BC Hydro
Power smart

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

November 24, 2025

[redacted]

via email: [redacted]

RE: CEAP IR #79 – [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 $119.5 M.

Major Scope of Work Identified:

- Construct a new outdoor 230 kV, 3-circuit breaker ring bus switching station
- Acquire property for a new switching station close to the existing transmission line 2L96
- Construct a new control building and other required substation facilities and infrastructure
- Cut the existing 2L96 and loop into the switching station

- Terminate Interconnection Customer’s 230 kV line at the new switching station
- Thermal upgrade on transmission line 2L95 between RBF-SMM, plus structure replacements as required
- Supply and install required Protection, Control and Telecommunications equipment

Exclusions:

- GST
- Permits
- Right-of-Way & property costs

Key Assumptions:

- Construction by contractor
- 24 months of construction is considered
- Execution of early Engineering and Procurement Agreement
- Ability to acquire adequate property for a new switching station close to the existing transmission line 2L96
- No expansion of existing stations or control buildings to accommodate new equipment
- No construction during winter season
- Impact Benefit Agreements with First Nations are not considered

Key Risks:

- Cost and ability of obtaining new property for the new switching station may be higher than estimated which may increase the Network Upgrade cost estimate and schedule
- Expansion of the existing control building may be required leading to increased costs and/or a longer project schedule
- Transmission scope may be different than assumed, including number of structure replacements
- Major equipment delivery presents potential project cost and schedule risks, based on variance in equipment lead times
- 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

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_IR79_[redacted]_Feasibility_Study.pdf

BC Hydro
Power smart

[redacted]

Interconnection Feasibility Study

BC Hydro EGBC Permit to Practice No: 1002449

2025 CEAP IR # 79

Prepared for: [redacted]

Prepared by: [redacted]

Sr. Engineer, Transmission Planning

Reviewed by: [redacted]

Technical Strategic Principle, Transmission Planning

Accepted by: [redacted]

Division Manager, Transmission Planning

Report Metadata

Header:	2025 CEAP IR # 79
Subheader:	Interconnection Feasibility Study
Title:	[redacted]
Subtitle:	2025 CEAP IR # 79
Report Number:	750-APR-00005
Revision:	0
Confidentiality:	Public
Date:	2025 Nov 21
Volume:	1 of 1
Prepared for:	[redacted]
Prepared by:	[redacted]
Title:	Sr. Engineer, Transmission Planning
Checked by:	N/A
Title:	N/A
Reviewed by:	[redacted]
Title:	Technical Strategic Principle, Transmission Planning
Related Facilities:	2L96
Additional Metadata:	Transmission Planning 2025-100 Filing Subcode 1350

Revisions

Revision	Date	Description
0	2025 Nov	Initial release

Disclaimer of Warranty, Limitation of Liability

This report was prepared solely for internal purposes. All parties other than BC Hydro are third parties.

BC Hydro does not represent, guarantee or warrant to any third party, either expressly or by implication:

any information, product or process disclosed, described or recommended in this report.

BC Hydro does not accept any liability of any kind arising in any way out of the use by a third party of any information, product or process disclosed, described or recommended in this report, nor does BC Hydro accept any liability arising out of reliance by a third party upon any information, statements or recommendations contained in this report. Should third parties use or rely on any information, product or process disclosed, described or recommended in this report, they do so entirely at their own risk.

This report was prepared by the British Columbia Hydro And Power Authority ("BCH") or, as the case may be, on behalf of BCH by persons or entities including, without limitation, persons or entities who are or were employees, agents, consultants, contractors, subcontractors, professional advisers or representatives of, or to, BCH (individually and collectively, "BCH Personnel").

This report is to be read in the context of the methodology, procedures and techniques used, BCH's or BCH's Personnel's assumptions, and the circumstances and constraints under which BCH's mandate to prepare this report was performed. This report is written solely for the purpose expressly stated in this report, and for the sole and exclusive benefit of the person or entity who directly engaged BCH to prepare this report. Accordingly, this report is suitable only for such purpose, and is subject to any changes arising after the date of this report. This report is meant to be read as a whole, and accordingly no section or part of it should be read or relied upon out of context.

