

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

November 24, 2025

[REDACTED]

via email: [REDACTED]

RE: CEAP IR #26 – [REDACTED] – Interconnection Feasibility Study

Dear [REDACTED]

Enclosed is the Interconnection Feasibility Study for the proposed Interconnection Request (IR), [REDACTED] Wind Project, 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 (POI) 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 \$101.4 M.

Major Scope of Work Identified:

- Acquire adequate property for a new switching station close to the existing transmission line 2L353
- Construct a new outdoor 230 kV, 3-circuit breaker ring bus switching substation on line 2L353
- Construct a new control building and other required substation facilities and infrastructure.
- Cut the existing 2L353 and loop into the substation.

- Terminate 230 kV line of [REDACTED] at the station
- 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
- No construction during winter season
- Execution of early Engineering and Procurement Agreement
- Ability to acquire adequate property for a new switching station close to the existing transmission line 2L353
- No expansion of existing stations or control buildings to accommodate new equipment
- 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
- 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 2032 (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

Since your proposed POI is located within the North Coast Transmission Line Region, the interconnection of your IR has been determined, at this time, to be dependent upon the completion of the North Coast Transmission Line (NCTL) project.

Accordingly, please note the 2025 Call for Power Addendum 5 and revised Specimen EPA specify that the Guaranteed Commercial Operation Date for a project which is dependent upon the completion of NCTL will be October 1, 2033, notwithstanding that the Interconnection Feasibility Study report may indicate an earlier date.

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 signature]

[Redacted name]

Manager, Customer Interconnections

BC Hydro

Encl.: CEAP_2025_IR26_[Redacted]_Feasibility_Study.pdf

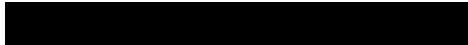


Interconnection Feasibility Study

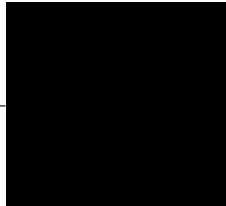
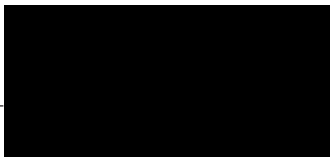
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2025 CEAP IR # 26

Prepared for:

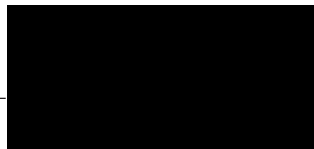


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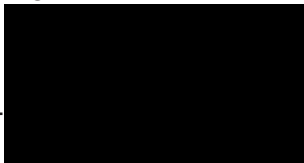
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Principal Engineer, Transmission Planning

Accepted by:



Manager, Transmission Planning

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Volume: 1 of 1

Prepared for: [REDACTED]
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Title: Principal Engineer, Transmission Planning

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Filing Subcode 1350

Revisions

Revision	Date	Description
0	2025 Nov	Initial release

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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

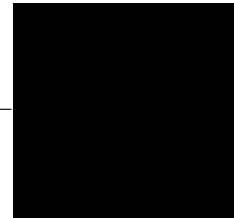
Discipline:

Transmission Planning

Contributed by:



Sr. Engineer, Transmission Planning



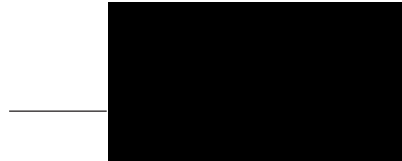
Section:

5.2, 5.3

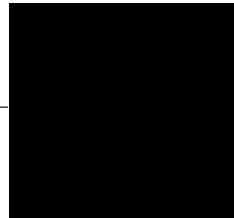
Discipline:

Stations Planning

Contributed by:



Sr. Engineer, Station Planning



Executive Summary

[REDACTED], the interconnection customer (IC), requests to interconnect its [REDACTED] (2025 CEAP IR # 26) to the BC Hydro system. [REDACTED] has thirty-six (36) [REDACTED] type-3 wind turbine generators with a maximum power injection of 196.1 MW into the BC Hydro system at the Point of Interconnection (POI). The IC's proposed POI is on BC Hydro's 230 kV line 2L353, approx. 20 km from Tachick substation (TAC). The IC's project will connect to the POI via a 38.5 km 230 kV interconnection line. The proposed commercial operation date (COD) is Nov 1, 2029.

