BC Hydro
Power smart

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

November 24, 2025

[redacted]

via email: [redacted]

RE: CEAP IR #76 – [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 $51.5 M.

Major Scope of Work Identified:

- Add one 138 kV line position with associated equipment at BC Hydro's Dawson Creek substation (DAW); the new line position shall have an independent switching and protection zone
- Install three new outdoor 138 kV circuit breakers along with associated disconnect switches
- Install a new 138 kV line terminal with associated motorized disconnect switch, surge arrester, and one 138 kV capacitor voltage transformer
- Connect the customer-built transmission line to the new 138 kV terminal at DAW

- Expand the DAW switchyard to connect the above facilities and bus work
- Upgrade required substation facilities, infrastructures, and bus work to support new station equipment
- Supply and install required Protection, Control and Telecommunications equipment

Exclusions:

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

Key Assumptions:

- Construction by contractor
- 12 months of construction is considered
- Execution of early Engineering and Procurement Agreement
- No expansion of existing control buildings to accommodate new equipment
- No construction during winter season
- Impact Benefit Agreements with First Nations are not considered
- A minimum site expansion of 102 m × 85 m is assumed

Key Risks:

- Expansion of the existing control building may be required, and expansion of DAW switchyard may be more complex, 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

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_IR76_[redacted]_Feasibility_Study.pdf

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[redacted]

Interconnection Feasibility Study

BC Hydro EGBC Permit to Practice No: 1002449

2025 CEAP IR # 76

Prepared for: [redacted]

Prepared by: [redacted]

[redacted]
Specialist Engineer, Transmission

[redacted]

Reviewed by: [redacted]

Technical Strategic Principle, Transmission Planning

Accepted by: [redacted]

Division Manager, Transmission Planning

BC Hydro
Power smart

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Title:	Specialist Engineer, Transmission Planning
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Revision	Date	Description
0	2025 Nov	Initial release

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Contributed by:

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Specialist Engineer, Transmission Planning

[redacted]

Section: **5.2, 5.3**

Discipline: Stations Planning

Contributed by:

[redacted]

[redacted]

Specialist Engineer, Station Planning

[redacted]

Executive Summary

[redacted] the Interconnection Customer (IC), requests to interconnect its [redacted] - 2025 CEAP IR # 76 - to the BC Hydro system. [redacted] has forty-four (44) [redacted] type-3 wind turbine generators, adding a total installed capacity of 250.8 MW with a maximum power injection of 238.7 MW into the BC Hydro system at the proposed Point of Interconnection (POI). The IC has proposed to connect their generating project to BC Hydro transmission system at the POI, the 138 kV bus of the Dawson Creek substation (DAW).

The IC's wind project will be connected via a new 138 kV, approximately 12 km, customer-built transmission line (temporarily designated as 1LXXX) from the POI.

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. The proposed POI at the 138 kV DAW station is acceptable to interconnect the customer's generating project to the BCH system.

   One new 138 kV line position at DAW is required to interconnect the proposed [redacted].

2. No thermal overloads or voltage constraints have been identified under system normal condition (P0).

3. With the connection of [redacted], the following thermal overloads have been identified under single contingency conditions:

   - 2L308 thermal overloads under the single contingency of loss of 2L392A or South Bank substation (SBK) 2CB21 (or 2CB22) breaker internal fault (P2).
   - Gordon M. Shrum G.S. (GMS) 500/230 kV transformers T13 or T14 thermal overloads under single contingencies of loss of GMS 500/230 kV T14 or T13 or internal breaker failure GMS-1CB4 or 1CB5, 1CB7.

     The [redacted] is required to participate in and modify the existing Peace Area Wind Farm Gen Shedding Remedial Action Scheme (RAS).

- Thermal overloads on 500 kV lines 5L1, 5L2 and 5L3 under single contingencies loss of one of 500 kV lines, 5L3, 5L4, or 5L7. The [redacted] is required to participate in the G.M. Shrum Area Gen Shedding RAS.

