BC Hydro
Power smart

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

July 30, 2024

[redacted]

[redacted]

[redacted]

[redacted]

RE: CEAP IR 16 - [redacted] Project - Interconnection Feasibility Study Report

Enclosed is the Interconnection Feasibility study report for the proposed [redacted] 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 $77.0 M.

Major Scope of Work Identified:

- Acquire adequate property for a new substation close to the existing transmission line 1L251
- Construct a new outdoor 138kV, 3-circuit breaker ring bus switching station
- Supply and install telecom towers, racks, waveguides and antennas
- Supply and install protection relays and other required protection equipment
- Other Telecom and Protection work, as required

Exclusions:

- GST
- Right-of-Way
- Permits

Key Assumptions:

- Construction will be done by contractor
- Early Engineering and Procurement
- 3 years of construction is considered
- No station expansion will be required
- No ground improvements will be required
- No piles will be required for foundations
- No contaminated soil will be encountered during construction

Key Risks:

- Cost of obtaining new property for the new switching station may be higher than estimated which may significantly increase the project cost
- Additional right of way or acquisition of more property may be required
- 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 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_16_[redacted]FeS_Report_final.pdf

[redacted]

[redacted] Project

Interconnection Feasibility Study

BC Hydro EGBC Permit to Practice No: 1002449

2024 CEAP IR # 16

Prepared for: [redacted]

[redacted]

300-APR-00007
2024 Jul 30

Report Metadata

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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 [redacted] Project (2024 CEAP IR # 16) to the BC Hydro (BCH) system. This project is a hybrid resource installation, which includes 118.8 MVA solar inverter facilities collecting the output from the PV blocks and 120 MVA battery inverter facilities connecting to 400 MWh battery banks. The maximum power injection into the BCH transmission system is 100 MW, and the battery will be charged from their own solar generation only. The IC proposed Point of Interconnection (POI) is on the radially connected 138 kV transmission line 1L251, about 38.38 km from Nicola Substation (NIC). The IC owned station is connected through an IC owned 6.1 km tie line at the POI. The IC proposed project's Commercial Operation Date (COD) is July 31, 2026.

To interconnect the [redacted] Project and its facilities to the BCH Transmission System at the proposed POI, this Feasibility Study (FeS) has identified the following conclusions and requirements:

1. A new 138 kV switching station (referred to as "P16T") on 1L251 is required at the proposed POI for interconnecting the IC's generating project to the BCH system. With the new switching station P16T, 1L251 will be segregated into two segments, and three new lines to be terminated into P16T are temporarily referred to as: 1L251_A (NIC-P16T), 1L251_B (P16T-CUM) and 1L251_C (P16T-P16P).

2. The connection of [redacted] Project does not cause any performance violation (i.e. thermal overload, voltage performance violation or voltage stability concern) under system normal and single contingency conditions.

3. In addition to entrance protection and 1L251_C line protection, the IC is required to install anti-islanding protection within its facility to detect and disconnect itself from the BC Hydro transmission system if an inadvertent island with the local loads forms. In addition, a direct transfer trip (DTT) from NIC to the new switching station P16T is required to disconnect the project for protective and unintentional tripping of 1L251_A at NIC or P16T.

4. It is required to furnish and install 48-strand fibre optic cable on 1L251 from 1L251 series capacitor project to P16T for telecommunication. The length

is approximately 4 km. Structure replacement and mid span structures may be required due to fibre addition.

5. The new lines 1L251_A will become part of BCH's Bulk Electric System (BES) and need to be compliant with applicable NERC MRS requirements. The IC's line 1L251_C may be a BES element as well. The new line 1L251_B (P16T-CUM) will remain as a non-BES line.

6. BCH will provide line protections for 1L251_A, 1L251_B and 1L251_C (BCH 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.

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

Appendix

Figure A-1 shows [redacted] Project single line diagram used for power flow study.

