BC Hydro
Power smart

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

July 30, 2024

[redacted]

RE: CEAP IR 45 - Mt Hays Wind Project - Interconnection Feasibility Study Report

Enclosed is the Interconnection Feasibility study report for the proposed Mt Hays 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 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 $88.7 M.

Major Scope of Work Identified:

- Acquire property and construct a new 60 kV switching station, control building and associated facilities & infrastructure near transmission line 60L391
- Construct a new outdoor 60kV, 3-circuit breaker ring bus switching station
- Construct a new control building and other required substation facilities and infrastructures
- Supply and install approximately 10 km of fiber optic cable (ADSS), including replacement/addition of transmission line structures on 60L391 as required
- Add new 60kV circuit breakers and associated equipment at BC Hydro's oldfield (OFD) substation
- Add and upgrade Protection, Control and Telecom

Exclusions:

- GST
- Right-of-Way (ROW)
- Permitting

Key Assumptions:

- Construction by contractor.
- 3 years of construction is considered
- Early Engineering and Procurement
- No ground improvements for the crossing towers

Key Risks:

- Additional right-of-way or acquisition of more property may be required
- Transmission routing may be different than assumed, including number of disconnect switches and structure types may change
- No defined supply chain strategy, construction costs may increase depending on delivery method
- Project schedule may be longer than expected, leading to increased costs
- Costs may be affected by market conditions and escalation

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_45_Mt Hays Wind_FeS_Report_final.pdf

[redacted]

Mt Hays Wind Project

Interconnection Feasibility Study

BC Hydro EGBC Permit to Practice No: 1002449

2024 CEAP IR: # 45

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 Mt Hays Wind Project (2024 CEAP IR # 45) to the BC Hydro (BCH) system. Mt Hays Wind Project has seven (7) [redacted] 6.2 MW type-4 wind turbine generators with total installed capacity of 43.4 MW. The proposed Point of Interconnection (POI) is a new switching station on BC Hydro's 66 kV line 60L391 between Rupert substation (RUP) and Oldfield substation (OFD), approx. 5.5 km from the RUP. The IC's project will connect to the POI via a 1.7 km customer built 66 kV interconnection line. The IC's proposed commercial operation date (COD) is December 1, 2028.

To interconnect the Mt Hays Wind 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 66 kV switching station (referred to as "P45T") on 60L391 is required at the proposed POI for interconnecting the IC's generating project to the BCH system. With the new switching station P45T, 60L391 will be segregated into two new lines, temporarily referred to as: 60L391_A (RUP-P45T), 60L391_B (P45T-OFD). The customer built 66 kV transmission line from P45T to their site substation (P45) is designated as 60L391_C. The temporary line designations will be replaced by permanent designations at a later stage of interconnection study.

2. The study identifies the potential Windfarm generation power flow through the OFD 25 kV buses under system normal conditions and single contingencies operating conditions. No other thermal overloads, voltage performance violations or voltage stability concerns caused by connection of Mt Hays Wind Project are identified under system normal and single contingencies conditions.

3. In order to mitigate the potential adversely impacts of power flow through the OFD 25 kV system, 66 kV system re-configuration with three circuit breakers and associated equipment at OFD substation is required.

4. An Anti-islanding Transfer Trip Scheme to the new 66 kV switching station (P45T) is required to isolate the wind farm when it is islanded with local 66 kV loads during various operation conditions or under system

contingencies (such as loss of 2L101 or both RUP T2&T3 transformers or both 60L391&60L393…). In addition to entrance protection and 60L391_C protection, the IC is required to install anti-islanding protection within their facility to disconnect the IC's wind farm from the grid when an inadvertent island with the local load forms.

5. BC Hydro will provide line protections for 60L391_A, 60L391_B and 60L391_C (BC Hydro end only) protections. As part of the line protection replacements for each of the three lines, telecommunication facilities will be required to accommodate the new protection schemes. The IC shall provide required relays, telecom facility and associated equipment at its facilities to accommodate the new protection schemes.

6. For telecommunication purpose, furnish and install fibre optic cable on 60L391 structures from RUP to P45T and from P45T to OFD (approximately 11km) are required. Structure replacement and mid span structures may be required due to these fibre addition to 60L391.