  Further details of the RASs will be studied under System impact study (SIS) stage, if applicable.

4. The [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.
5. A Direct Transfer Trip (DTT) protection scheme is required to isolate the IC's wind project at the IC's entrance circuit breaker to avoid potential islanding operations with the existing or future loads.
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. Based on the IC-submitted PSS/E model, the proposed [redacted] meets the reactive capability requirement above.
7. 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.
8. 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”.

Contents

Appendices

Acronyms

The following are acronyms used in this report.

BCH	BC Hydro
BMT	Bear Mountain Terminal
CEAP	Competitive Electricity Acquisition Process
COD	Commercial Operation Date
DTT	Direct Transfer Trip
DAW	Dawson Creek Substation
EGB	East Groundbirch
ERIS	Energy Resource Interconnection Service
FeS	Feasibility Study
IBR	Inverter-Based Resources
IC	Interconnection Customer
IR	Interconnection Request
GMS	Gordon M. Shrum G.S.
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
PRES	Peace Region Electric Supply
RAS	Remedial Action Scheme
SGB	Shell Groundbirch Substation
SBK	South Bank Substation
SLS	Sundance Lakes Substation
TIR	BC Hydro “60 KV to 500 kV Technical Interconnection Requirements for Power Generators”
[redacted]	[redacted] Terminal Station
[redacted]	[redacted] Station
VIC	Virtual Inertia Control
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)	138 kV bus of DAW	
IC's Proposed COD	1st November 2029	
Type of Interconnection Service	NRIS ☒	ERIS ☐
Maximum Power Injection (MW)	238.7 MW (Summer)	238.7 MW (Winter)
Number of Turbines	44 x 5.7 MW WTGs	
Plant Fuel	Wind	

[redacted] the Interconnection Customer (IC), requests to interconnect its [redacted] - 2025 CEAP IR # 76 - to the BC Hydro system. [redacted] has forty-four (44) [redacted] type-3 wind turbine generators, adding a total installed capacity of 250.8 MW with a maximum power injection of 238.7 MW into the BC Hydro system at the proposed Point of Interconnection (POI). The IC has proposed to connect their generating project to BC Hydro transmission system at the POI, the 138 kV bus of the Dawson Creek substation (DAW). The [redacted] will be interconnected with the BC Hydro transmission system at the POI via an approximately 12 km customer-built 138 kV line. The IC's proposed commercial operation date (COD) is November 1, 2029.

The Peace Region transmission system consists of 230 kV and 138 kV transmission infrastructures supplied from Gordon M. Shrum G.S.(GMS) and South Bank substation (SBK), which are the major sources of supply to the Peace Region transmission system. Figure 1-1 shows the Peace region transmission system diagram.