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. A new 230 kV switching station (referred to as "P26T") on 2L353 is required at the proposed POI for interconnecting the IC's generating project to the BCH system. With the new switching station P26T, the existing line 2L353 will be segregated into two new circuits, temporarily referred to as: 2L353_A (TAC-P26T) and 2L353_B (P26T-GLN). The interconnection line, to be built by the IC, is temporarily referred to as 2L353_C (P26-P26T). These temporary line designations will be replaced by permanent ones at a later stage of interconnection study.
2. The connection of [REDACTED] does not cause any performance violation (i.e. thermal overload, voltage performance violation or voltage stability concern) under system normal and contingency conditions.
3. [REDACTED] is required to install anti-islanding protection within its facility to disconnect the IC's generating plant from the grid when an inadvertent island with the local load forms. The anti-islanding protection shall be configured in the manner that does not compromise the required ride-through performance.
4. The impact on BC Hydro bulk transmission system is not part of the project scope of the feasibility study. However, it should be noted that [REDACTED] is required to participate in the existing BC Hydro generation shedding RAS to address various performance issues for contingencies in BC Hydro's 500 kV transmission system.

5. 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.
6. The "STATCOM option" for the proposed type-3 WTGs is required so that each turbine can provide reactive power capability at zero MW output. BC Hydro recognizes that Type-3 WTGs with the STATCOM option have an inherent limitation—providing only partial reactive power capability during turbine standstill.
7. Fast Frequency Response, also known as Virtual Inertia Control (VIC) in the proposed wind turbines, is required at the [REDACTED]. The proposed wind turbine generators, when equipped with the VIC option, are expected to temporarily boost the MW output to limit the system frequency drop during a major frequency event. The VIC 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".

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Appendices

Appendix A	Schematic Diagram of the IC's Project
Appendix B	Power Flow Study Results
Appendix C	One-Line Sketch for New Switching Station

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)	on 2L353 at 20 km from TAC	
IC's Proposed COD	1st November 2029	
Type of Interconnection Service	NRIS <input checked="" type="checkbox"/>	ERIS <input type="checkbox"/>
Maximum Power Injection (MW)	196.1 (Summer)	196.1 (Winter)
Number of Turbines	36 x 5.7 MW WTGs	
Plant Fuel	Wind	

[REDACTED] the interconnection customer (IC), requests to interconnect its [REDACTED] (2025 CEAP IR # 26) to the BC Hydro system. [REDACTED] has thirty-six (36) [REDACTED] MW type-3 wind turbine generators with a maximum power injection of 196.1 MW into the BC Hydro system at the Point of Interconnection (POI). The IC's proposed POI is on BC Hydro's 230 kV line 2L353, approx. 20 km from Tachick substation (TAC). The IC's project will connect to the POI via a 38.5 km 230 kV interconnection line. The proposed commercial operation date (COD) is Nov 1, 2029.

Figure 1-1 shows the North Coast Glenannan region transmission system diagram. Glenannan substation (GLN) is a major substation in this area connecting to Williston substation (WSN) via 500 kV line 5L61, and Telkwa substation (TKW) via line 5L62. GLN has two 500/230 kV transformers (GLN T1 & T2), two 230/138 kV transformers (GLN T5 & T11), and three 138/69 kV transformers (GLN T3, T4 & T6). GLN presently supplies two 230 kV transmission lines — 2L353 to the Tachick substation (TAC), 2L355 to Blackwater Mine substation (BWM); one 138 kV lines — 1L384 to Burns Lake substation (BRN); two 69 kV lines — 60L341 to Fraser Lake substation (FSR) and 60L352 to Endako Mines (EKO) [REDACTED]

