BC Hydro
Power smart

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

July 30, 2024

[redacted]

RE: CEAP IR 50 - Bergeron Ridge Wind Option 2 Project - Interconnection Feasibility Study Report

Enclosed is the Interconnection Feasibility study report for the proposed Bergeron Ridge Wind Option 2 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 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.

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 $13.9 M.

Major Scope of Work Identified:

- Supply and install one 230 kV line position with the associated substation equipment at BC Hydro Meikle Terminal (MKT) substation
- Expansion of the existing control building, if required, to accommodate the new P&C panels and other equipment
- Supply and install protection relays and other required protection / telecom equipment

Exclusions:

- GST
- Right-of-Way or Property costs
- Permits

Key Assumptions:

- Construction will be done by contractor
- 2 years of construction
- Early Engineering and Procurement
- Control building will require expansion
- No expansion of existing station required to accommodate new equipment
- No piles or ground improvements will be required
- No contaminated soil will be encountered during construction

Key Risks:

- No defined supply chain strategy, construction costs may increase depending on delivery method
- Cost of construction may increase based on geotechnical condition of the actual project site
- Project schedule may be longer than expected, leading to increased costs
- Costs materials and major equipment be affected by market conditions and escalation
- Expansion of station site may be required leading to increased costs and/or longer project schedule

Please note that the Revenue Metering requirements and associated costs required to interconnect your project have not been determined at this stage and, therefore, not included in the above estimate. Revenue Metering 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 project's Network Upgrades is Quarter 3 2031 (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, delays in data submission, or financial commitments may also impact the target in-service date.

Next Steps

In September 2024, we will issue a final invoice for the Feasibility Study costs. This invoice will reflect the total amount due, taking into account the $15,000 Feasibility Study deposit you have already paid and any remaining amount on the non-refundable $15,000 Interconnection request deposit that we did not spend in reviewing and validating your interconnection request.

If you have any questions, please contact the BC Hydro CEAP Team at ceap2024@bchydro.com.

Sincerely,

Senior Manager, Transmission Interconnections

BC Hydro

Encl.: CEAP2024_IR_50_Bergeron Ridge Wind Option 2_FeS_Report_final.pdf

[redacted]

Bergeron Ridge Wind Farm Project

Interconnection Feasibility Study

BC Hydro EGBC Permit to Practice No: 1002449

2024 CEAP IR # 50

Prepared for: [redacted]

[redacted]

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Revision	Date	Description
0	2024 Jul	Initial release

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Executive Summary

[redacted] the interconnection customer (IC), requests to interconnect its Bergeron Ridge Wind Farm Project (2024 CEAP IR # 50) to the BC Hydro (BCH) system. Bergeron Ridge Wind Farm Project has eight (8) [redacted] 6.8 MW type-4 wind turbine generators with total installed capacity of 54.4 MW and a maximum power injection of 48 MW into the BC Hydro system at the POI. The proposed Point of Interconnection (POI) is at BC Hydro's 230 kV substation Meikle Terminal (MKT). The IC's project will connect to the POI via a 0.1 km 1230 kV interconnection line. The IC's proposed commercial operation date (COD) is Sep 30, 2031.

To interconnect the Bergeron Ridge Wind Farm Project and its facilities to the BCH Transmission System at the proposed POI, this Feasibility Study has identified the following conclusions and requirements:

1. A new 230 kV line position at Meikle Terminal substation (MKT) is required to interconnect the Bergeron Ridge Wind Farm Project to the BC Hydro system.

2. The connection of Bergeron Ridge Wind Farm Project does not cause any performance violation (i.e., thermal overload, voltage performance violation or voltage stability concern) under system normal conditions.

3. The connection of Bergeron Ridge Wind Farm Project will exacerbate the pre-existing thermal overload on the 2L308 and 2L312 lines under single contingencies or breaker contingencies (i.e., 2L308, 2L312, SLS 2CB11, SLS 2CB12) under light / heavy summer loading conditions. These overloads are presently addressed by the existing Peace Region generator shedding remedial action scheme (RAS). The new Bergeron Ridge Wind Farm Project is required to participate in the existing Peace Region generation shedding RAS.