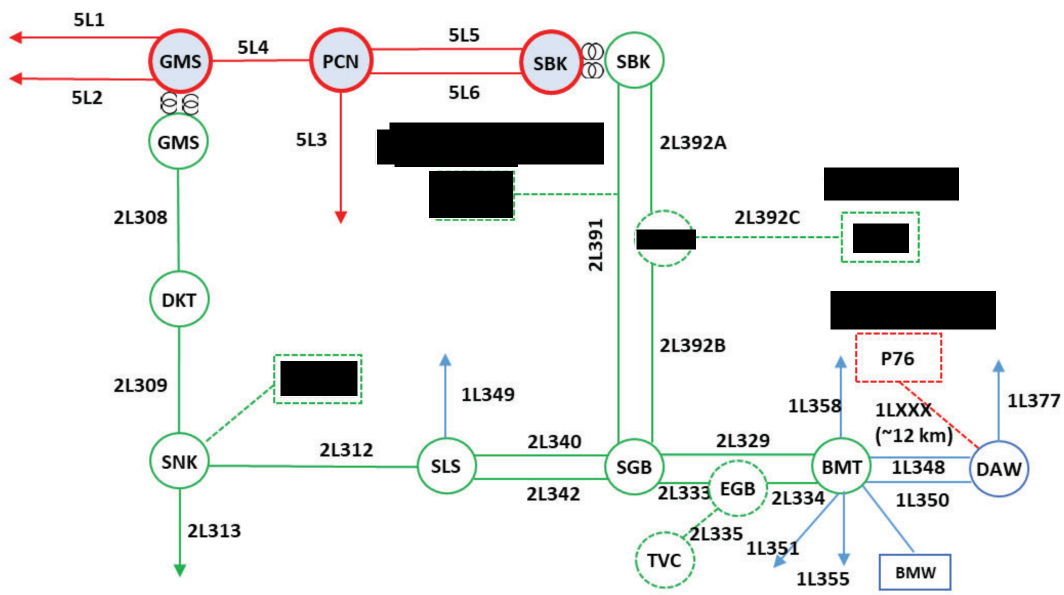

Figure 1-1: Peace Region Transmission System Diagram

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 Peace region 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 Maximum Power Outputs (MPO) unless otherwise specified.
2) The 2024 Distribution Substation Load Forecast, 2025 Transmission Voltage Customer (TVC) Load Forecast and 2025 System Peak Forecast are used.
3) September 2024 Base Resource Plan.
4) 200 MW [redacted] will be in service on September 30, 2031, and 200 MW [redacted] will be in service on October 1, 2030.
5) A new 56 MW generation interconnection project will be in service on October 31, 2028.
6) 29HW, 30LS, 32HS, and 32LS are used as base case in the study to evaluate system impact after [redacted] plant interconnection.
7) The Bear Mountain Terminal T4 will be in service by March 2027.
8) 1L377 is normally open between Parkland Substation (PLD) and Tower 03/07 Substation (ET3).
9) All new TVC load interconnection and associated system reinforcements are modeled in this study.

5 System Studies and Results

Based upon the IC's submitted information and the area system conditions, it is acceptable to interconnect the IC's generating project to the BCH system at the proposed POI, the 138 kV bus of DAW, via an approximately 12 km customer-built 138 kV line.

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 scenarios - 29HW/30LS/32LS/32HS system conditions that includes all the higher-queued generating projects ([redacted] and a new generation project) in the Peace region. 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 were 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

For all the studied scenarios (29HW, 30LS, 32LS, and 32HS), the study shows that the addition of [redacted] would not cause any thermal overloads under system normal condition.

With the connection of [redacted], the following thermal overloads have been identified under single contingencies:

- 2L308 thermal overloads under the single contingencies of loss of 2L392A (SBK-[redacted] or SBK_2CB21 (or 2CB22) breaker internal fault (P2).
- GMS 500/230 kV transformer T13 or T14 thermal overloads under single contingencies of loss of GMS 500/230 kV T14 or T13 or internal breaker fault GMS-1CB4 (or 1CB5, 1CB7).

The [redacted] is required to participate in and modify the existing Peace Area Wind Farm Gen Shedding Remedial Action Scheme (RAS).

- Thermal overloads of 500 kV lines 5L1, 5L2 and 5L3 under single contingencies loss of one of 500 kV lines, 5L3, 5L4, or 5L7. These existing overloads are currently mitigated by the G.M. Shrum Area Gen Shedding RAS. The [redacted] is required to participate in the G.M. Shrum Area Gen Shedding RAS.

The detailed RAS requirements will be confirmed during the System Impact Study (SIS) stage, if necessary.

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 steady-state voltage performance under system normal and single contingency conditions is acceptable for all the study scenarios (29HW, 30LS, 32LS, and 32HS). 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 to meet 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.

A Direct Transfer Trip (DTT) protection scheme is required to isolate the IC's wind project at the IC's entrance circuit breaker to avoid potential islanding operations with the existing or future loads.

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 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 connect the IC's project, the scope of work at DAW substation involves:

- Install three new outdoor 138 kV circuit breakers (1CB7, 1CB8, 1CB9) rated at 2000A continuous current, 40kA interrupting rating, 650kV BIL along with associated disconnect switches. The installation of the three circuit breakers is required to meet the following functional requirements.
    - The new line position shall have an independent switching and protection zone.
    - Breaker fault or fault with stuck breaker will not result in IC's wind project being connected to 1L377.