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
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
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 “66 kV to 500 kV Technical Interconnection Requirements for Power Generators”
WECC	Western Electricity Coordinating Council
WTG	Wind Turbine Generator
EDM	Edmonds Office
FVO	Fraser Valley Office
OFD	Oldfield Substation
RUP	Rupert Substation
PRT	Fairview Container Terminal
SIO	South Interior Office
TRO	Terrace Office
P45T	Mount Hays Wind Terminal (unofficial site code)
P45	Mount Hays Wind Independent Power Producer (unofficial site code)

1 Introduction

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

Table 1-1 Summary of Project Information

Project Name	Mt Hays Wind Project	
Name of Interconnection Customer (IC)	[redacted]	
Point of Interconnection (POI)	At 66 kV bus of a new switching station on 60L391, 5.5 km from RUP	
IC's Proposed COD	1st December 2028	
Type of Interconnection Service	NRIS ☒	ERIS ☐
Maximum Power Injection [1] (MW)	41.65 MW (Summer)	41.65 MW (Winter)
Number of Generator Units	7 x 6.2 MW WTGs	
Plant Fuel	Wind	

[redacted] the interconnection customer (IC), requests to interconnect its Mt Hays Wind Project (2024 CEAP IR # 45) to the BC Hydro system. Mt Hays Wind Project has seven (7) [redacted] 6.2 MW type-4 wind turbine generators with total installed capacity of 43.4 MW. The IC's proposed Point of Interconnection (POI) is at 66 kV bus of a new switching station on BC Hydro's 66 kV line 60L391, approx. 5.5 km from the Rupert substation (RUP). The IC's project will connect to the POI via a customer built 1.7 km 66 kV interconnection line. The proposed commercial operation date (COD) is December 1, 2028.

Figure 1-1 shows the Prince Rupert region transmission system diagram. The Rupert substation is radially supplied from BC Hydro's Skeena substation (SKA) near Terrace via a 125 km 287 kV transmission line 2L101. RUP is a major substation in this area with two existing 287/66 kV transformers (RUP T2 & T3). RUP presently supplies five 66 kV transmission lines including 60L391 and 60L393 to BC Hydro's Oilfield substation (OFD) and a BCH TVC customer owned station Fairview Container Terminal (PRT).

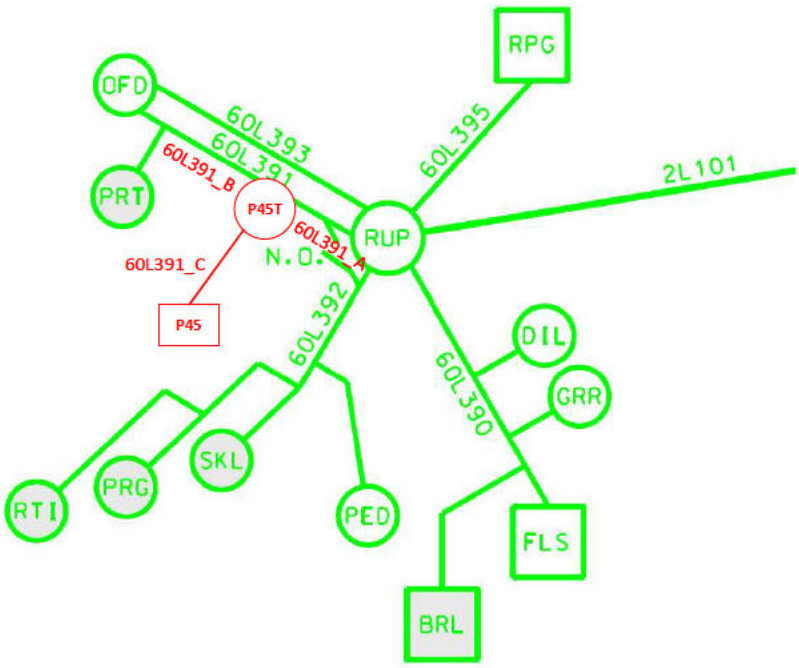

Figure 1-1: Prince Rupert Region 66 kV Transmission System Diagram in 2024

In the Prince Rupert region, Rupert Generating Station (RPG) consists of two gas turbine units, nominally rated at 23 MW each, for the primary purpose of supplying local emergency generation, e.g when Prince Rupert system is islanded. Therefore, RPG generation is excluded in this feasibility study.

In addition to RPG, there are two other customers' owned power plants in the study region.