Unless otherwise expressly agreed by BCH:

(a) any assumption, data or information (whether embodied in tangible or electronic form) supplied by, or gathered from, any source (including, without limitation, any consultant, contractor or subcontractor, testing laboratory and equipment suppliers, etc.) upon which BCH's opinion or conclusion as set out in this report is based (individually and collectively, "Information") has not been verified by BCH or BCH's Personnel; BCH makes no representation as to its accuracy or completeness and disclaims all liability with respect to the Information;

(b) except as expressly set out in this report, all terms, conditions, warranties, representations and statements (whether express, implied, written, oral, collateral, statutory or otherwise) are excluded to the maximum extent permitted by law and, to the extent they cannot be excluded, BCH disclaims all liability in relation to them to the maximum extent permitted by law;

(c) BCH does not represent or warrant the accuracy, completeness, merchantability, fitness for purpose or usefulness of this report, or any information contained in this report, for use or consideration by any person or entity. In addition, BCH does not accept any liability arising out of reliance by a person or entity on this report, or any information contained in this report, or for any errors or omissions in this report. Any use, reliance or publication by any person or entity of this report or any part of it is at their own risk; and

(d) In no event will BCH or BCH's Personnel be liable to any recipient of this report for any damage, loss, cost, expense, injury or other liability that arises out of or in connection with this report including, without limitation, any indirect, special, incidental, punitive or consequential loss, liability or damage of any kind.

Copyright Notice

Contributors

The following accept responsibility for the content in the specified sections. Professionals apply their signature and/or seal as appropriate.

Section: Entire report except listed below
Discipline: Transmission Planning

Contributed by: [redacted] [redacted]

Sr. Engineer, Transmission Planning

Section: **5.2, 5.3**
Discipline: Stations Planning

Contributed by: [redacted] [redacted]

Sr. Engineer, Station Planning

Section: **5.4**
Discipline: Transmission Lines Engineering

Contributed by: [redacted] [redacted]

Sr. Engineer, Transmission Lines Engineering

Executive Summary

[redacted], the Interconnection Customer (IC), requests to interconnect its [redacted] - 2025 CEAP IR # 79 - to the BC Hydro system. [redacted] has thirty (30) [redacted] type-4 wind turbine generators, adding a total capacity of 240 MW with a maximum power injection of 233 MW into the BC Hydro system. The Point of Interconnection (POI) is proposed at a new 230 kV tap structure on the BC Hydro transmission line 2L96, approximately 23 km from Williston Substation (WSN). The customer will build a new approximately 16 km 230 kV circuit from the POI and connect its wind turbine generating facility to the BC Hydro transmission system. The IC's proposed commercial operation date (COD) is May 28th, 2031.

To interconnect [redacted] [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. The proposed POI, a tap structure on the 230 kV line 2L96 with tap connection, is not acceptable to interconnect the IC's generating project to the BCH system. Instead, a new 230 kV switching station (temporarily designated as P79T) is required on the line 2L96, located 23 km from WSN.

2. The study identifies potential thermal overload constraint on the line 2L95 between Red Bluff Substation (RBF) and a planned new 230 kV switching station (SMM) under system normal operating conditions as a result of the connection of [redacted].

   A thermal upgrade on transmission line 2L95 (RBF-SMM) to a minimum summer continuous rating of 600 Amps is required to accommodate the IC's wind project.

3. The study identifies potential thermal overload constraints on 2L95, 2L96 and 2L354 under system contingency operating conditions as a result of the connection of [redacted].

   A new generation shedding RAS is required to trip IC's generation at P79T under single contingencies.

4. The IC's wind project would be islanded with the existing or future loads for the multiple contingencies.

A Direct Transfer Trip (DTT) protection scheme is required to isolate the IC's wind project at the P79T to avoid potential islanding operations with the existing loads. The DTT requirement will be further confirmed during the next study stage.