- Install a new 138 kV line terminal (1LXXX - [redacted]) with associated motorized disconnect switch, surge arrester, and one 138 kV Capacitor Voltage Transformer.
- Expand the DAW-138 kV switchyard to connect the above facilities and bus work. The substation has sufficient available property to accommodate the expansion of the 138kV switchyard.
- Install associated protection and control (P&C), station service and other equipment.
- Connect the customer-built transmission line to the new 138 kV terminal at DAW.
- Upgrade station grounding system and other associated works as necessary.

Refer to the planning one-line sketch in Appendix C for the work scope at DAW.

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 at the 138 kV DAW substation is acceptable to interconnect the IC's generating project to the BCH system.

   One new 138 kV line position at DAW is required to interconnect the proposed [redacted]

2. No thermal overloads or voltage constraints have been identified under system normal condition (P0).

3. With the connection of [redacted], the following thermal overloads have been identified under single contingency conditions:

   - 2L308 thermal overloads under the single contingencies of loss of 2L392A (SBK-[redacted] or SBK_2CB21 (or 2CB22) breaker internal fault (P2).
   - GMS 500/230 kV transformers T13 or T14 thermal overloads under single contingencies of loss of GMS 500/230 kV T14 or T13 or internal breaker fault GMS-1CB4 or 1CB5, 1CB7.

   The [redacted] is required to participate in and modify the existing Peace Area Wind Farm Gen Shedding RAS.

   - Thermal overloads on 500 kV lines 5L1, 5L2 and 5L3 under single contingencies loss of one of 500 kV line, 5L3, 5L4, or 5L7. The [redacted] is required to participate in the G.M. Shrum Area Gen Shedding RAS.

   Further details of the RASs will be studied under System impact study stage, if applicable.

4. The [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.

5. A Direct Transfer Trip protection scheme is required to isolate the IC's wind project at the IC's entrance circuit breaker to avoid potential islanding operations with the existing loads.

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. Based on the IC-submitted PSS/E model, the proposed [redacted] meets the reactive capability requirement above.

7. 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.

8. 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].