- Falls River Generating Station (FLS) is a small hydroelectric generating plant consisting of two generators, G1 and G2, each rated at 6 MVA (0.8 pf) but limited to as combined total of 7 MW (3.5 MW each) due to available head and is connected via the line 60L390.
- Brown Lake Generating Station (BRL) is a 66 kV/13.8 kV independent power producer (IPP) owned generating station. The BRL generating plant consists of one generator rated at 8.0 MVA and is also connected via 60L390.

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 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 66 kV to 500 kV Technical Interconnection Requirements for Power Generators.
- BC Hydro Operating Order 5T-10, Ratings for All Transmission Circuits 66 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) RPG generation is not included in the Feasibility Study modeling, as it is used for the primary purpose of supplying local emergency generation, e.g when Prince Rupert system is islanded.

5 System Studies and Results

Based upon the IC's submitted information and the area system conditions, a new switching station (referred to as "P45T") as the proposed POI on 60L391 is required to interconnect the IC's generating project to the BCH system. There are multiple terminals and multiple sources on the existing line 60L391. The new switching station would help to maintain reliability and adequate protection performance to serve the existing customers and the new addition.

With the new switching station P45T, the existing line 60L391 will be segregated into two new lines, temporarily referred to as: 60L391_A (RUP-P45T) and 60L391_B (P45T-OFD). The customer built 66 kV transmission line from P45T to the customer's substation (P45) is designated as 60L391_C. The temporary line designations will be replaced by permanent designations 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 reinforcement requirement based on steady state performance analysis.

The study focuses on the 2029 light summer (29LS) 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 2029 heavy summer (29HS) and 2029 heavy winter (29HW) 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 Windfarm generation power flow through the OFD 25 kV under system normal conditions and single contingencies (TPL-001-4 Table 1) was identified. In order to mitigate the potential adversely impacts of power flow through the OFD 25 kV

system, 66 kV system re-configuration at OFD substation is required so that the 60L391 and 60L393 shall be operated with closed-loop at OFD 66 kV.

For all the studied load conditions (29ls, 29hs, 29hw), there is no other branch or transformer overload identified under system normal condition and single contingencies.

Table 5-1: Summary of Branch Loading Analysis Results

Case	IC's Plant Output	Contingency		Branch Loading		
				OFD 25kV system[1]	60L391_A	60L391_B
		Cat.	Description	OFD LV system	RUP-P45T	OFD-P45T
Winter Rating				N/A	600 Amps	600 Amps
29HW	Max	P0	System Normal	0 Amps	193 Amps	193 Amps
	Max	P1	60L391_A	1016 Amps	N/A	386 Amps
	Max	P1	60L391_B	0	386 Amps	N/A
Summer Rating				N/A	430 Amps	430 Amps
29HS	Max	P0	System Normal	0 MVA	281 Amps	105 Amps
	Max	P1	60L391_A	1016 Amps	N/A	386 Amps
	Max	P1	60L391_B	0 Amps	386 Amps	N/A
29LS	Max	P0	System Normal	116 Amps	341 Amps	45 Amps
	Max	P1	60L391_A	1016 Amps	N/A	386 Amps
	Max	P1	60L391_B	0	386 Amps	N/A

5.1.2 Steady-State Voltage Analysis

With the connection of the IC's project, the voltage performance under system normal condition and single contingencies is acceptable for all the three load conditions (29LS, 29HS, 29HW). Table 5-2 shows a summary of steady-state voltage performance under various system conditions and contingencies.

The study also finds that Mt Hays Wind Project could improve the load bus voltage at RUP under heavy load conditions.

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

Case	IC's Plant Output	Contingency		Bus Voltage (PU)		
		Cat.	Description	RUP 66	OFD 66	P45T 66
29HW	Max	P0	System normal	1.00	1.00	1.00
29HS	Max	P0	System normal	1.00	1.00	1.00
	0 MW	P0	System normal	1.00	1.00	1.00
	0 MW	P1	60L391_A	1.00	1.01	1.020
29LS	Max	P0	System normal	1.00	1.00	1.00
	0 MW	P0	System normal	1.00	1.00	1.00

[1] Attributed by the Mt Hays Windfarm

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, the proposed generating project would be capable of meeting the BC Hydro's reactive capability requirement over the full MW operating range, which is subjected to further verification in the next stage of interconnection study.