4. With the additional generation of Bergeron Ridge Wind Farm Project in the area, it is noted SNK 2CB12, SLS 2CB14, SGB 2CB6, or SGB 2CB7 breaker faults, also overloads 2L308 in light / heavy summer loading conditions. The issue can be addressed by requiring the Bergeron Ridge Wind project to participate in the existing Peace Region generation shedding RAS and by adding these beaker contingencies as input signals

to trigger generation shedding. The exact requirements will be determined in subsequent studies if the project proceeds.

5. Bergeron Ridge Wind may be islanded with other generations and BC Hydro loads after certain contingencies which may result in unacceptable over-voltages. The IC's project is required to participate in the existing peace region anti-islanding direct transfer trip (DTT) scheme. A list of contingencies is provided in Section [redacted]. In addition, as a back up the IC is required to install anti-islanding protection within their facility to disconnect the wind farm when an inadvertent island with the local load forms.

6. BC hydro will provide line protections for 2LXXX 230 kV transmission line that will integrate Bergeron Ridge Wind Energy to BC Hydro system at Meikle Wind Terminal Station (MKT). As part of the new line protection, telecommunication facilities will be required between MKT and Bergeron Ridge Wind Energy. The IC shall provide required relays, telecom facility, and associated equipment at its facilities to accommodate the protection requirement.

7. The IC will provide entrance protection and 2LXXX line protection that comply with BC Hydro guidelines and BC Hydro will provide protection settings for these relays to provide protection coverage for the 2LXXX line during a fault.

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 May 22, 2024.

A 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.

Contents

Appendices

Acronyms

The following are acronyms used in this report.

BCH BC Hydro

BRWx Bergeron Ridge Wind (IPP owned, unofficial site code)

CEAP Competitive Electricity Acquisition Process

COD Commercial Operation Date

DTT Direct Transfer Trip

ERIS Energy Resource Interconnection Service

FeS Feasibility Study

FVO Fraser Valley Office

IBR Inverter-Based Resources

IC Interconnection Customer

LAPS Local Area Protection Schemes

MKT Meikle Terminal

MPO Maximum Power Output

NERC North American Electric Reliability Corporation

NRIS Network Resource Interconnection Service

OATT Open Access Transmission Tariff

POI Point of Interconnection

P50 Bergeron Ridge Wind Farm Project (2024 CEAP Project Code: # 50)

RAS Remedial Action Scheme

SIO South Interior Office

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	Bergeron Ridge Wind Farm	
Name of Interconnection Customer (IC)	[redacted]	
Point of Interconnection (POI)	at MKT 230 kV	
IC's Proposed COD	30th September 2031	
Type of Interconnection Service	NRIS ☒	ERIS ☐
Maximum Power Injection [1] (MW)	48 MW (Summer)	48 MW (Winter)
Number of Generator Units	8 x 6.8 MW WTGs	
Plant Fuel	Wind	
Note 1: The maximum achievable power injection at the POI is approx. 48 MW after accounting for MW losses and service load which is the same as the IC proposed amount.		

[redacted] the interconnection customer (IC), requests to interconnect its Bergeron Ridge Wind Farm Project (2024 CEAP IR # 50) to the BC Hydro system. Bergeron Ridge Wind Farm Project has eight (8) [redacted] 6.8 MW type-4 wind turbine generators with total installed capacity of 54.4 MW and a maximum power injection of 48 MW into the BC Hydro system at the POI. The IC's proposed Point of Interconnection (POI) is at BC Hydro's 230 kV substation Meikle (MKT). The IC's project will connect to the POI via a 0.1 km 230 kV interconnection line. The proposed commercial operation date (COD) is Sept 30th, 2031.

Figure 1-1 shows the peace region transmission system diagram including P50 interconnection. The study area – south Peace region 230/138 kV network has six existing IPPs, several transmission voltage customers, and BC Hydro distribution substations. The 230kV transmission lines 2L337, 2L313, 2L309, and 2L308 deliver surplus power from QTY, MLW, MKL, P50, and DKW to GMS. The surplus power is also delivered to the Peace 230/138kV area loads via 2L312. 1L377 is normally open between PLD and ET3, which separates the north Peace 138 kV regional network from the south 230/138kV regional network.