Appendix A One-Line Sketch for New **Switching Station**

Figure B-1 shows the Stations Planning One-Line Sketch for the New Switching Station P16T.

Acronyms

The following are acronyms used in this report.

BCH	BC Hydro
BES	Bulk Electric System
CEAP	Competitive Electricity Acquisition Process
COD	Commercial Operation Date
CUM	Copper Mountain Mine Substation
DTT	Direct Transfer Trip
EDM	Edmonds Office
ERIS	Energy Resource Interconnection Service
FeS	Feasibility Study
FVO	Fraser Valley Office
HAM	Hamilton Microwave Repeater
HLD	Highland Substation
IBR	Inverter-Based Resources
IC	Interconnection Customer
KCH	Kwoiek Creek Generating Station
LAPS	Local Area Protection Schemes
MIG	Merritt Green Energy Ltd
MPO	Maximum Power Output
NERC	North American Electric Reliability Corporation
NEWCAP	1L251 Series Capacitor Station
NIC	Nicola Substation
NRIS	Network Resource Interconnection Service
OATT	Open Access Transmission Tariff
POI	Point of Interconnection
QYS	quA-ymn Solar Farm
RAS	Remedial Action Scheme
SCO	Similco Substation
SGIA	Standard Generation Interconnection Agreement
SIC	South Interior Control
SIO	South Interior Office
TIR	BC Hydro “60 KV to 500 kV Technical Interconnection Requirements for Power Generators”
WECC	Western Electricity Coordinating Council

1 Introduction

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

Table 1-1 Summary of Project Information

Project Name	[redacted] Project	
Interconnection Customer	[redacted]	
Point of Interconnection	On 1L251, about 38.38 km from Nicola Substation	
IC Proposed COD	July 31, 2026	
Type of Interconnection Service	NRIS ☒	ERIS ☐
Maximum Power Injection (MW)	100 (Summer)	100 (Winter)
Number of PV Inverters	33 x 3.6 MVA PV Inverters, total 118.8 MVA capacity	
Number of Battery Inverters	24 x 5 MVA Battery Inverter, total 120 MVA and 400 MWh capacity.	
Plant Fuel	Solar & Battery	

[redacted] the Interconnection Customer (IC) requests to interconnect its [redacted] Project (2024 CEAP IR # 16) to BC Hydro (BCH) system. This project is a hybrid resource installation, which includes 118.8 MVA solar inverter facilities collecting the output from the PV blocks and 120 MVA battery inverter facilities connecting 400 MWh battery banks. The maximum power injection into the BC Hydro (BCH) transmission system is 100 MW, and the battery will be charged from their own solar generation only. The IC proposed Point of Interconnection (POI) is on the radially connected 138 kV transmission line 1L251, about 38.38 km from Nicola Substation (NIC). The IC owned station is connected through an IC owned 6.1 km tie line at the required switching station near the POI. The IC proposed Commercial Operation Date (COD) is July 31, 2026.

In the [redacted] Project, there are 33 [redacted] PV inverters, each rated at 3.6 MVA and 0.9 power factor. Each PV inverter is connected to a 630 V/34.5 kV wye/delta transformer. There are also 24 [redacted] battery inverters, each rated at 5 MVA and 0.88 power factor. Each battery inverter is connected to a 900 V / 34.5 kV wye /delta transformer. The total power from all inverters is collected via nine (9) 34.5 kV feeders, and then stepped up to the 138

kV system through one 116 MVA, 138/34.5/13.8 kV (high side Y-gnd) transformer. Refer to Appendix A for the power flow study modeling of the project.

Figure 1-1 shows the local system where the [redacted] Project is connected. There are three industrial load facilities currently fed by circuit 1L251. The industrial facilities are Copper Mountain Mine Substation (CUM), Similco Substation (SCO), and Kingsvale Substation (KPS). The two load substations CUM and SCO are owned by the same customer, Copper Mountain Mine BC Ltd.