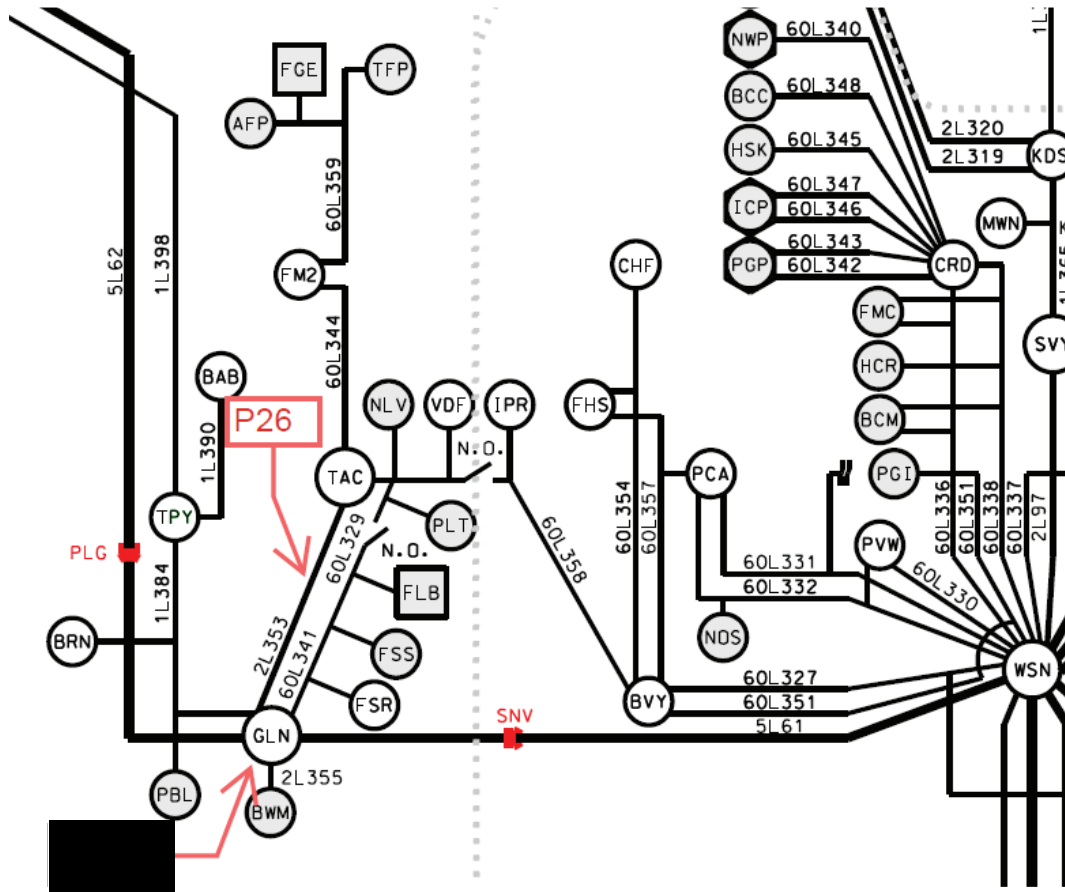


Figure 1-1: North Coast Glenannan region 138/230 kV Transmission System Diagram

In the study region, there are two existing power plants, Fort St. James Green Energy Generating Station (FGE) and Fraser Lake Biomass Generating Station (FLB) with capacities of 40 MW and 12.96 MW.

In addition to the existing generators, the study region has a future proposed generating project with higher queue priority — [REDACTED] will add 205.2 MW of generating capacity to the region.

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 September 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) The Prince George to Terrace Capacitors project (PGTC) is included in the study model. PGTC will build series compensations on 5L61, 5L62, and 5L63, and a new 500KV/230KV transformer SKA T3. The considered in-service date for PGTC is October 2027.
- 3) The [REDACTED] is included in the study model. [REDACTED] will add 205.2 MW of generating capacity to the region.
- 4) The tie DS from 60L358 to 60L329 is normally open between VDF and IPR. Change of this configuration would affect the study results.

5 System Studies and Results

Based upon the IC's submitted information and the area system conditions, a new switching station (referred to as "P26T") at the proposed POI on 2L353 is required to interconnect the IC's generating project to the BCH system. The addition of the new switching station is required to maintain reliability and adequate protection performance to accommodate the new interconnection and serve the existing customers.