5.1.4 Anti-Islanding Requirements

During various operation conditions or under system contingencies (such as loss of 2L101 or both RUP T2&T3 transformers or both 60L391&60L393), the IC's project will be inadvertently islanded with the existing generators and BC Hydro loads, which is not allowed. An Anti-islanding Transfer Trip Scheme to P45T is required to isolate the wind farm.

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 load forms.

5.2 Fault Analysis

The short circuit analysis in the FS 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 60 kV, 3-circuit breaker ring bus switching substation (P45T temporarily) will be built at the proposed POI, close to the existing 66 kV transmission line 60L391. The existing transmission line 60L391 will be cut and looped in to, and 66 kV line of Mt Hays Wind Project (60L391_C) will be terminated at the new substation.

The station scope at the new switching station P45T is as follows.

- Acquire adequate property for a new substation close to the existing transmission line 60L391.
- Construct a new outdoor 60 kV, three-circuit breaker ring bus switching substation. Refer to the one-line diagram Appendix B for details.
- Construct a new control building and other required substation facilities and infrastructures.
- Cut the existing 60L391 and loop into the substation.
- Terminate 66 kV line of Mount Hays Wind at the substation.

The station upgrade scope at the existing OFD is as follows:

- ✓ Add new 60kV circuit breaker (60CB4) at 66 kV bus.
- ✓ Add new 60 kV circuit breaker (60CB2) and associated equipment at 60L391 line terminal.
- ✓ Add new 60 kV circuit breaker (60CB1) and associated equipment at 60L393 line terminal.
- ✓ Other associated station work.

Refer to Appendix C - one-line sketch at OFD for details.

5.4 Transmission Line Requirements

For telecommunication purpose, furnish and install fibre optic cable on 60L391 structures from RUP to P45T and from P45T to OFD (approximately 11km) are required. Structure replacement and mid span structures may be required due to these fibre addition to 60L391.

5.5 Protection & Control Requirements

BC Hydro will provide line protections for 60L391_A (RUP-P45T), 60L391_B (P45T-OFD) and 60L391_C (P45T-P45) protections. As part of the line protection replacements for each of the three lines, telecommunication facilities will be required to accommodate the new protection schemes.

The IC is to provide the following for the interconnection of Mt Hays wind project.

- Entrance protection that complies with the latest version of the “66 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 P45 to provide protection coverage for 60L391_C. BC Hydro P&C Planning will provide core protection settings for these

relays to protect transmission line 60L391_C 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 islanding concerns, 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.

5.6 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, RUP – P45T, with C37.94 interfaces.
- WECC Level 3 PY & SY, RUP – P45, with C37.94 interfaces.
- WECC Level 3 PY & SY, P45T – OFD, with C37.94 interfaces.
- WECC Level 3 PY & SY, P45T – P45, with C37.94 interfaces.

Telecontrol Requirements for Telecom

- One P45 SCADA circuit off FVO & SIO.
- One P45T SCADA circuit off FVO and SIO.
- One P45T REMACC circuit off EDM.

Other Requirements for Telecom

- 100 Mbps Ethernet leased line, RUP-TRO.

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 Mt Hays Wind 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 66 kV switching station (referred to as "P45T") on 60L391 is required at the proposed POI for interconnecting the IC's generating project to the BCH system.

2. The study identifies the potential Windfarm generation power flow through the OFD 25 kV buses under system normal conditions and single contingencies operating conditions. No other thermal overloads, voltage performance violations or voltage stability concerns caused by connection of Mt Hays Wind Project are identified under system normal and single contingencies conditions.

3. In order to mitigate the potential adversely impacts of power flow through the OFD LV system, 66 kV system re-configuration at OFD substation is required:

   - ✓ Add new 66kV circuit breaker (60CB4) at 66 kV bus.
   - ✓ Add new 66 kV circuit breaker (60CB2) and associated equipment at 60L391 line terminal.
   - ✓ Add new 66 kV circuit breaker (60CB1) and associated equipment at 60L393 line terminal.
   - ✓ Other associated station work.

4. An Anti-islanding transfer Trip Scheme to the new 66 kV switching station (P45T) is required to isolate the wind farm when it is islanded with local 66kV loads during various operation conditions or under system contingencies (such as loss of 2L101 or both RUP T2&T3 transformers or both 60L391&60L393…). In addition to entrance protection and 60L391_C protection, the IC is required to install anti-islanding protection within their facility to disconnect the IC's wind farm from the grid when an inadvertent island with the local load forms.