NIC is one of BCH's major transmission substations, and presently has two 500/230 kV transformers, and two 230/138/12 kV transformers.

There are several high-queued load interconnections and their associated network upgrades in the study area. The relevant network upgrades being planned in the study region are included in the Assumptions and Conditions Section.

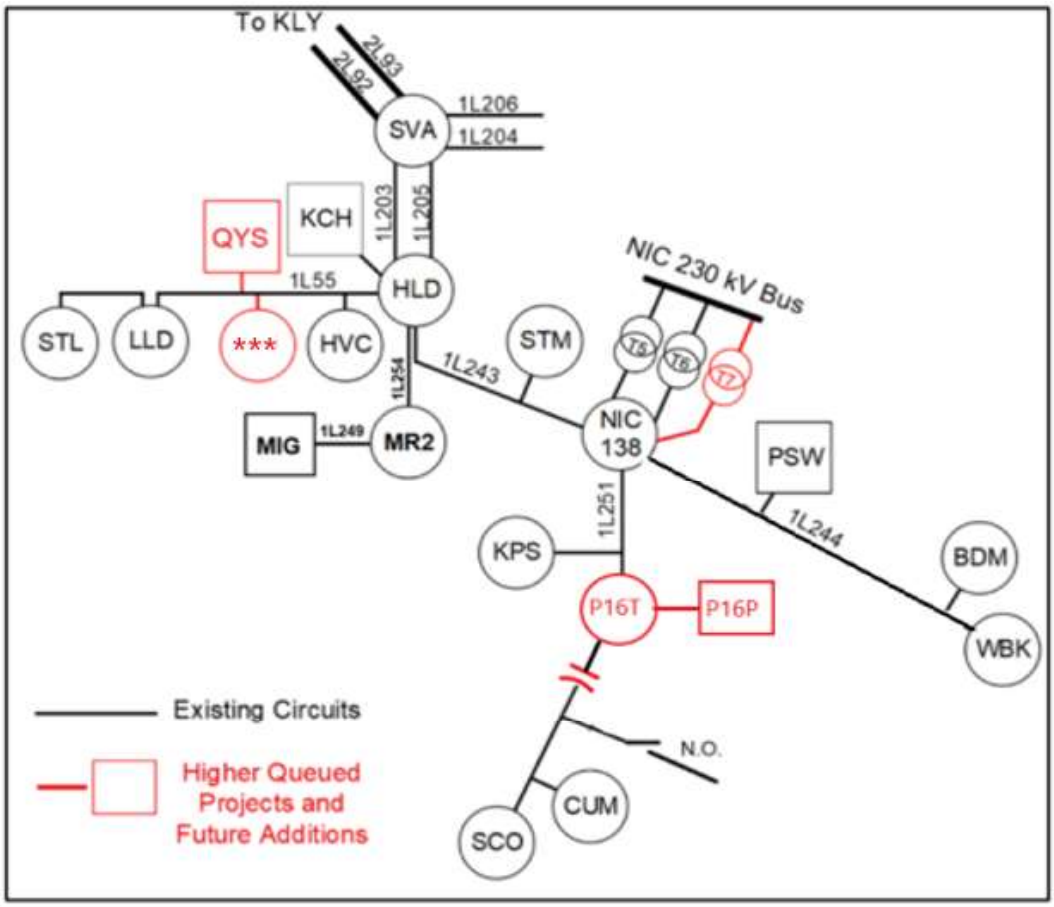

Figure 1-1: Nicola-Highland region 138/230 kV Transmission System Diagram

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). 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

This FeS 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 FeS 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. For the purpose of performing this study, Nicola Substation Transformation Capacity Reinforcement project (i.e. addition of NIC T7) is assumed completed by the time the IC's generating project enters service.
3. 1L243 reconductoring is assumed completed by the time the IC's generating project enters service. 1L243 after reconductoring is assumed to have a conductor rating of 1145 A (summer) and 1388 A (winter).
4. 1L251 series capacitor project: Line 1L251 will be series compensated to accommodate an industrial load increase on 1L251.
5. In this study, it is considered that 1L251 will be supplied from NIC only, with the FortisBC side open. This means that whenever the NIC end of 1L251 is open, the [redacted] Project will need to be off-line.