5. Anti-islanding protection is required for the [redacted]oject and shall be configured in the manner that does not compromise the required ride-through performance.
6. The proposed [redacted] is required to have the dynamic reactive power capability at a minimum of +/- 33% of its MPO from the plants at the high-voltage side of the switchyard over the full MW operating range, per BC Hydro's TIR Section 6.4.2. Based on the IC-submitted PSS/E model, the proposed [redacted] meet the reactive capability requirement above.
7. The "STATCOM option" for the proposed 8.0 MW type-4 wind turbine is required so that each turbine can provide reactive power capability at zero MW output including during turbine standstill.
8. Per BC Hydro's TIR Section 6.4.5, the [redacted] shall have the capability of providing Fast Frequency Response (FFR) to help improve the system frequency response performance. For typical performance metrics of the FFR provided by WTG based IBR plants, please refer to Section 6.2.3 of IEEE Standard 2800-2022. BC Hydro will work with the IC to establish the detailed FFR performance requirements under System Impact Study (SIS) stage.

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)	Switching Station on 2L96, 23 km from WSN	
IC's Proposed COD	May 28, 2031	
Type of Interconnection Service	NRIS ☒	ERIS ☐
Maximum Power Injection (MW)	233 MW (Summer)	233 MW (Winter)
Number of Turbines	30 x 8 MW	
Plant Fuel	Wind	

[redacted], the Interconnection Customer (IC), requests to interconnect its [redacted] - 2025 CEAP IR # 79 - to the BC Hydro system. [redacted] has thirty (30) Gold[redacted] type-4 wind turbine generators, adding a total capacity of 240 MW with a maximum power injection of 233 MW into the BC Hydro system. The Point of Interconnection (POI) is proposed at a tap structure on the BC Hydro transmission line 2L96, approximately 23 km from Williston Substation (WSN). The customer will build a new 16 km 230 kV circuit from the POI and connect its wind turbine generation project to BC Hydro transmission system.

The proposed POI, a tap structure on the 230 kV line 2L96 with tap connection is not acceptable to interconnect the IC's generating project to the BCH system. Instead, it is required that the POI be changed to the 230 kV bus of a new 230 kV switching station (temporarily designated as P79T) on the line 2L96, located 23 km from WSN.

The new 230 kV switching station P79T will be looped in the existing 230 kV line 2L96 from WSN to the planned 230 kV switching station [redacted] which will be constructed under 2024 CEAP [redacted] wind project. The existing line 2L96 will be segregated into three line sections, temporarily referred to as: 2L96A (WSN- P79T), 2L96B (P79T-[redacted] and 2L96C ([redacted]-BLW). The proposed customer-built line (P79T-P79) is designated as 2L96D.

There is a new 230 kV switching station SMM, near the existing 500 kV McLeese Series Capacitor Station (MLS), is expected to be built to support a TVC load interconnection. With the SMM, the existing line 2L95 will be segregated into two sections, 2L95A (RBF-SMM) and 2L95B (SMM-SCK) respectively.

Figure 1-1 shows the Central Interior region 230 kV transmission system simplified one-line diagram. [redacted] is to be connected at a new 230 kV switching station P79T on 2L96.

There is one new wind farms, [redacted] wind project ([redacted] to be added in the Central Interior system on 2L96 with a new switching station ([redacted] which is the successful project from the 2024 Call for Power.

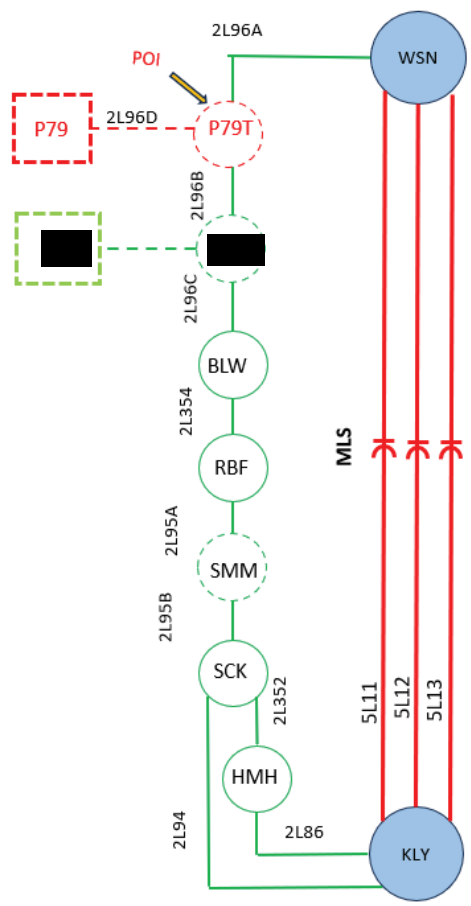

Figure 1-1: Central Interior Region 230 kV Transmission System One-line Diagram

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 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.

