

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

June 29, 2026



via email: [REDACTED]

RE: [REDACTED] Project - Queue #11 Interconnection Facilities Study Report

Dear [REDACTED],

Enclosed is the Interconnection Facilities Study for the proposed Interconnection Request (IR), Queue #11 – [REDACTED] Project, submitted under Tariff Supplement 79: BC Hydro Generating Plant Interconnections 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 IR to BC Hydro's Transmission System, being the Network Upgrades, based on the findings of the Interconnection Facilities Study.

Open Access Transmission Tariff

The OATT defines Network Upgrades as additions, modifications, and upgrades to BC Hydro's Transmission System required at or beyond the Point of Interconnection (POI) to accommodate the interconnection of the Generating Facility to BC Hydro's Transmission System.

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 System Impact Study). Per Tariff Supplement 79, BC Hydro as the Interconnection Customer is responsible for paying the full cost of this Interconnection Facilities Study.

Cost Estimate

Based on the Interconnection Facilities Study, there is no Transmission Provider's Interconnection Facilities identified. The non-binding good faith cost estimate (Class 3) for Network Upgrades required to interconnect your IR is **\$811 K**.

Major Scope of Work Identified:

- Protection and Control
 - Install two relays for new Generator G3 and integrate using existing port expander
 - Extend Transformer T2 protection zone to include G3 breaker
 - Update protection one-line diagram and complete real time digital simulation testing
 - Implement alarms for new equipment per BC Hydro standards and confirm existing alarm system capacity

- Update operations databases, displays, and the energy management system to support required control, indication, telemetry, and alarms
- No additional station, transmission, or telecommunications Network Upgrades identified

Exclusions:

- Applicable taxes
- Outage costs
- Permits
- Right of Way & Property Costs

Key Assumptions:

- Construction by contractor
- Six (6) months of construction is considered
- No expansion of existing stations or control buildings to accommodate new equipment

Key Risks:

- 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
- Cost of materials and major equipment may be affected by market conditions and escalation

Technical Interconnection Requirements

As part of our commitment to maintaining a reliable and responsive grid, BC Hydro maintains its Technical Interconnection Requirements (TIR) documentation, including the 60 kV to 500 kV TIR for Power Generators. You will be required to meet the TIR as your project will be connecting to the BC Hydro Transmission system. BC Hydro looks forward to working closely with you so that you can meet the TIR and can assist with any technical questions you may have. For more details on the TIR, please refer to:

<https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/transmission/tgi/60kv-500kv-TIR-for-power-generators.pdf>

Schedule

Based on the Interconnection Facilities Study, the non-binding good faith estimated in-service date for your Interconnection Request's Network Upgrades is **Q3 2026**.

Timely actions required from you for the rest of the interconnection process to minimize risks to the schedule:

- Tender comments on the draft Interconnection Facilities Study report within thirty (30) Calendar Days.
- Negotiation and Execution of a Terms and Conditions for Modifications (TCM) per Tariff Supplement #79

Please note that changes to your Interconnection Request, changes in earlier queued Interconnection Requests, or delays in receiving financial commitments may also impact the target in-service date.

If you have any questions, please contact the Transmission Generator Interconnections team at transmission.generators@bchydro.com.

Sincerely,

[REDACTED]

[REDACTED]

Interconnections Manager, Transmission Generator Interconnections
BC Hydro

Encl.: External Queue 11_ [REDACTED] Project_Facilities Study.pdf



BC Hydro Generation

[REDACTED] Project

Interconnection Facilities Study

June 29, 2026

DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY

This report was prepared by the British Columbia Hydro and Power Authority (“BCH”) or, as the case may be, on behalf of BCH by persons or entities including, without limitation, persons or entities who are or were employees, agents, consultants, contractors, subcontractors, professional advisers or representatives of, or to, BCH (individually and collectively, “BCH Personnel”).

This report is to be read in the context of the methodology, procedures and techniques used, BCH’s or BCH’s Personnel’s assumptions, and the circumstances and constraints under which BCH’s mandate to prepare this report was performed. This report is written solely for the purpose expressly stated in this report, and for the sole and exclusive benefit of the person or entity who directly engaged BCH to prepare this report. Accordingly, this report is suitable only for such purpose, and is subject to any changes arising after the date of this report. This report is meant to be read as a whole, and accordingly no section or part of it should be read or relied upon out of context.