5 System Studies and Results

Based upon the IC's submitted information and the area system conditions, a three-circuit-breaker-ring switching station near the [redacted] Project's POI is required for interconnecting the project. The tentative code for the switching station is P16T in this study. The [redacted] Project's substation is tentatively designated as P16P in this study. With the new switching station P16T, 1L251 will be segregated into two segments, and three new lines to be terminated into P16T are temporarily referred to as: 1L251_A (NIC-P16T), 1L251_B (P16T-CUM) and 1L251_C (P16T-P16P).

The existing line 1L251 does not meet BES criteria and is excluded from the Bulk Electric System (BES) list. The new lines 1L251_A will become part of BCH's Bulk Electric System (BES) and need to be compliant with applicable NERC MRS requirements. The IC's line 1L251_C may be a BES element as well. The new line 1L251_B (P16T-CUM) will remain as a non-BES 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 reinforcement requirement based on steady state performance analysis.

In corresponding to the power call schedule, 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 2028 heavy winter (28HW) 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

Power flow analyses under system normal (N-0 or P0) and contingency conditions (N-1 or P1 & P2.1) were performed to evaluate whether [redacted] Project would cause any adverse impact on the transmission system.

With proposed power injection of 100 MW to 1L251, there is no thermal overload concern due to interconnection of [redacted] Project, because the project's power injection will be largely offset and consumed locally.

In Table 5-1, the cases 1, 8, and 10 demonstrate the local system performance prior to the project interconnected. There is no overloading concern under the studied light summer, heavy summer and heavy winter load conditions.

With the project in service, the impacts of different outputs of the project on the loadings of NIC 230/138 kV transformers and 1L251_A, as well as 1L251_B under the system normal condition are shown in case 2 to case 4 of Table 5-1. No concerns have been identified.

With [redacted] Project in service, applicable N-1 contingence (P1 or P2.1) will not result in any overloading in the local transmission system, see cases 5 - 7 of Table 5-1.

This study has concluded that with [redacted] Project connected to the system, under system normal (N-0 or P0) and with N-1 (P1 or P2.1) contingency conditions there will be no overloading in the transmission system under the studied load and generation conditions.

Table 5-1: Summary of Branch Loading Analysis Results

Case	IC's Power Injection at POI (MW)	Contingency		Line / Equipment Loading (Percentage of The Line/Equipment Rating)				
		Cat.	Cases & Description	1L251_A	1L251_B	NIC T5	NIC T6	NIC T7
29 LS	Summer Rating (MVA)			193.4	120	286.8	286.8	300.0
	N/A (Before the project is connected)	P0	1. System normal	35	47	13	13	15
	100		2. System normal	21	47	4	4	5
	50		3. System normal	6	47	9	9	10
	0		4. System normal	35	48	13	13	16
	100	P1	5. 1L251_B tripped	52	N/A	3	3	4
			6. 1L251 Series Capacitor bypassed	22	48	4	4	5
			7. CUM one shunt cap tripped	22	47	4	4	5
29 HS	N/A (Before the project is connected)	P0	8. System normal	38	50	20	20	23
	100		9. System normal	20	50	11	11	13
28 HW	Winter Rating (MVA)			260.8	142.7	286.8	286.8	300.0

	N/A (Before the project is connected)	P0	10. System normal	28	41	18	18	21
	100		11. System normal	13	41	9	9	11

Note: N/A means not applicable.

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, 28HW). Table 5-2 shows a summery of steady-state voltage performance under various system conditions and contingencies.

No voltage violation is observed for these contingencies.