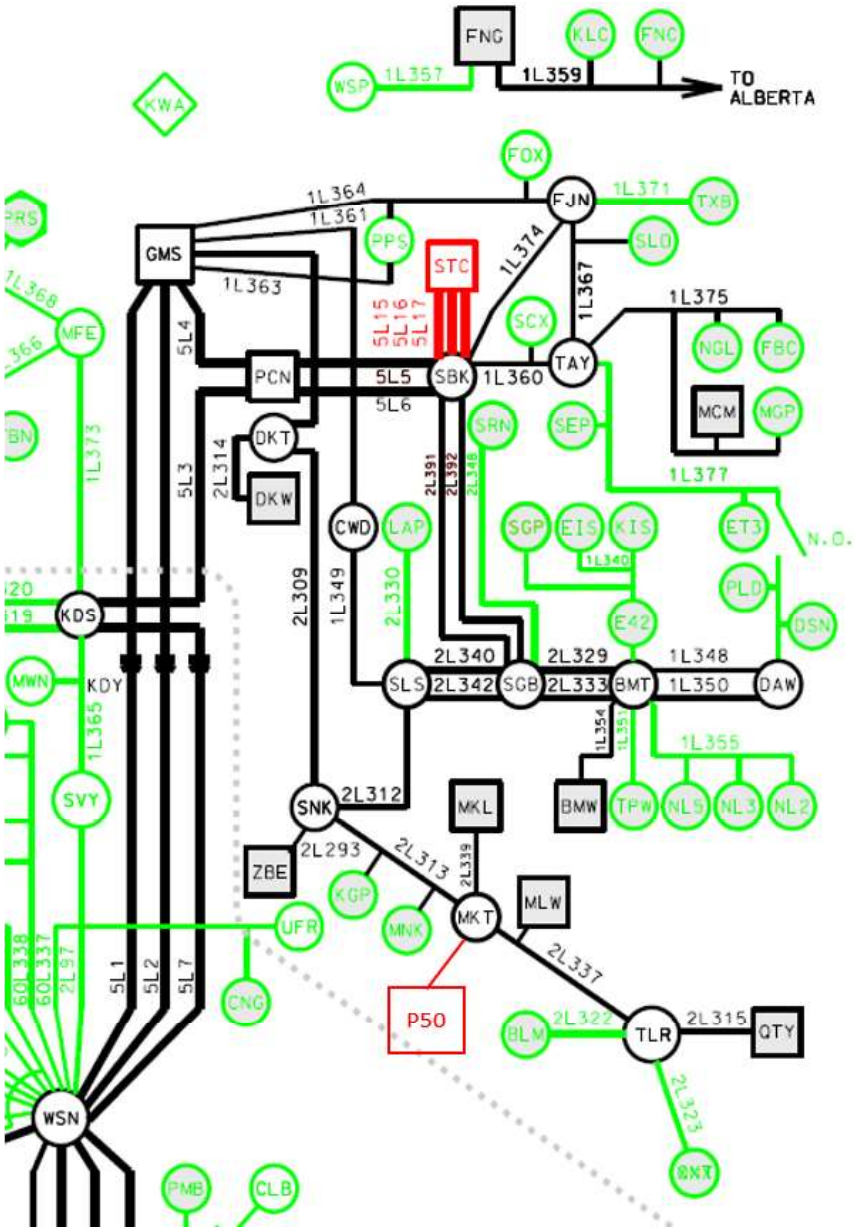

Figure 1-1: Peace Region 138/230 kV Transmission System Diagram

There are six existing wind farms in the 230/138 kV network of south Peace region as follows:

- Moose Lake Wind Farm (MLW) has a total capacity of 15 MW and is tap connected on 2L337.