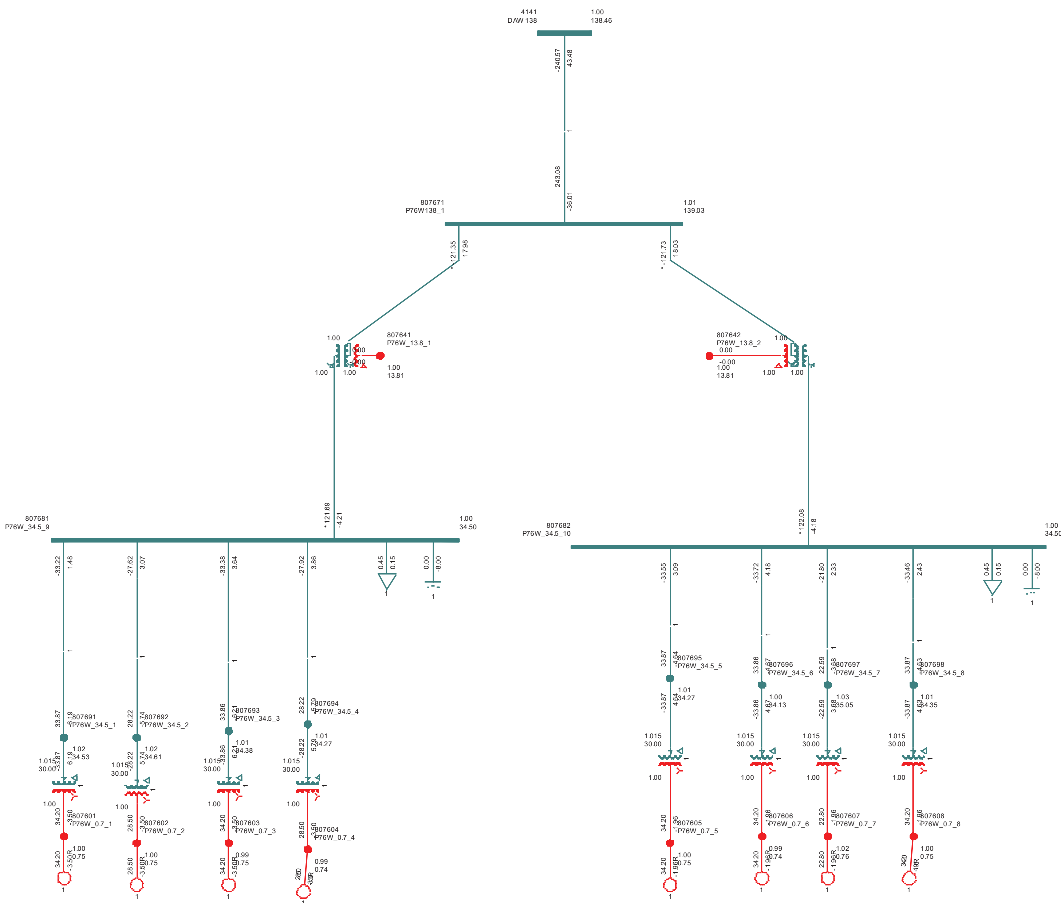

Figure A-1: [redacted] Plant Schematic Diagram.

Appendix B

Power Flow Study Results

Base Scenario (29HW/30LS/32HS/32LS)

Table B-1: Thermal Overload Study Results

Cases	IC's Gen Output (MW)	Contingency		Branch Loading (Amps/MVA)						
				2L329	2L312	2L308	5L1	1L350	BMT T2	GMS T14
		Cate.	Description	SGB-BMT	SNK-SLS	GMS-DKT	GMS-KDY	BMT-DAW	(MVA)	(MVA)
Winter Rating				2000	1351	1359	3000	1200	178	356
29HW	Max	P0	System Normal	117.4 5.9%	571.4 42.3%	708.3 52.1%	1679.5 56.0%	191.5 16.0%	22.5 12.6%	131.1 36.8%
		P1	1L348	114.9 5.7%	570.9 42.3%	708.4 52.1%	1679.5 56.0%	382.5 31.9%	22.0 12.4%	131.1 36.8%
		P1	BMT T4	117.9 5.9%	571.5 42.3%	708.3 52.1%	1679.5 56.0%	191.9 16.0%	28.1 15.8%	131.1 36.8%
		P1	2L308	129.0 6.4%	1271.4 94.1%	N/A	1671.1 55.7%	198.8 16.6%	24.2 13.6%	12.9 3.6%
		P1	2L312	110.8 5.5%	N/A	1274.3 93.8%	1684.6 56.2%	189.7 15.8%	21.4 12.0%	239.2 67.2%
		P1	2L333 (SGB-EGB)	218.4 10.9%	569.5 42.2%	708.7 52.1%	1679.7 56.0%	190.1 15.8%	21.8 12.2%	131.2 36.9%
		P1	GMS T13	118.3 5.9%	636.5 47.1%	641.0 47.2%	1679.6 56.0%	192.0 16.0%	22.6 12.7%	236.3 66.4%
		P1	5L3	123.1 6.2%	536.2 39.7%	760.7 56.0%	2608.0 86.9%	194.6 16.2%	23.3 13.1%	138.9 39.0%
Summer Rating				1954	1066	1073	2244	977	150	300
30LS	Max	P0	System Normal	195.7 10.0%	509.7 47.8%	803.0 74.8%	1757.6 78.3%	307.4 31.5%	33.3 22.2%	145.7 48.6%
		P1	1L348	194.6 10.0%	509.0 47.7%	803.0 74.8%	1757.6 78.3%	613.3 62.8%	32.9 22.0%	145.7 48.6%
		P1	BMT T4	195.9 10.0%	509.9 47.8%	803.0 74.8%	1757.6 78.3%	309.1 31.6%	52.9 35.3%	145.7 48.6%
		P1	2L308	203.6 10.4%	1309.5 122.8%	N/A	1747.7 77.9%	318.4 32.6%	34.4 22.9%	16.0 5.3%
		P1	2L312	192.6 9.9%	N/A	1313.3 122.4%	1762.2 78.5%	303.9 31.1%	32.9 21.9%	242.7 80.9%
		P1	2L333 (SGB-EGB)	388.2 19.9%	508.3 47.7%	803.2 74.9%	1757.7 78.3%	306.5 31.4%	33.2 22.1%	145.7 48.6%
		P1	GMS T13	196.1 10.0%	579.8 54.4%	730.9 68.1%	1757.3 78.3%	307.9 31.5%	33.4 22.2%	264.3 88.1%
		P1	5L3	199.1 10.2%	473.7 44.4%	859.5 80.1%	2755.8 122.8%	311.9 31.9%	33.8 22.5%	153.2 51.1%
32LS	Max	P0	System Normal	195.4 10.0%	380.6 35.7%	935.1 87.1%	1863.1 83.0%	307.3 31.4%	33.3 22.2%	170.2 56.7%
		P1	1L348 (Light Load)	270.6 13.8%	346.8 32.5%	977.7 91.1%	1895.7 84.5%	875.9 89.7%	45.4 30.3%	177.4 59.1%
		P1	1L348	194.5 10.0%	380.0 35.6%	934.9 87.1%	1863.0 83.0%	613.4 62.8%	32.9 22.0%	170.1 56.7%
		P1	BMT T4	195.7 10.0%	380.9 35.7%	935.1 87.1%	1863.1 83.0%	309.0 31.6%	53.2 35.5%	170.2 56.7%

