the call process.

Furthermore, the BCH TIR requires IBR plants to provide reactive power capability at zero MW output level. The IC shall ensure the wind turbines are equipped with the "STATCOM" function such that they provide reactive power at zero output (such as during turbine standstill).

5.1.4 Anti-Islanding Requirements

[redacted] is not arranged for islanded operation. In addition, the IC is required to install anti-islanding protection within its facility to disconnect the IC's wind farm from the grid when an inadvertent island with the local loads forms.

5.1.5 Other Performance Requirements

Fast Frequency Response (FFR), as per BCH TIR Section 6.4.5, is required at the [redacted]. The proposed wind turbine generators, when the FFR function is enabled, are expected to temporarily boost the MW output to limit the system frequency drop during a major frequency event. The FFR settings should be determined in coordination with BC Hydro in the later stage of the interconnection process.

5.2 Fault Analysis

The short circuit analysis in the FeS is based upon the latest BC Hydro system model, which includes the generating facility information and associated impedance data provided by the IC. A more detailed study will be performed at the system impact study stage if needed.

5.3 Stations Requirements

To interconnect this Interconnection Customer (IC) to BC Hydro's transmission system at the 230 kV bus of the Tumbler Ridge (TLR) Substation, the following station works are required:

- Relocate the existing line terminal 2L323 along with associated equipment - 2CVT4 and 2D24, so that the line egress is from the north side of the substation. With the addition of the seventh circuit breaker (2CB2) as part of this interconnection at the TLR substation, the total number of circuit breakers now exceeds the planning criteria. Therefore, provisions must be made for a future circuit breaker (2CB10) to complete a meshed ring configuration. However, no additional breaker will be installed under this project, apart from the relocation of the 2L323 line terminal and its associated equipment.
- Remove the temporary connection between bus 2B3 and 2B9.
- Install one new outdoor dead-tank type, 230kV circuit breaker (2CB2) rated at 3000A continuous current, 40kA interrupting rating, 950kV BIL along with associated disconnects rated 3000A.

- Install a new 230kV line terminal (2LXXX-[redacted]) with associated motorised disconnect switches (2D23) rated 3000A, Surge Arrester (2SA13) and one 230kV Capacitor Voltage Transformer (2CVT3).
- Expand the control building, if required, to accommodate new P&C panels and other equipment.
- Expand the existing 230kV switchyard within the limits of the current property boundaries, to accommodate the above mentioned facilities.
- Other associated station works.
- Refer to the one-line diagram in Appendix C for details.

5.4 Transmission Line Requirements

Re-terminating 2L323 to the north side of the TLR substation is needed to accommodate new 230 kV interconnection line termination at TLR. Conductor and structure replacements may be required for the required thermal upgrade of 2L313 line for the sections of SNK to KGP Tap, KGP Tap to MNK Tap, and MNK Tap to MKT.

In the case of a planned outage constraint on 2L313, building a brand new parallel circuit with the proposed replacement conductor and a new right-of-way may be required.

6 Cost Estimate and Schedule

The non-binding good faith estimated cost and time to construct the Network Upgrades required to interconnect the proposed project will be provided in a separate letter to the IC.

7 Conclusions

To interconnect the [redacted] and its facilities to the BCH Transmission System at the POI, this Feasibility Study has identified the following conclusions and requirements:

1. Three 2L313 line sections from SNK to KGP Tap, KGP Tap to MNK Tap, and MNK Tap to MKT shall be thermally upgraded to achieve a summer normal rating of 1265 A or greater at 30°C ambient.
2. Under single contingency (N-1) conditions, connecting the [redacted]t is expected to increase thermal overloads on BC Hydro's equipment in the Peace Regional system during certain contingencies. The existing Peace Region Local Gen-shedding RAS will continue to be relied upon to mitigate these overloads, and the IC is required to participate in the RAS. The IC is also required to participate in GMS Area Gen Shed RAS scheme for Peace 500 kV transmission line contingencies. Detailed Peace Region Local Gen Shed RAS and GMS Area Gen Shed RAS functional requirements modifications will be specified later if the IC's project proceeds to next stage of the call process.
3. Relocate the existing line terminal 2L323 at TLR substation along with associated equipment, so that the line egress is from the north side of the substation.
4. Install a new 230 kV outdoor dead-tank circuit breaker (3000 A, 40 kA interrupting rating, 950 kV BIL) with associated 3000 A disconnects, a new line terminal (2LXXX-[redacted]) including motorised disconnect switches (3000 A), a surge arrester, a 230 kV Capacitor Voltage Transformer, and complete other related station works as detailed in Section 5.3.
5. [redacted] is not arranged for islanded operation. In addition, the IC is required to install anti-islanding protection within its facility to disconnect the IC's wind farm from the grid when an inadvertent island with the local loads forms.
6. The [redacted] is required to have the dynamic reactive power capability at a minimum of +/- 33% of its MPO at the high

voltage side of the IC's switchyard over the full MW operating range, per BC Hydro's TIR Section 6.4.2.

7. The "STATCOM option" for the proposed type-4 WTGs is required so that each turbine can provide reactive power capability at zero MW output including during turbine standstill.

8. Fast Frequency Response (FFR), as per BCH TIR Section 6.4.5, is required at [redacted]. The proposed wind turbine generators, when the FFR function is enabled, are expected to temporarily boost the MW output to limit the system frequency drop during a major frequency event. The FFR settings should be determined in coordination with BC Hydro in the later stage of the call process.

Appendix A
Schematic Diagram of the IC's Project

Figure A-1 shows the schematic diagram for the [redacted].

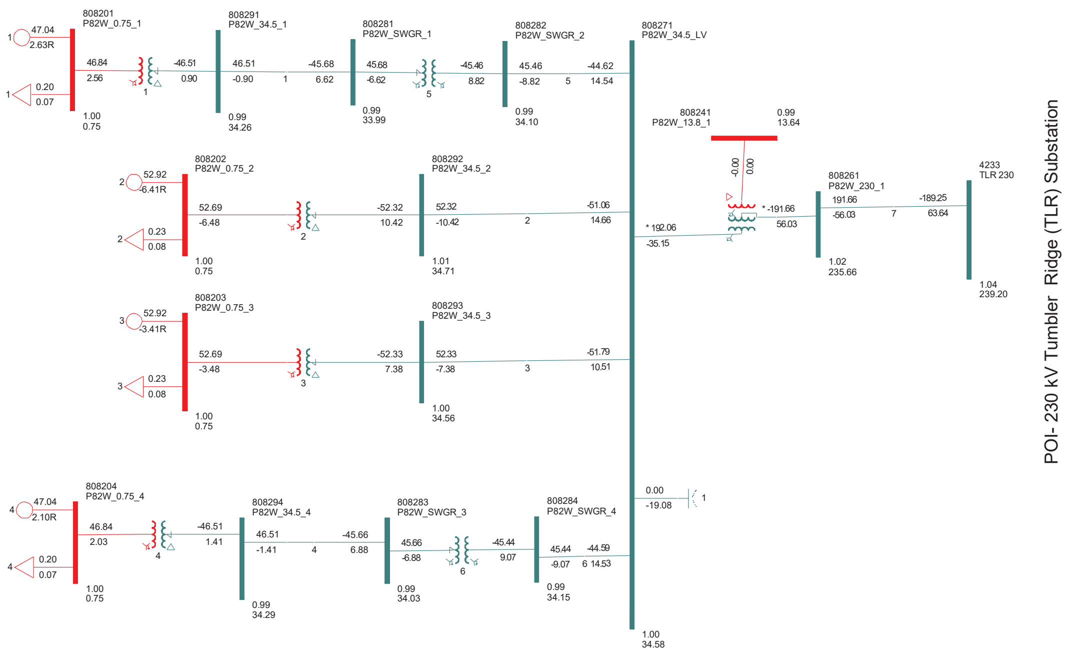

Figure A-1: [redacted] Plant Schematic Diagram.