- Zonnebeke Wind Farm (ZBE) has a total capacity of 30 MW and is connected to SNK via 2L393.
- Meikle Wind Farm (MKL) has a total capacity of 184.6 MW and is connected to MKT via 2L339.
- Quality Wind Farm (QTY) has a total capacity of 142.2 MW and is connected to TLR via 2L315.
- Dokie Wind Farm (DKW) has a total capacity of 144 MW and is connected to DKT via 2L314.
- Bear Mountain Wind Farm (BMW) has a total capacity of 105.4 MW and is connected to BMT via 1L354.

There are major network upgrades being planned in the peace region are as follows.

- Site C generating project will add six hydroelectric generators with a total installed capacity of 1200 MW. Two parallel 500 kV lines (5L5 and 5L6) to Peace Canyon substation (PCN) came to service in 2023. Based on the current schedule, the Site C project will be completed by end of 2025.

- A new 230 kV/138 kV transformer at BMT (i.e. BMT T4) is planned to be installed in June 2026 to accommodate load addition.

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). A non-binding good faith estimated cost of required Network Upgrades and estimated time to construct will be provided.

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 proposed to be constructed. An assessment of the incremental effect on the 500kV bulk transmission system is beyond this study scope.

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 would be addressed in subsequent System Impact Study if the project is a Successful Participant of the CEAP.

In case impact to the adjacent external systems to BC Hydro is observed, such impact would be addressed in subsequent detailed and coordinated studies with the relevant adjacent entities if the proposed interconnection proceeds further.

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.
- BC Hydro Operating Order 5T-10, Ratings for All Transmission Circuits 60 kV or Higher, April 16, 2024.
- BC Hydro Operating Order 5T-14, Ratings for All Transmission and Distribution Transformer, November 8, 2022.
- BC Hydro System Operating Order 7T-22 System Voltage Control, September 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 May 22, 2024 for the study purpose. Appendix A shows the plant single line diagram for the IC's project used in the study model. Certain assumptions were, as set out below, made to the extent required.

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

2) Based on the latest information at the time of this study, the projected in-service date for BMT T4 project is June 2026, which is before the projected in-service date of this IC.

3) Based on the schedule available at the time of this study, the Site C project will be completed by end of 2025.

4) This study is based on 1D6L377 normally open between PLD and ET3 for 1L377. Change of this configuration could affect the study results.

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 reinforcement requirement based on steady state performance analysis.

The study focuses on the 2032 light summer (32LS) system load condition which is typically a stressed condition for a generation interconnection project, taking into considerations of factors such as load conditions, seasons and generation patterns. The 2032 heavy summer (32HS) and 2031 heavy winter (31HW) cases are also checked at a high level to capture any possibility of performance violations under high load conditions.

5.1.1 Branch Loading Analysis

Table 5-1 shows a summary of branch loading analysis under system normal and single contingencies (P1, P2) for various load conditions.

The study finds no transformer or line overload under system normal conditions for all three load conditions studied.

In the light / heavy summer loading condition (32ls, 32hs), the study finds Bergeron Ridge Wind aggravates the pre-existing thermal overload on 2L308 and 2L312 under single contingencies or breaker contingencies (i.e., 2L308, 2L312, SLS 2CB11, SLS 2CB12). These overloads are presently addressed by the Peace Region generation shedding remedial action scheme (RAS). The new Bergeron Ridge Wind project is required to participate in the existing Peace Region generation shedding RAS[1].

With the additional generation in the area, it is noted SNK 2CB12, SLS 2CB14, SGB 2CB6, or SGB 2CB7 breaker faults, also overloads 2L308 in light / heavy summer loading conditions. This issue can be addressed by requiring the

[1] The Peace regional transmission system is developed with generation shedding capability to mitigate the impact of various contingencies. Loss of certain transmission element(s) under certain generation, loading and network conditions, will trigger the selected generations to be shed to prevent performance violations.

Bergeron Ridge Wind project to participate in the existing Peace Region generation shedding RAS and by adding these beaker contingencies as input signals to trigger generation shedding. The exact requirements will be determined in subsequent studies if the project proceeds.