Cases	IC's Gen Output (MW)	Contingency		Branch Loading (Amps/MVA)						
				2L329	2L312	2L308	5L1	1L350	BMT T2	GMS T14
		Cate.	Description	SGB-BMT	SNK-SLS	GMS-DKT	GMS-KDY	BMT-DAW	(MVA)	(MVA)
		P1	2L308	199.9 10.2%	1307.9 122.7%	N/A	1848.5 82.4%	313.0 32.0%	33.9 22.6%	17.5 5.8%
		P1	2L312	194.0 9.9%	N/A	1311.1 122.2%	1867.5 83.2%	305.6 31.3%	33.1 22.1%	241.3 80.4%
		P1	2L333 (SGB-EGB)	388.0 19.9%	379.2 35.6%	935.0 87.1%	1863.0 83.0%	306.4 31.4%	33.2 22.1%	170.1 56.7%
		P1	GMS T13	195.6 10.0%	460.6 43.2%	853.9 79.6%	1862.5 83.0%	307.5 31.5%	33.3 22.2%	309.2 103.1%
		P1	2L392A_SBK-[redacted]	195.9 10.0%	234.6 22.0%	1089.2 101.5%	1864.2 83.1%	307.8 31.5%	33.3 22.2%	199.7 66.6%
		P1	5L3	196.3 10.0%	352.9 33.1%	992.8 92.5%	2919.9 130.1%	308.3 31.6%	33.4 22.3%	177.1 59.0%
		P2	SBK_2CB21	195.9 10.0%	192.7 18.1%	1136.8 106.0%	1864.8 83.1%	307.8 31.5%	33.3 22.2%	208.8 69.6%
32HS	Max	P0	System Normal	131.4 6.7%	436.0 40.9%	878.0 81.8%	1809.1 80.6%	237.2 24.3%	23.8 15.9%	154.8 51.6%
		P1	1L348	129.7 6.6%	435.6 40.9%	877.9 81.8%	1809.0 80.6%	473.7 48.5%	23.4 15.6%	154.8 51.6%
		P1	BMT T4	132.3 6.8%	436.2 40.9%	878.0 81.8%	1809.1 80.6%	238.2 24.4%	34.3 22.9%	154.8 51.6%
		P1	2L308	136.2 7.0%	1308.0 122.7%	N/A	1795.3 80.0%	240.9 24.7%	24.6 16.4%	21.5 7.2%
		P1	2L312	129.4 6.6%	N/A	1311.0 122.2%	1814.0 80.8%	236.0 24.2%	23.4 15.6%	237.3 79.1%
		P1	2L333 (SGB-EGB)	255.0 13.1%	434.9 40.8%	878.0 81.8%	1809.0 80.6%	236.0 24.2%	23.5 15.6%	154.8 51.6%
		P1	GMS T13	131.7 6.7%	510.0 47.8%	802.8 74.8%	1808.5 80.6%	237.4 24.3%	23.8 15.9%	280.9 93.6%
		P1	2L392A_SBK-[redacted]	131.9 6.8%	299.9 28.1%	1018.6 94.9%	1810.4 80.7%	237.5 24.3%	23.9 15.9%	182.0 60.7%
		P1	5L3	132.4 6.8%	407.6 38.2%	932.7 86.9%	2816.4 125.5%	237.9 24.3%	23.9 16.0%	161.9 54.0%
		P2	SBK_2CB21	131.9 6.8%	262.4 24.6%	1058.9 98.7%	1810.8 80.7%	237.5 24.3%	23.9 15.9%	189.8 63.3%