5. BC Hydro will provide line protections for 60L391_A, 60L391_B and 60L391_C (BC Hydro end only) protections. As part of the line protection replacements for each of the three lines, telecommunication facilities will be required to accommodate the new protection schemes. The IC shall

provide required relays, telecom facility and associated equipment at its facilities to accommodate the new protection schemes.

6. For telecommunication purpose, furnish and install fibre optic cable on 60L391 structures from RUP to P45T and from P45T to OFD (approximately 11km) are required. Structure replacement and mid span structures may be required due to these fibre addition to 60L391.

Appendix A
Plant Single Line Diagram Used for Power Flow Study

Figure A-1 shows Mt Hays Wind Project single line diagram used for power flow study.

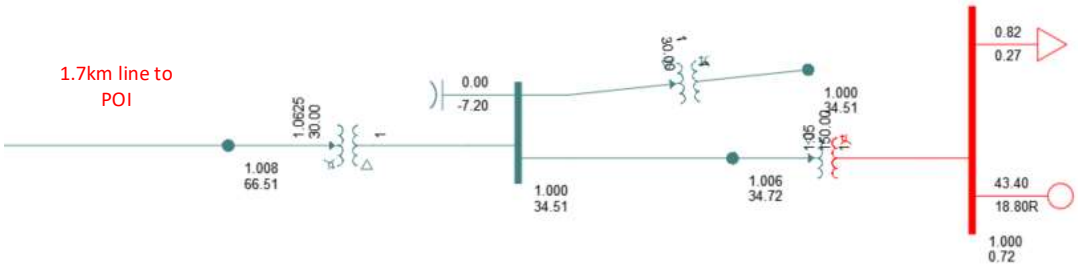

Figure A-1: Mt Hays Wind Project Single Line Diagram for Power Flow Study.

As seen in the diagram, Mt Hays Wind Project has one main power transformer with one feeder connecting 7 wind turbines to the collector station, and two switchable shunt capacitors (2.2 & 5 MVAr).

Appendix B
One-Line Sketch for New Switching Station

Figure B-1 shows the Stations Planning One-Line Sketch for the New Switching Station P45T.

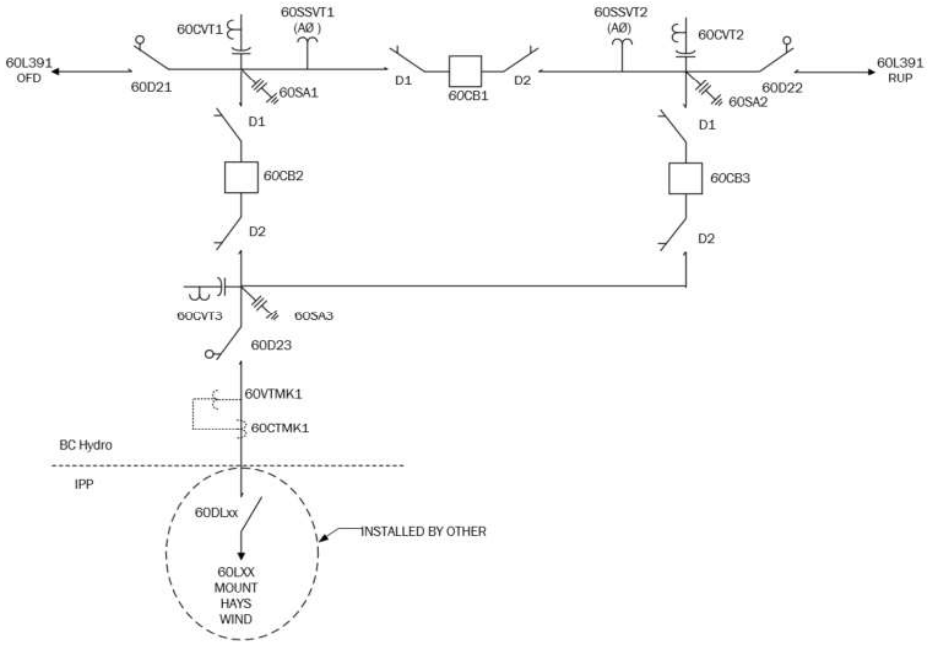

Figure B-1: Stations Planning One-Line Sketch for the New Switching Station P45T.

Appendix C
One-Line Sketch for OFD

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