Table 5-1: Summary of Branch Loading Analysis Results

Case	IC's Plant Output	Contingency		Branch Loading	
				2L308	2L312
		Cat.	Description	GMS-DKT	SNK-SLS
Summer Rating				427.5 MVA	424.7 MVA
32HS	54.4 MW	P0	System Normal	56%	71%
		P1	2L308	N/A	127%
		P1	2L312	123%	N/A
		P2	SLS 2CB11/12	123%	N/A
		P2	SNK 2CB12	117%	N/A
		P2	SGB 2CB6, 2CB7, or SLS 2CB14	104%	22%
Summer Rating				427.5 MVA	424.7 MVA
32LS	54.4 MW	P0	System Normal	58%	69%
		P1	2L308	N/A	127%
		P1	2L312	123%	N/A
		P2	SLS 2CB11/12	123%	N/A
		P2	SNK 2CB12	117%	N/A
		P2	SGB 2CB6, 2CB7, or SLS 2CB14	104%	22%

5.1.2 Steady-State Voltage Analysis

For all the studied load conditions (32ls, 32hs, 31hw), the voltage performance under system normal condition (P0) is acceptable.

There are no voltage deviation violations for P1 or P2 contingencies. The summary below for 31HW case demonstrates the voltages in the surrounding 230 kV buses are within acceptable ranges with limited deviations for representative contingencies.

Table 5-2: Summary of Steady-State Voltage Study Results

Case	IC's Plant Output	Contingency		Bus Voltage (PU)				
		Cat.	Description	SNK 230	MKT 230	TLR 230	DKT 230	SLS 230
31HW	(48 MW) Max	P0	System normal	1.03	1.04	1.05	1.02	1.03
		P1	2L312	1.02	1.04	1.05	1.01	1.03
		P2	SLS SCB11/12	1.02	1.04	1.05	1.01	1.03

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 PSS/E power flow data submitted by the IC and the power flow study, the proposed generating project would be capable of meeting the BC Hydro's reactive capability requirement at the plant's maximum MW output, which is subject to further verification in the next stage of interconnection study.

Furthermore, the BCH TIR requires the IC's project to provide sufficient reactive power capability over full MW operating range including at zero MW output level. According to the IC-provided reactive capability curve, the proposed WTG can maintain the reactive power capability (4.896/-4.080 MVAr) at low wind with no active power production, which needs to be re-confirmed adequate in subsequent detailed studies if the IC's project proceeds further.

5.1.4 Anti-Islanding Requirements

Bergeron Wind may be islanded with other generations and BC Hydro loads for the following contingencies, resulting in potential over-voltages and possible equipment damage which is not allowed.

1. Loss of 2L313
2. Loss of 2L308 or 2L309 with 2L312 OOS.
3. Loss of GMS T13 with GMS T14 and 2L312 OOS.
4. Loss of GMS T14 with GMS T13 and 2L312 OOS.
5. Loss of 2L312 with 2L308 or 2L309 OOS, or GMS T13 & T14 OOS.

Bergeron Wind is required to participate in the existing Peace region anti-islanding direct transfer trip (DTT) scheme.

In addition, as a back up the IC is required to install anti-islanding protection within their facility to disconnect the wind farm when an inadvertent island with the local load forms.

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

The POI of Bergeron Ridge Wind Farm project will be at the existing Meikle Terminal (MKT) 230 kV switchyard. The upgrade scope for the existing switchyard is as follows:

- Add one 230kV line position with the associated substation equipment. Refer to Appendix B MKT one-line sketch for details.
- Expand the existing control building, if required, to accommodate the new P&C panels and other equipment.
- Update station service supply if required.
- Terminate the Bergeron Ridge Wind line.
- Other associated station work.

5.4 Protection & Control Requirements

For successful integration of the new IC, BC Hydro will provide line protections for 2LXXX 230 kV transmission line that will integrate Bergeron Ridge Wind to BC Hydro system at Meikle Terminal Station (MKT). As part of the new line protection, telecommunication facilities will be required between MKT and Bergeron Ridge Wind.