- 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.
- The 2024 Distribution Substation Load Forecast, 2025 Transmission Voltage Customer (TVC) Load Forecast and 2025 System Peak Forecast are used.
- September 2024 Base Resource Plan.
- 144 MW [redacted] [redacted] will be in service on December 1, 2030.
- 31HW, 32HS and 32LS are used as base case in the study to evaluate system impact after [redacted] interconnection.
- All new TVC load interconnection and associated system reinforcements are considered in this study.

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.

Steady-state power flow studies have been conducted with the focus on the 32LS system condition, taking into considerations of factors such as load conditions, seasonal variation in ambient temperatures, and generation patterns that stress the transmission system. The 31HW and 32HS cases are also checked to capture any performance violations under high load conditions.

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

Thermal overload on 230 kV transmission line 2L95A (RBF-SMM) has been identified under system normal conditions (P0).

A thermal upgrade on transmission line 2L95 (RBF-SMM) to a minimum 600 Amps summer continuous rating is required to accommodate the IC's wind project.

Additionally, significant thermal overloads on transmission lines 2L95, 2L96, and 2L354 have been observed under single contingencies (P1).

A new generation shedding RAS is required to trip IC's generation at P79T under following single contingencies.

- No-fault open 2L96A (WSN-P79T)
- No-fault open 2L96C ([redacted]-BLW)
- Loss of 2L96A (WSN-P79T)
- Loss of 2L96C ([redacted]-BLW)
- Loss of 5L11 (or 5L12, 5L13)

Details of the thermal overload analysis are provided in Appendix B.

5.1.2 Steady-State Voltage Analysis

With the connection of the IC's project, the stead-state voltage performance under system normal and single contingency conditions is acceptable for all the three study scenarios (32LS, 32HS, 31HW). Appendix B shows the details in the steady-state voltage study results.

5.1.3 Reactive Power Capability Evaluation

The BCH TIR requires IBR generators have the dynamic reactive power capability at a minimum of +/- 33% of its Maximum Power Output (MPO) at the high voltage side of the IC's switchyard over the full MW operating range. This translates to a minimum reactive power range of +/-79.2 MVAr at the high side of the main power transformer.

Based on the PSS/E power flow data submitted for this project, the study finds that the proposed generating project can meet the BC Hydro's reactive capability requirement.

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 generating facility from the grid when an inadvertent island with the local load forms.

The IC's wind project would be islanded with the TVC load or BCH loads for the following contingencies:

- Loss of 2L96A (WSN-P79T) and 2L354, or
- Loss of 2L96A (WSN-P79T) and 2L95A, or
- Loss of 2L96B (WSN-P79T) and 2L95B

A Direct Transfer Trip (DTT) protection scheme is required to isolate [redacted] at the P79T to avoid potential islanding operations with the existing loads.

5.1.5 Other Performance Requirements

Fast Frequency Response (FFR), as per BCH TIR Section 4.6.5, 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

A new outdoor 230 kV, 3-circuit breaker ring bus switching station will be built at POI, close to the existing 230 kV transmission line 2L96. The existing transmission line 2L96 will be cut and looped in to, and 230 kV line of [redacted] [redacted] will be terminated at the new switching station.

The scope of work at the new switching station (P79T) is summarized below:

- Acquire adequate property for a new switching station close to the existing transmission line 2L96.
- Construct a new outdoor 230 kV, 3-circuit breaker ring bus switching station. The designations of the new station and the new line connecting to the customer and two new lines derived from 2L96 are temporarily assigned as P79T, 2L96D, 2L96A, and 2L96B. And these designations will be revised in next stage.
- Construct a new control building and other required substation facilities and infrastructures.
- Cut the existing 2L96 and loop into the switching station.
- Terminate 230 kV line of [redacted] [redacted] at the switching station.