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

Case	IC's Power Injection at POI (MW)	Contingency		Bus Voltage (pu)			
		Cat.	Cases & Description	NIC 138	P16T 138	SCO 138	CUM 138
2029 LS	N/A (Before the project is connected)	P0	1. System normal	1.03	1.03	1.02	1.02
	100		2. System normal	1.03	1.03	1.02	1.02
	50		3. System normal	1.03	1.03	11.02	1.02
	0		4. System normal	1.03	1.03	1.02	1.02
	100	P1	5. 1L251_B tripped	1.03	1.03	N/A	N/A
			6. 1L251 Series Capacitor bypassed	1.03	1.03	1.02	1.03
			7. CUM one shunt cap tripped	103	1.03	1.01	1.01
2029 HS	N/A (Before the project is connected)	P0	8. System normal	1.03	1.03	1.02	1.02
	100		9. System normal	1.03	1.03	1.01	1.02
2028 HW	N/A (Before the project is connected)	P0	10. System ormal	1.03	1.03	1.02	1.02
	100		11. System normal	1.03	1.03	1.01	1.02

Note: N/A means not applicable

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 at the plant's maximum MW output.

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 inverter has sufficient reactive power capability at zero MW output, which needs to be re-confirmed if the IC's project proceeds further.

5.1.4 Anti-Islanding Requirements

If 1L251_A between NIC and P16T is open at either end, the IC's project may be inadvertently islanded with the existing generators and BC Hydro loads, which is not allowed. A direct transfer trip (DTT) from NIC to P16T is required to isolate the [redacted] Project for protective and unintentional tripping of 1L251_A.

In addition, the IC is required to install anti-islanding protection within its facility to disconnect the IC's project from the grid 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 BCH 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 138 kV, 3-circuit breaker ring bus switching station (refer to as "P16T") will be built at the POI, close to the existing 138 kV transmission line 1L251. The existing transmission line 1L251 will be cut and looped in to P16T, and 138 kV line from [redacted] Project will be terminated at the P16T.

Scope of substation work:

- Acquire adequate property for a new substation close to the existing transmission line 1L251.
- Construct a new outdoor 138 kV, 3-circuit breaker ring bus switching substation. Refer to the one-line sketch in Appendix B for details.

5.4 Transmission Line Requirements

It is required to furnish and install 48-strand fibre optic cable on 1L251 structures from 1L251 series capacitor project to P16T for telecommunication. The length is approximately 4 km. Structure replacement and mid span structures may be required due to fibre addition.

5.5 Protection & Control Requirements

BC Hydro will provide line protections for 138 kV line 1L251_A, 1L251_B and 1L251_C (BCH end only). 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 required to provide the following for the interconnection of [redacted] 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 the project to provide protection coverage for 1L251_C. BC Hydro P&C Planning will provide core protection settings for these relays to protect transmission line 1L251_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

5.6 Telecommunications Requirements

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

Tele-protection Requirements for Telecom

- Provide WECC Level three (3) 64 kbps synchronous circuits between NIC and P16T for 1L251_A PY DIGITAL TELEPROT" and NIC-P16T 1L251_A SY DIGITAL TELEPROT". Physical interface shall be C37.94 optical over multimode fibre using ST connectors.
- Provide WECC Level three (3) 64 kbps synchronous circuits between P16T and P16P for 1L251_C PY DIGITAL TELEPROT and 1L251_C SY DIGITAL TELEPROT. Physical interface shall be C37.94 optical over multimode fibre using ST connectors.
- Provide WECC Level 3 38,400 bps RS-232 circuits between P16T and 1L251 series capacitor station (NEWCAP) for "P16T-NEWCAP 1L251 PY DIGITAL TELEPROT" and "P16T-NEWCAP 1L251 SY DIGITAL TELEPROT".
- Remove WECC Level 3 38,400 bps RS-232 circuits between NIC and NEWCAP for "NIC-NEWCAP 1L251 PY DIGITAL TELEPROT" and "NIC-NEWCAP 1L251 SY DIGITAL TELEPROT" [reference SN 4178].