Table B-2: Steady-State Voltage Study Results

Case	IC's Generator Output (MW)	Contingency		Bus Voltage (PU)			
		Cate.	Description	BMT 230	BMT 138	EGB 230	DAW 138
29HW	Max	P0	System Normal	1.007	1.047	1.042	1.009
		P1	1L348	1.006	1.045	1.041	1.009
		P1	BMT T4	1.006	1.047	1.042	1.008
		P1	2L308	0.994	1.031	1.025	0.998
		P1	2L312	1.015	1.056	1.051	1.016
		P1	2L333 (SGB-EGB)	1.012	1.052	1.053	1.013
		P1	GMS T13	1.006	1.045	1.040	1.008
		P1	5L3	1.000	1.039	1.033	1.004

Case	IC's Generator Output (MW)	Contingency		Bus Voltage (PU)			
		Cate.	Description	BMT 230	BMT 138	EGB 230	DAW 138
30LS	Max	P0	System Normal	1.006	1.037	1.035	1.010
		P1	1L348	1.003	1.035	1.033	1.010
		P1	BMT T4	1.003	1.038	1.035	1.007
		P1	2L308	0.990	1.019	1.015	0.997
		P1	2L312	1.013	1.045	1.044	1.016
		P1	2L333 (SGB-EGB)	1.007	1.039	1.039	1.011
		P1	GMS T13	1.005	1.036	1.033	1.009
		P1	5L3	0.999	1.029	1.025	1.004
32LS	Max	P0	System Normal	1.009	1.041	1.039	1.012
		P1	1L348	1.007	1.039	1.038	1.013
		P1	BMT T4	1.006	1.041	1.039	1.010
		P1	2L308	0.999	1.029	1.026	1.004
		P1	2L312	1.013	1.045	1.043	1.015
		P1	2L333 (SGB-EGB)	1.011	1.043	1.043	1.014
		P1	GMS T13	1.008	1.040	1.038	1.012
		P1	2L392A_SBK[redacted]	1.008	1.040	1.037	1.011
		P1	5L3	1.007	1.038	1.036	1.011
		P1	SBK_2CB21	1.008	1.039	1.037	1.011
		P2	SBK_2CB21	1.009	1.041	1.039	1.012
32HS	Max	P0	System Normal	1.012	1.043	1.039	1.015
		P1	1L348	1.011	1.041	1.039	1.015
		P1	BMT T4	1.010	1.043	1.040	1.013
		P1	2L308	1.005	1.034	1.030	1.008
		P1	2L312	1.016	1.047	1.044	1.018
		P1	2L333 (SGB-EGB)	1.016	1.046	1.047	1.018
		P1	GMS T13	1.012	1.042	1.039	1.014
		P1	2L392A_SBK[redacted]	1.011	1.042	1.038	1.014
		P1	5L3	1.011	1.041	1.037	1.013
		P2		1.011	1.042	1.038	1.014

Appendix C

One-Line Sketch for Switching Station

Figure C-1 shows the Stations Planning One-Line Sketch for the DAW substation.