Refer to the one-line diagram in Appendix C for details.

5.4 Transmission Line Requirements

A thermal upgrade on transmission line 2L95 (RBF-SMM) to a minimum summer continuous rating of 600 Amps is required to accommodate the IC's wind project. Structure replacements 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. The proposed POI, a tap structure on the 230 kV line 2L96 with tap connection is not acceptable to interconnect the IC's generating facility to the BCH system. Instead, it is required that the POI be changed to the 230 kV bus of a new 230 kV switching station (temporarily designated as P79T) on the line 2L96, located 23 km from WSN. A new 230 kV switching station looping the existing line 2L96 and interconnect the IC wind project is required.

2. The study identifies potential thermal overload constraint on 2L95 under system normal operating conditions as a result of the connection of [redacted].

   A thermal upgrade on the transmission line 2L95 (RBF-SMM) to a minimum summer continuous rating of 600 Amps is required to accommodate the IC's wind project.

3. The study identifies potential thermal overload constraints on 2L95, 2L96 and 2L354 under system contingency operating conditions as a result of the connection of [redacted].

   A new generation shedding RAS is required to trip IC's generation at P79T under single contingencies.

4. The IC's wind project would be islanded with the existing and future loads for the multiple contingencies.

   A DTT protection scheme is required to isolate the IC's wind project at the P79T to avoid potential islanding operations with the existing loads.

5. Anti-islanding protection is required for the [redacted] and shall be configured in the manner that does not compromise the required ride-through performance.

6. The proposed [redacted] is required to have the dynamic reactive power capability at a minimum of +/- 33% of its MPO from the plants at the high-voltage side of the switchyard over the full MW operating

range, per BC Hydro's TIR Section 6.4.2. Based on the IC-submitted PSS/E model, the proposed [redacted] meets the reactive capability requirement above.

7. The "STATCOM option" for the proposed 8.0 MW type-4 wind turbine is required so that each turbine can provide reactive power capability at zero MW output including during turbine standstill.

8. Per BC Hydro's TIR Section 6.4.5, the [redacted] shall have the capability of providing Fast Frequency Response (FFR) to help improve the system frequency response performance. For typical performance metrics of the FFR provided by WTG based IBR plants, please refer to Section 6.2.3 of IEEE Standard 2800-2022. BC Hydro will work with the IC to establish the detailed FFR performance requirements under System Impact Study stage.

Appendix A

Schematic Diagram of the IC's Project

Figure A-1 shows the schematic diagram for the [redacted]. Note that the proposed plant configuration includes a total of 47 MVAr switched shunt capacitors.