Tele-control Requirements for Telecom

- Provide P16T SCADA circuit, minimum speed 9.6 kbps.
- Provide P16T REMACC circuit.
- Provide P16P SCADA circuit.

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 [redacted] Project and its facilities to the BCH Transmission System at the proposed POI, this FeS has identified the following conclusions and requirements:

1. A new 138 kV switching station (referred to as "P16T") on 1L251 is required at the proposed POI for interconnecting the IC's generating project to the BCH system.

2. The connection of [redacted] Project does not cause any performance violation (i.e. thermal overload, voltage performance violation or voltage stability concern) under system normal and single contingency conditions.

3. In addition to entrance protection and 1L251_C line protection, the IC is required to install anti-islanding protection within its facility to detect and disconnect itself from the BC Hydro transmission system if an inadvertent island with the local loads forms. In addition, a direct transfer trip (DTT) from NIC to the new switching station P16T is required to disconnect the project for protective and unintentional tripping of 1L251_A at NIC or P16T.

4. It is required to furnish and install 48-strand fibre optic cable on 1L251 from 1L251 series capacitor project to P16T for telecommunication. The length is approximately 4 km. Structure replacement and mid span structures may be required due to fibre addition.

5. The new lines 1L251_A will become part of BCH's Bulk Electric System (BES) and need to be compliant with applicable NERC MRS requirements. The IC's line 1L251_C may be a BES element as well. The new line 1L251_B (P16T-CUM) will remain as a non-BES line.

6. BCH will provide line protections for 1L251_A, 1L251_B and 1L251_C (BCH 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.

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 21, 2024.

A non-binding good faith cost for required network upgrades and estimated schedule for construction are included in a separate letter to the IC.

Appendix A
Plant Single Line Diagram Used for Power Flow Study

Figure A-1 shows [redacted] Project single line diagram used for power flow study.

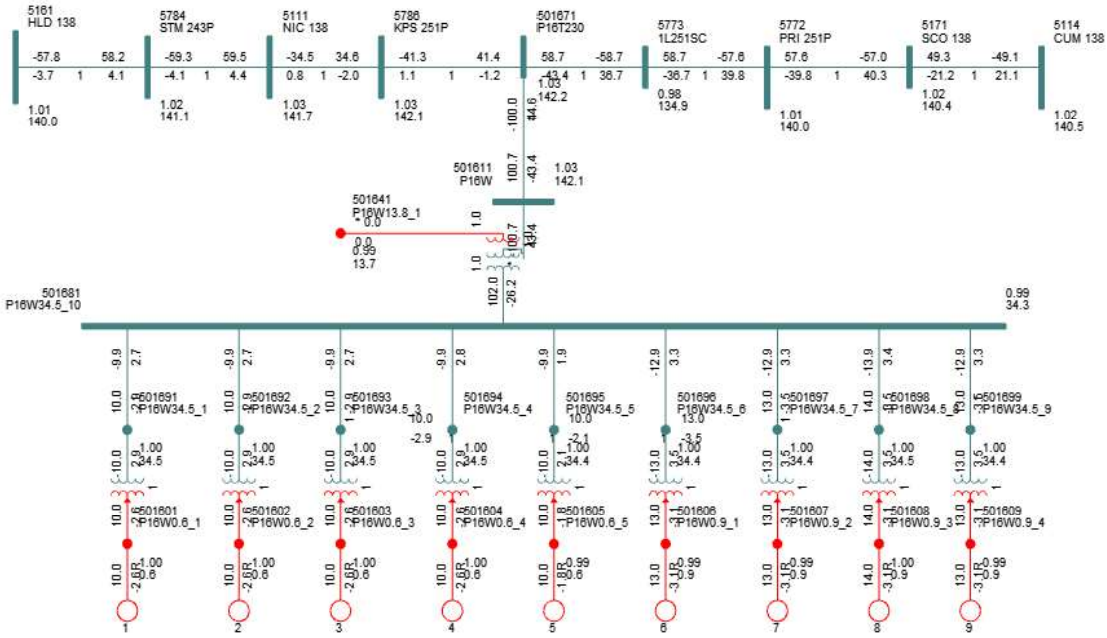

Figure A-1: [redacted] Project single line diagram used for power flow study.