With the new switching station P26T, the existing line 2L353 will be segregated into two new circuits, temporarily referred to as: 2L353_A (TAC-P26T) and 2L353_B (P26T-GLN). The interconnection line, to be built by the IC, is temporarily referred to as 2L353_C (P26-P26T). These temporary line designations will be replaced by permanent ones at a later stage of interconnection study.

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 — 29HW/30HS/30LS system conditions that include all the higher-queued generating projects [REDACTED] in the region and the future proposed series compensation project PGTC. 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.

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

The study shows that the addition of [REDACTED] would not cause any new thermal overloads under system normal condition and contingency conditions.

Appendix B contains the details of thermal overload analysis results.

5.1.2 Steady-State Voltage Analysis

With the connection of the IC's project, the steady-state voltage performance under system normal and single contingency conditions is acceptable for all the three load conditions (30LS, 30HS, 29HW).

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] project 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 interconnection process.

In addition, according to the IC-provided reactive capability data, the proposed WTG would provide +1.7 Mvar to -1.9 Mvar reactive capability at the zero MW output if the turbine's "STATCOM" function is enabled. This function needs to be re-confirmed if the IC's project proceeds to next stage of the interconnection process.

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, also known as Virtual Inertia Control (VIC) in the proposed wind turbines, is required at the [REDACTED]. The proposed wind turbine generators, when equipped with the VIC option, are expected to temporarily boost the MW output to limit the system frequency drop during a major frequency event. The VIC 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 Feasibility Study 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 (referred to P26T temporarily) will be built at the proposed POI, close to the existing 230 kV transmission line 2L353. The existing transmission line 2L353 will be cut and looped into, and 230 kV line of [REDACTED] will be terminated at the new switching station.

The scope of work at the new switching station P26T is as follows.

- Acquire adequate property for a new switching station close to the existing transmission line 2L353.
- Construct a new outdoor 230 kV, 3-circuit breaker ring bus switching station. Refer to the one-line diagram in Appendix C for details. The designations of the new switching station and the new line connecting to the customer and two new lines derived from 2L353 are temporarily assigned as P26T, 2L353_C, 2L353_A, and 2L353_B. And these designations will be revised in next stage.
- Construct a new control building and other required substation facilities and infrastructures.
- Cut the existing 2L353 and loop into the switching station.
- Terminate 230kV line of [REDACTED] at the switching station.

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. A new 230 kV switching station (referred to as “P26T”) on 2L353 is required at the proposed POI for interconnecting the IC’s generating project to the BCH system. With the new switching station P26T, the existing line 2L353 will be segregated into two new circuits, temporarily referred to as: 2L353_A (TAC-P26T) and 2L353_B (P26T-GLN). The interconnection line, to be built by the IC, is temporarily referred to as 2L353_C (P26-P26T). These temporary line designations will be replaced by permanent ones at a later stage of interconnection study.
2. The connection of [REDACTED] does not cause any performance violation (i.e. thermal overload, voltage performance violation or voltage stability concern) under system normal and contingency conditions.
3. [REDACTED] is required to install anti-islanding protection within its facility to disconnect the IC’s generating plant from the grid when an inadvertent island with the local load forms. The anti-islanding protection shall be configured in the manner that does not compromise the required ride-through performance.
4. The impact on BC Hydro bulk transmission system is not part of the project scope of the feasibility study. However, it should be noted that [REDACTED] is required to participate in the existing BC Hydro generation shedding RAS to address various performance issues for contingencies in BC Hydro’s 500 kV transmission system.
5. 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.
6. The “STATCOM option” for the proposed type-3 WTGs is required so that each turbine can provide reactive power capability at zero MW output. BC Hydro recognizes that Type-3 WTGs with the STATCOM option have an

inherent limitation—providing only partial reactive power capability during turbine standstill.

7. Fast Frequency Response, also known as Virtual Inertia Control (VIC) in the proposed wind turbines, is required at the [REDACTED]. The proposed wind turbine generators, when equipped with the VIC option, are expected to temporarily boost the MW output to limit the system frequency drop during a major frequency event. The VIC settings should be determined in coordination with BC Hydro in the later stage of the interconnection process.