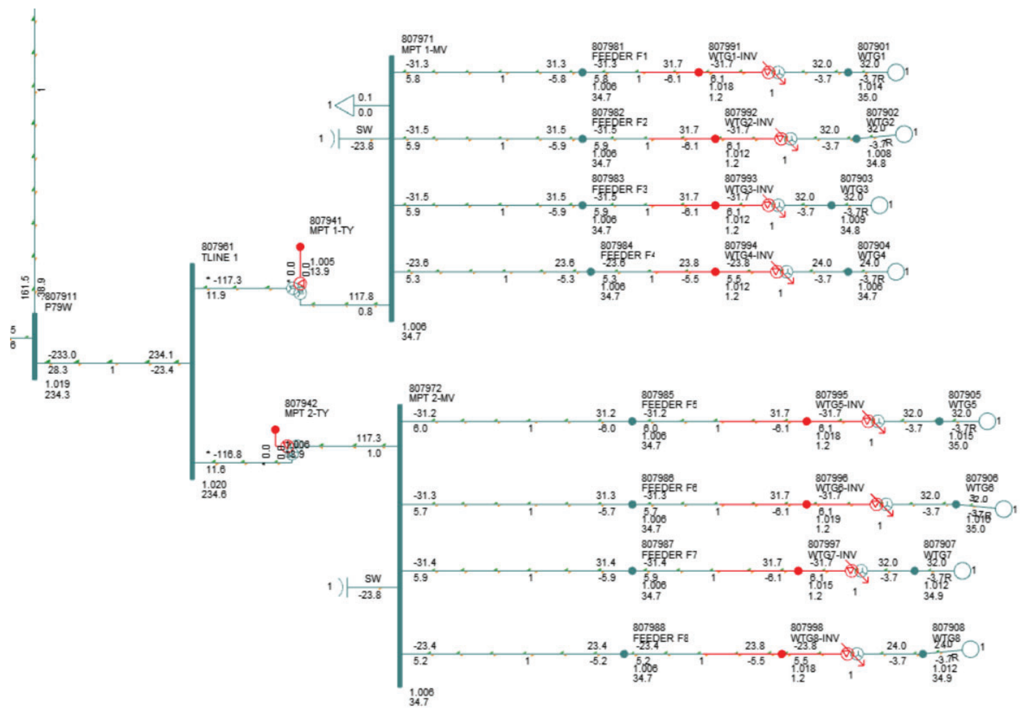

Figure A-1: [redacted] Plant Schematic Diagram.

Appendix B

Power Flow Study Results

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

Table B-1: Thermal Overload Study Results

Cases	IC's Gen Output	Contingency		Branch Loading (Amps/%rating)					
				2L96A	2L96B	2L96C	2L354	2L95 A	2L95B
		Cate.	Description	WSN-P79T	P79T-[redacted]	[redacted]BLW	BLW-RBF	RBF-SMM	SMM-SCK
Winter Ratings				1184 A	1184 A	1184 A	800 A	800 A	800 A
31HW	Max	P0	System Normal	189 16%	410 35%	750 63%	534 67%	465 58%	295 37%
		P1	2L96A	N/A	579 49%	920 78%	705 88%	630 79%	453 57%
		P1	2L354	733 62%	158 13%	223 19%	N/A	74 9%	235 29%
		P1	KLY-T4	189 15%	409 35%	776 66%	560 70%	491 61%	318 40%
		P1	5L11	148 12%	532 45%	867 73%	650 81%	575 72%	395 49%
Summer Ratings				817 A	817 A	817 A	574 A	515 A	515 A
32HS	Max	P0	System Normal	247 30%	354 43%	695 85%	487 85%	442 86%	2812. 55%
		P1	2L96A	N/A	580 71%	921 113%	712 124%	662 129%	482 94%
		P1	2L96C	937 115%	348 43%	N/A	206 36%	256 50%	416 81%
		P1	2L354	740 91%	166 20%	217 27%	N/A	49 10%	212 40%
		P1	5L11	146 18%	480 59%	817 100%	609 106%	559 108%	397 77%
32LS	Max	P0	System Normal	260 32%	342 42%	685 84%	514 90%	479 93%	319 62%
		P0	System Normal with future TVC loads	186 23%	402 49%	747 91%	576 100%	537 104%	375 73%
		P1	2L96A	N/A	580 71%	922 113%	751 131%	712 138%	532 103%
		P1	2L96C	939 115%	347 43%	N/A	150 26%	188 36%	339 66%
		P1	2L354	785 96%	206 25%	192 23%	N/A	43 8%	188 36%
		P1	2L95A	748 92 %	171 21%	218 27%	38 7%	N/A	160 31%
		P1	2L95B	596 73%	69 8%	350 43%	184 32%	150 29%	N/A
		P1	WSN T4	255 31%	343 42%	684 84%	513 89%	478 93%	317 62%
		P1	KLY T4	244 30%	362 44%	705 86%	535 93%	500 97%	339 66%
		P1	5L11	143 17%	474 58%	811 99%	641 112%	603 117%	441 86%