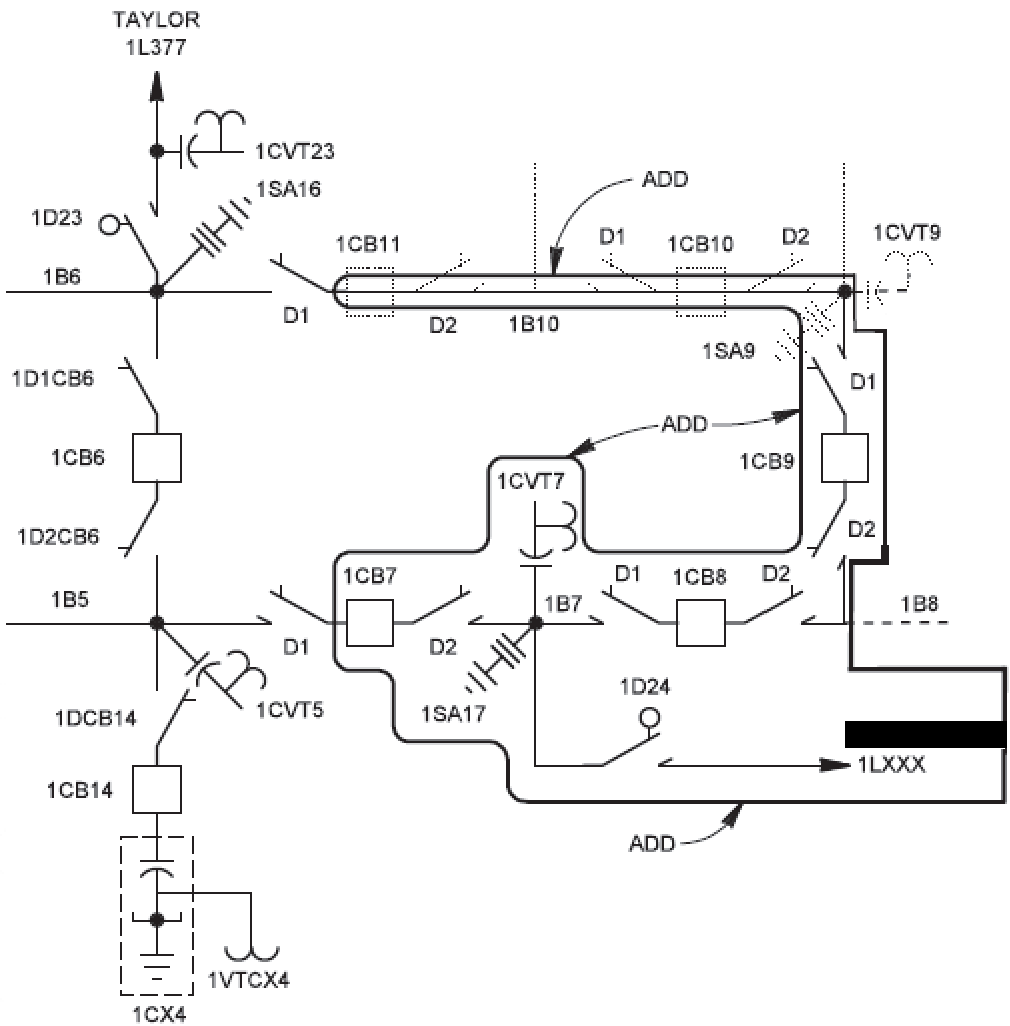

Figure C-1: Stations Planning One-Line Sketch for the DAW Substation