Unless otherwise expressly agreed by BCH:

1. any assumption, data or information (whether embodied in tangible or electronic form) supplied by, or gathered from, any source (including, without limitation, any consultant, contractor or subcontractor, testing laboratory and equipment suppliers, etc.) upon which BCH’s opinion or conclusion as set out in this report is based (individually and collectively, “Information”) has not been verified by BCH or BCH’s Personnel; BCH makes no representation as to its accuracy or completeness and disclaims all liability with respect to the Information;
2. except as expressly set out in this report, all terms, conditions, warranties, representations and statements (whether express, implied, written, oral, collateral, statutory or otherwise) are excluded to the maximum extent permitted by law and, to the extent they cannot be excluded, BCH disclaims all liability in relation to them to the maximum extent permitted by law;
3. BCH does not represent or warrant the accuracy, completeness, merchantability, fitness for purpose or usefulness of this report, or any information contained in this report, for use or consideration by any person or entity. In addition, BCH does not accept any liability arising out of reliance by a person or entity on this report, or any information contained in this report, or for any errors or omissions in this report. Any use, reliance or publication by any person or entity of this report or any part of it is at their own risk; and
4. In no event will BCH or BCH’s Personnel be liable to any recipient of this report for any damage, loss, cost, expense, injury or other liability that arises out of or in connection with this report including, without limitation, any indirect, special, incidental, punitive or consequential loss, liability or damage of any kind.

COPYRIGHT NOTICE

Copyright and all other intellectual property rights in, and to, this report are the property of, and are expressly reserved to, BCH. Without the prior written approval of BCH, no part of this report may be reproduced, used or distributed in any manner or form whatsoever.

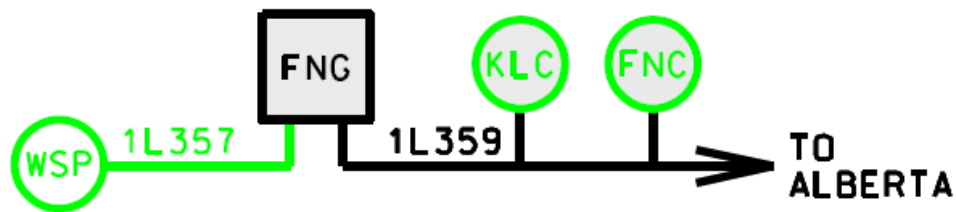


Figure 1-1: Fort Nelson Area Transmission System Diagram

The proposed unit FNG G3 is connected to the 13.8 kV side of the existing transformer FNG T2 through a new 13.8 kV breaker. FNG G3 will share the step-up transformer T2 with the existing unit G2. [REDACTED] According to the IC's plan, when G3 is in operation, G2 will be disconnected, and therefore, G2 and G3 will not operate online simultaneously

This report identifies the required system modifications for interconnecting the proposed Fort Nelson Regional Reliability Improvement Project. These modifications are summarized as follows:

- Protection work associated with the new generator connection are identified as:
 - Add two SEL-300G relays for the new generator G3.
 - Extend the existing protection zone of transformer T2 to include the G3 unit breaker [REDACTED].
 - Update the FNG protection one-line diagram and carry out in-house Real Time Digital Simulation (RTDS) tests.
 - The identified protection work is limited to the FNG station.
- Control work associated with the new generator connection are identified as:
 - Provide alarms for the new equipment and protection systems in accordance with BC Hydro standardized alarm guidelines. The adequacy of the existing station alarm system shall be confirmed.
 - Use the existing SEL-3610 port expander to connect the new protection relays for engineering access.
 - The control portion of work for the new G3 unit is expected to be completed by the IC in accordance with the applicable architecture standards.
 - In addition to the local station work, offsite control centre work is required to update the database and displays at FVO/SIO, and to revise EMS as needed to accommodate the control, indication, telemetry, and alarms associated with the new equipment at FNG.
- No station work, transmission line work, or telecommunications work is required for this project.
- No new Transmission Provider Interconnection Facilities are required for this project.
- The identified Network Upgrades are further detailed in Section 1 of this Facilities Study.

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.

PROJECT INTER-DEPENDENCIES

No project inter-dependencies have been identified.

TABLE OF CONTENTS

DISCLAIMER OF WARRANTY, LIMITATION OF LIABILITY	i
COPYRIGHT NOTICE	ii
EXECUTIVE SUMMARY	iii
PROJECT INTER-DEPENDENCIES	v
PROTECTION AND CONTROL APPLICATION	Section 1

SECTION 1

TERMS AND CONDITIONS FOR MODIFICATIONS (TCM)

SCHEDULE A – PROTECTION AND CONTROL (P&C) APPLICATION

P&C APPLICATION

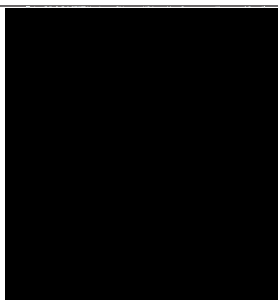
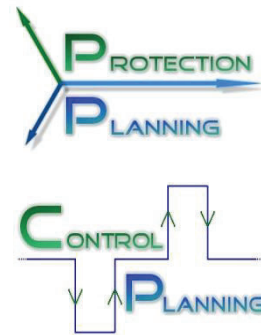
FNG G3 Addition