The IC to provide the following for the interconnection of Bergeron Ridge Wind Farm project:

- Entrance protection that complies with the latest version of the "60 kV to 500 kV BC Hydro Technical Interconnection Requirements for Power Generators."
- Provide two SEL-411L-1 relays (firmware and options specified by BC Hydro) at the entrance of Bergeron Ridge Wind Farm station to provide protection coverage for 2LXXX. BC Hydro P&C Planning will provide core protection settings for these relays to protect transmission line 2LXXX during a transmission line fault. Non-core protection such as local breaker failure, auto-reclosing, backup protection for station elements will not be provided by BC Hydro P&C Planning.
- The IC is responsible for NERC PRC-related tasks, settings to compliance standards within their facilities.
- The IC is responsible for providing a communications link for remote interrogation of the PPIS equipment by BCH servers.
- Provide anti-islanding protection as stated in Section 5.1.

The RAS requirements stated in Section 5.1 are mainly to address the overloading concerns under contingencies, which are preliminary. These RAS requirements may utilize the communication channels required for protection purposes included in the cost estimate. If the proposed project proceeds through the CEAP process, subsequent System Impact Studies may identify additional RAS requirements for this interconnection. These RAS functional requirements will include initiating events, control actions, and latency times. Depending on these supplementary requirements, additional telecommunication facilities may be needed to facilitate signal transmission between the BC Hydro substations and customer facilities.

5.5 Telecommunications Requirements

BC Hydro performed a high-level feasibility assessment of a telecom solution to meet the following requirements.

Teleprotection Requirements for Telecom

- WECC Level 3 PY & SY, MKT – BRWx, with C37.94 interfaces.

Telecontrol Requirements for Telecom

- One BRWx SCADA circuits off FVO & SIO.

Other Requirements for Telecom

- None identified.

Certain assumptions were made for determining a potential telecom solution. Details of the telecom solution (e.g., assumptions made, alternatives investigated and work required for BCH and the IC) would be provided at the next study stage.

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 Bergeron Ridge Wind Farm Project 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 line position at Meikle Terminal substation (MKT) is required to interconnect the Bergeron Ridge Wind Farm Project to the BC Hydro system.

2. The connection of Bergeron Ridge Wind Farm Project does not cause any performance violation (i.e. thermal overload, voltage performance violation or voltage stability concern) under system normal conditions.

3. The connection of Bergeron Ridge Wind Farm Project will exacerbate the pre-existing thermal overload on the 2L308 and 2L312 lines under single contingencies or breaker contingencies (i.e., 2L308, 2L312, SLS 2CB11, SLS 2CB12) under light / heavy summer loading conditions. These overloads are presently addressed by the existing Peace Region generation shedding remedial action scheme (RAS). The new Bergeron Ridge Wind Farm Project is required to participate in the existing Peace Region generation shedding RAS.

4. With the additional generation of Bergeron Ridge Wind Farm Project in the area, it is noted SNK 2CB12, SLS 2CB14, SGB 2CB6, or SGB 2CB7 breaker faults, also overloads 2L308 in light / heavy summer loading conditions. The issue can be addressed by requiring the Bergeron Ridge Wind project to participate in the existing Peace Region generation shedding RAS and by adding these beaker contingencies as input signals to trigger generation shedding. The exact requirements will be determined in subsequent studies if the project proceeds.

5. Bergeron Ridge Wind may be islanded with other generations and BC Hydro loads after certain contingencies which may result in unacceptable over-voltages. The IC's project is required to participate in the existing peace region anti-islanding direct transfer trip (DTT) scheme. A list of contingencies is provided in Section [redacted]. In addition, as a backup the IC is required to install anti-islanding protection

within their facility to disconnect the wind farm from the grid when an inadvertent island with the local load forms.

6. BC hydro will provide line protections for 2LXXX 230 kV transmission line that will integrate Bergeron Ridge Wind Energy to BC Hydro system at Meikle Wind Terminal Station (MKT). As part of the new line protection, telecommunication facilities will be required between MKT and Bergeron Ridge Wind Energy. The IC shall provide required relays, telecom facility, and associated equipment at its facilities to accommodate the protection requirement.

7. The IC will provide entrance protection and 2LXXX line protection that comply with BC Hydro guidelines and BC Hydro will provide protection settings for these relays to provide protection coverage for the 2LXXX line during a fault.