Table B-2: Steady-State Voltage Study Results

Case	IC's Generator Output (MW)	Contingency		Bus Voltage (PU)				
		Cate.	Description	WSN230	P79T230	BLW 230	SCK 230	KLY 230
31HW	Max	P0	System Normal	1.01	1.02	1.03	1.04	1.05
		P1	2L96A	1.02	1.02	1.02	1.03	1.05
		P1	2L354	1.01	1.02	1.04	1.03	1.05
		P1	KLY T4	1.02	1.02	1.03	1.04	1.05
		P1	5L11	1.00	1.01	1.03	1.05	1.06
32HS	Max	P0	System Normal	1.02	1.02	1.03	1.04	1.05
		P1	2L96A	1.02	1.02	1.03	1.04	1.06
		P1	2L96C	1.01	1.02	1.05	1.03	1.05
		P1	2L354	1.01	1.02	1.04	1.04	1.05
		P1	5L11	1.01	1.02	1.02	1.03	1.05
32LS	Max	P0	System Normal	1.02	1.02	1.03	1.04	1.05
		P1	2L96A	1.02	1.02	1.03	1.04	1.05
		P1	2L96C	1.01	1.02	1.02	1.03	1.05
		P1	2L354	1.01	1.02	1.04	1.01	1.05
		P1	2L95A	1.01	1.02	1.04	1.05	1.06
		P1	WSN T4	1.02	1.02	1.03	1.04	1.05
		P1	5L11	1.01	1.02	1.03	1.03	1.05

Appendix C
One-Line Sketch

Figure C-1 shows the Stations Planning One-Line Sketch for the new switching station.

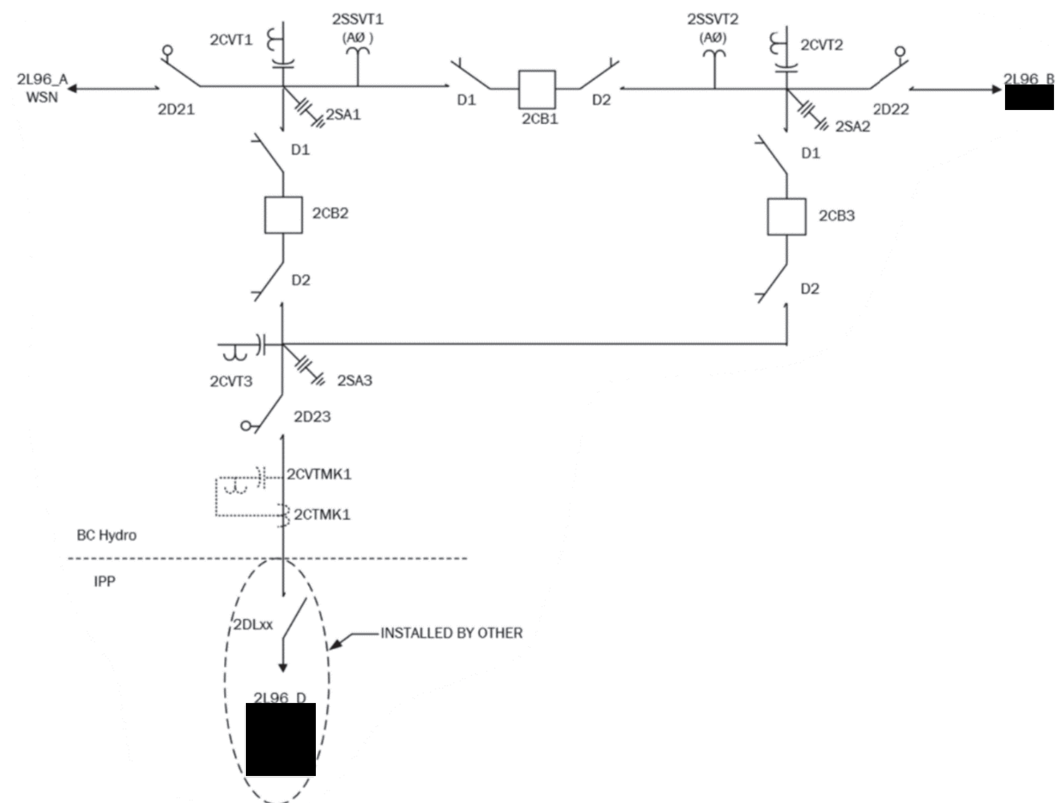

Figure C-1: Stations Planning One-Line Sketch