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 32 Mvar switchable shunt capacitors – one capacitor bank (16 Mvar) on collector bus #1 and the other one (16 Mvar) on collector bus #2.

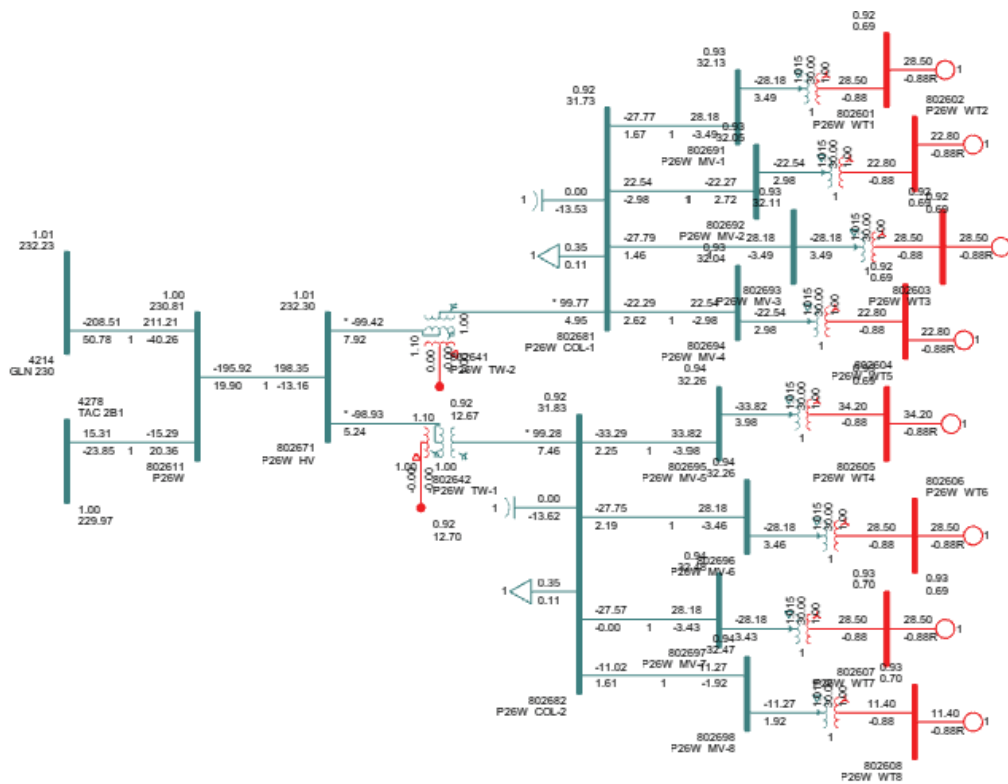


Figure A-1: [REDACTED] Plant Schematic Diagram.

Appendix B

Power Flow Study Results

Base Scenario (29HW/30HS/30LS)

Table B-1: Thermal Overload Study Results

Case	North Coast Regional Generation	Contingency		Branch Loading (% of its seasonal normal rating)		
				GLN T1	GLN T2	2L353_B ³
		Cat.	Description	230/500 kV TF	230/500 kV TF	P26-GLN
Winter Rating in MVA				714	714	478
29HW	Max	P0	System Normal	22.3 %	22.2 %	40.2 %
	Max	P2.3	GLN 5CB23 fault ¹	45.3 %	-	40.4 %
	Max	P2.3	GLN 1CB3 fault ²	-	48.1 %	40.1 %
Summer Rating in MVA				600	600	420.3
30HS	Max	P0	System Normal	28.8 %	28.7 %	49.1 %
	Max	P2.3	GLN 5CB23 fault	59.8 %	-	49.7 %
	Max	P2.3	GLN 1CB3 fault	-	60.2 %	49.0 %
Summer Rating in MVA				600	600	420.3
30LS	Max	P0	System Normal	29.8 %	29.7 %	51.0 %
	Max	P2.3	GLN 5CB23 fault	61.7 %	-	51.6 %
	Max	P2.3	GLN 1CB3 fault	-	61.5 %	50.8 %
<p>Note 1: GLN 5CB23 internal fault result in loss of GLN TF#2, #5, and 5L62. Note 2: GLN 1CB3 internal fault result in loss of GLN TF#1, #11, and 1L384. Note 3: The existing line 2L353's rating is limited to 300 A by a CT (current transformer) at TAC side, while the conductor's rating is much higher. Since the line will be segregated into two circuits 2L353_A and 2L353_B by new switching station P26T, the rating of 2L353_B from P26T to GLN will be 1055 A for summer continuous rating while 1200 A (wave trap limit) for emergency and winter ratings.</p>						