As seen in the diagram, [redacted] Project has one main power transformers that connect nine equivalent feeders (five PV inverter feeders and four bettery inverter feeders), nine equivalent step-up transformers and nine equivalent generators/inverters.

Appendix A
One-Line Sketch for New Switching Station

Figure B-1 shows the Stations Planning One-Line Sketch for the New Switching Station P16T.

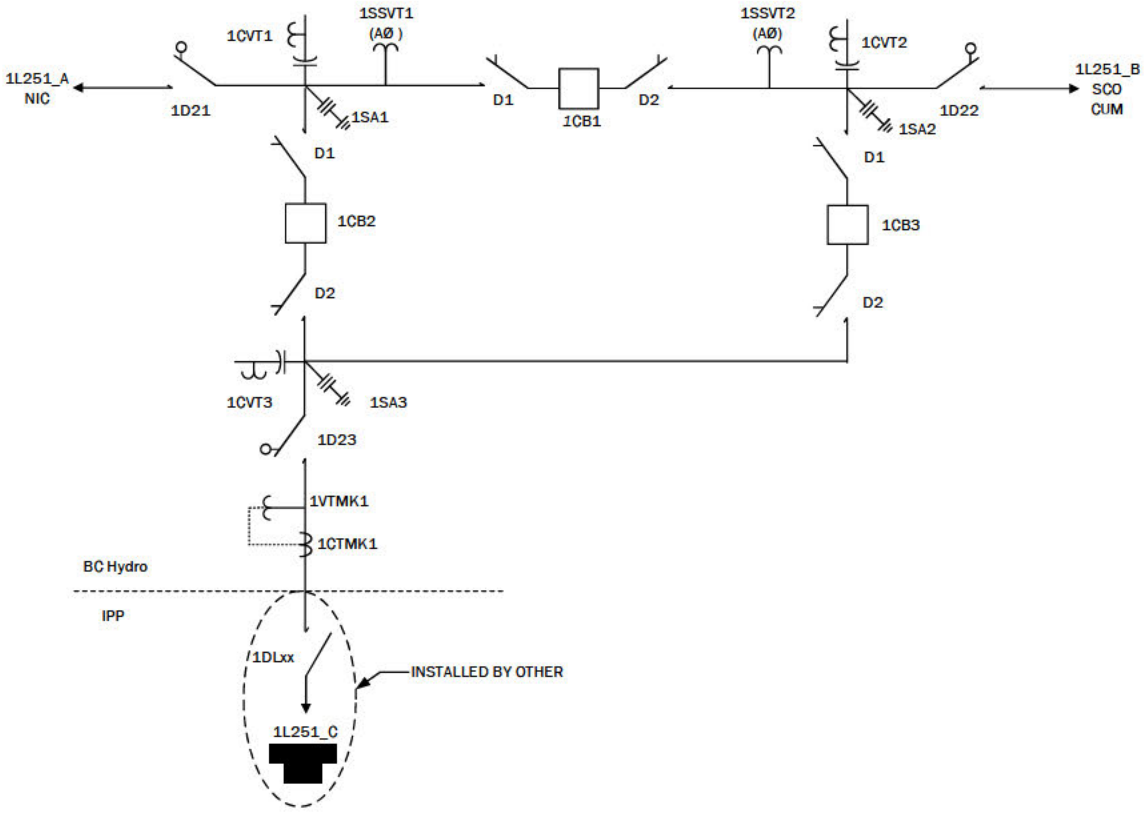

Figure B-1: Stations Planning One-Line Sketch for the New Switching Station P16T.