Appendix A
Plant Single Line Diagram Used for Power Flow Study

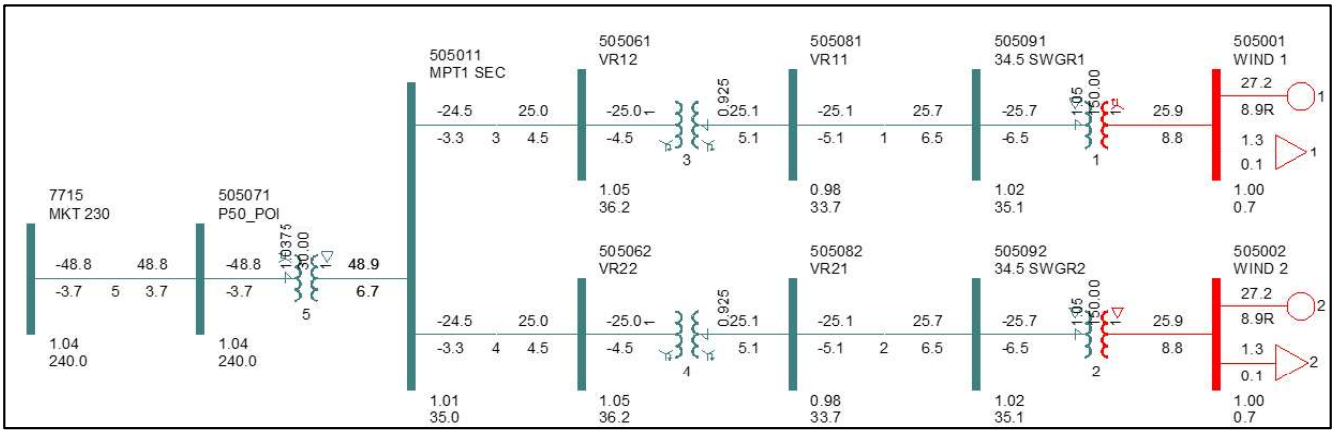

Figure A-1: Bergeron Ridge Wind Farm Project Single Line Diagram used for Power Flow Study.

As seen in the diagram, Bergeron Ridge Wind Farm Project has one main power transformer connecting two feeders.

- Part 1 has one (1) feeder connecting 4 wind turbines to the collector station and a GSU transformer connecting to the Main Power Transformer.
- Part 2 has one (1) feeder connecting 4 wind turbines to the collector station and a GSU transformer connecting to the Main Power Transformer.

Appendix B
MKT One-line Sketch

Figure B-1 shows the required upgrades at MKT 230 kV substation.

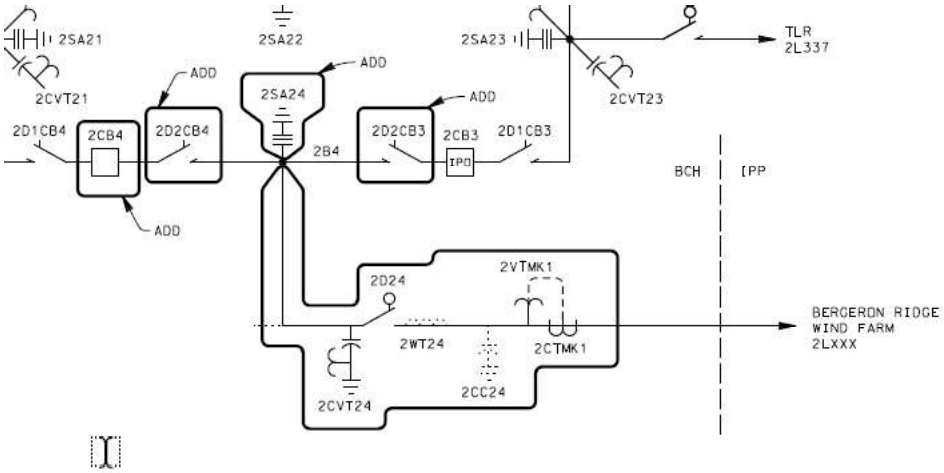

Figure B 1: One-Line Sketch of Upgrades at MKT Substation.