Table B-2: Steady-State Voltage Study Results

Case	IC's Plant Output	Contingency		Bus Voltage (PU)		
		Cat.	Description	GLN 500	GLN 230	P26_POI
29HW	Max	P0	System Normal	1.040	1.010	1.004
	Max	P2.3	GLN 5CB23 fault	1.057	1.016	1.007
	Max	P2.3	GLN 1CB3 fault	1.040	1.005	1.002
30HS	Max	P0	System Normal	1.034	1.006	1.003
	Max	P2.3	GLN 5CB23 fault	1.068	1.023	1.010
	Max	P2.3	GLN 1CB3 fault	1.033	1.001	1.000
30LS	Max	P0	System Normal	1.040	1.010	1.004
	Max	P2.3	GLN 5CB23 fault	1.070	1.024	1.010
	Max	P2.3	GLN 1CB3 fault	1.039	1.004	1.001

Appendix C

One-Line Sketch for New Switching Station

Figure C-1 shows the Stations Planning One-Line Sketch for the New Switching Station P26T.

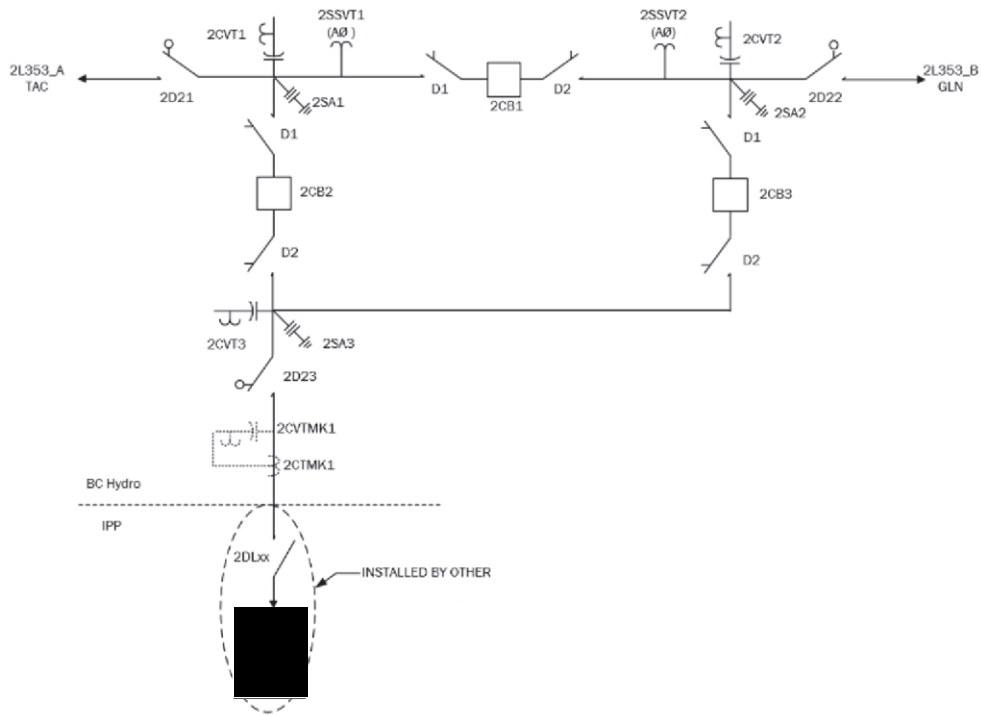


Figure C-1: Stations Planning One-Line Sketch for the New Switching Station P26T.