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Appendix B
Power Flow Study Results

Base Scenario (31HW/32HS/32LS)

Table B-1: Thermal Overload Study Results

Case	Peace Regional Generation	Contingency Identified		Branch/Equipment loading (MVA)						
				2L313		2L312	2L308	2L309	T13	T14
		Category	Description	SNK-MNK	MNK-MKT	SNK-SLS	GMS-DKT	DKT-SNK	GMS	GMS
Summer Rating in MVA				431	427	425	427	427	300	300
32LS	Max	P0	System Normal	114%	117%					
	Max	P1.2	2L308			168%				
	Max	P1.2	2L309			137%				
	Max	P1.2	2L312				166%	134%	119%	118%
	Max	P1.2	2L392 SBK-[redacted]				106%			
	Max	P2.2	GMS_T13&11							109%
	Max	P2.2	GMS_T14&12						109%	
	Max	P2.3	SLS 2CB11/12				166%	134%	119%	118%
	Max	P2.3	SLS 2CB14				135%	105%		
	Max	P2.3	SNK 2CB1			116%				
	Max	P2.3	SNK 2CB12				145%	114%	100%	
	Max	P2.3	DKT 2CB2/3/4			137%				
	Max	P2.3	SBK 2CB21/22				110%			
Note: Only the overloads in LS case, which is the worst case, are listed										

Table B-2: Steady-State Voltage Study Results

Case	IC's Plant Output	Contingency		Bus Voltages (pu)					
		Cat.	Description	DKT 230	GMS 230	MKT 230	P82 HV	SNK 230	TLR 230
32LS	Max	P0	System Normal	1.017	1.006	1.039	1.038	1.024	1.040
		P1.2	2L312	0.937	0.955	0.972	0.996	0.940	0.987
32HS	Max	P0	System Normal	1.019	1.007	1.039	1.025	1.024	1.040
		P1.2	2L312	0.930	0.952	0.955	0.968	0.927	0.968
31HW	Max	P0	System Normal	1.018	1.006	1.040	1.045	1.024	1.040
		P1.2	2L312	0.944	0.958	0.985	1.013	0.952	1.000
Note: Only the results for the worst contingency are listed									

Appendix C

One-Line Sketch for the connection of the IC to BC Hydro’s transmission system at TLR Substation

Figure C-1 shows the Stations Planning One-Line Sketch for the connection of the IC’s IR to BC Hydro’s transmission system at the Tumbler Ridge (TLR) Substation.

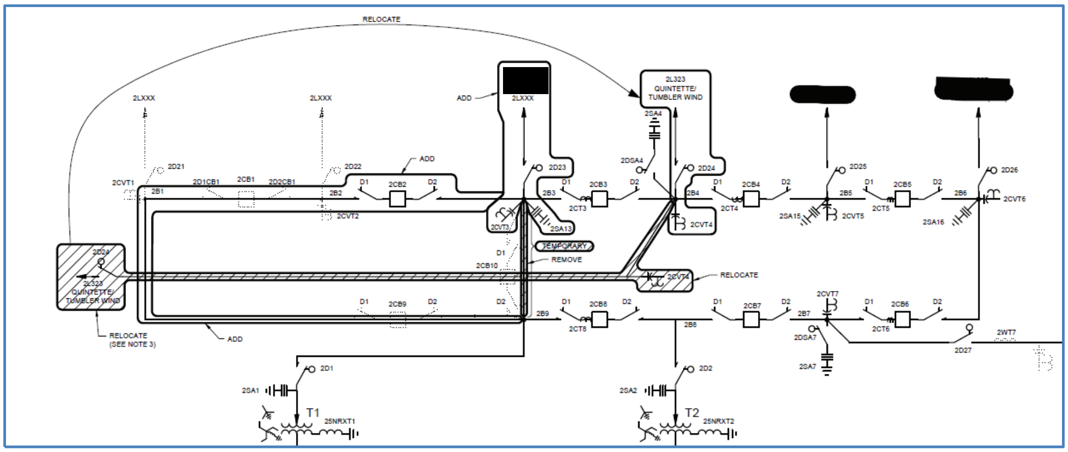

Figure C-1: Stations Planning One-Line Sketch for the connection of the IC’s IR to BC Hydro’s transmission system.