2025 STAGE

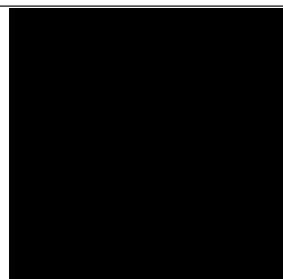
Revision: 0

Protection Planner: [Redacted]
Reviewed by: [Redacted]
Control Planner: [Redacted]
Reviewed by: [Redacted]
Approved by: [Redacted]

Date: 2025-09-19



Protection



Control



REVISION HISTORY

Rev #	Protection Planner	Protection Reviewer	Control Planner	Control Reviewer	Approved	Date
0						2025-09-10

REVISION NOTES

Rev #	Notes
0	• First Issue

TABLE OF CONTENTS

[illegible]

FNG G3 Addition

1.0 General

Fort Nelson Generating Station (FNG) is equipped with a combined cycle generating unit (Unit 2 must be shut down if Unit 1 is off line) and is the primary power source for the town of Fort Nelson, two First Nations communities – Fort Nelson and Prophet River, and a large transmission voltage customer – [REDACTED] located at about 161 km east to FNG and 6 km west from the BC – AB border.

The Fort Nelson area has experienced serious back-to-back wildfire seasons in 2023 and 2024 which forced out the only transmission connection (from Alberta) to the area and the region had to solely rely on FNG for local supply. There is a risk that FNG Unit 1 may have a forced outage during a transmission line outage (Alberta connection) in the next 1 – 3 years. In addition, long term permanent gas supply to FNG is uncertain following the decision of North River Midstream (NRM) in June 2024 to suspend the operation of their Fort Nelson gas processing plant.

Both risks jeopardize the availability of FNG Unit 1 and may result in significant customer lost hours (3400 customer for several weeks) and reputational damage to BC Hydro.

The Fort Nelson region currently has two power sources, the 73 MW combined cycle FNG and a 209 km long 144 kV transmission line (1L359) from the Alberta interconnected electrical system. Each power source on their own has enough capacity to serve the regional demand. If one supply is unavailable, the region is supplied with the other source.

[REDACTED]
[REDACTED]
[REDACTED]

The planned new Unit 3 will be a dual fuel genset, [REDACTED] [REDACTED] rated at [REDACTED] 14MW, [REDACTED] [REDACTED] operating in islanded mode via existing T2 at FNG. The new G3 may also be operating in parallel with G1 and/or the grid. T2 can only be connected to one of G2 and G3 via interlocked disconnects. [REDACTED]
[REDACTED]

The electrical protection system of G3 which is embedded within the generator controller [REDACTED] [REDACTED] does not meet BC Hydro requirements on generator electrical protections, per BC Hydro Generation Standard DP 45-Z0032, G3 electrical protections will be provided by two separate SEL-300G relays. This application will only specify G3 electrical protections listed in [REDACTED] (External Generator Protection Guidelines). Non-electrical protections, Excitor and Turbine Protection are assumed provided by [REDACTED] and will not be discussed in this application.

Major equipment is connected and specified as shown on Stations Planning One Line Diagram [REDACTED] dated April 11, 2025.

The attached Protection Planning AC One Line Diagram (see Section 16.0) shows all AC connections to protection devices listed in this application.

All relays used will be as specified. Protection & Control Maintenance may require the decommissioned protection relays at FNG for emergency spares. Please provide P&C Maintenance with a list of decommissioned relays [REDACTED]. Include the Manufacturer Model # and Part #.

Equipment and devices containing hazardous materials will be managed in accordance with BC Hydro Environmental Best Management Practices and Waste Management Standards.

1.1 Special Features or Operating notes

[REDACTED]

1.2 Notes to Generation P&C Design

The existing protection and metering single line diagram [REDACTED] is out of date, to avoid potential MRS violations, this drawing must be re-drawn to reflect the protection system at FNG.

1.3 NERC PRC and CIP Standards Implications

Note that this section lists only NERC PRC compliance efforts that are led by P&C Planning staff (PRC-007, -012, -023, -024, -025, -026, and -027). Of the aforementioned PRC standards, this application will have an impact on PRC-024, -025, -026 and -027. Though it is not in scope for P&C Planning, this work will have an impact on PRC-019 as well.

CIP V5

The GSTN portion of the station and the associated compliance CIP activities are in Generation's Domain.

2.0 Telecommunication Requirements

None.

3.0 RAS or U/F Load Shedding Requirements

None.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

8.0 G3 Electrical Protection

The primary and standby electrical protections of G3 will be provided by two SEL-300G relays. Non-electrical protections will be provided by G3 controller which will be supplied by [REDACTED]. The electrical protections embedded in G3 controller should be disabled.

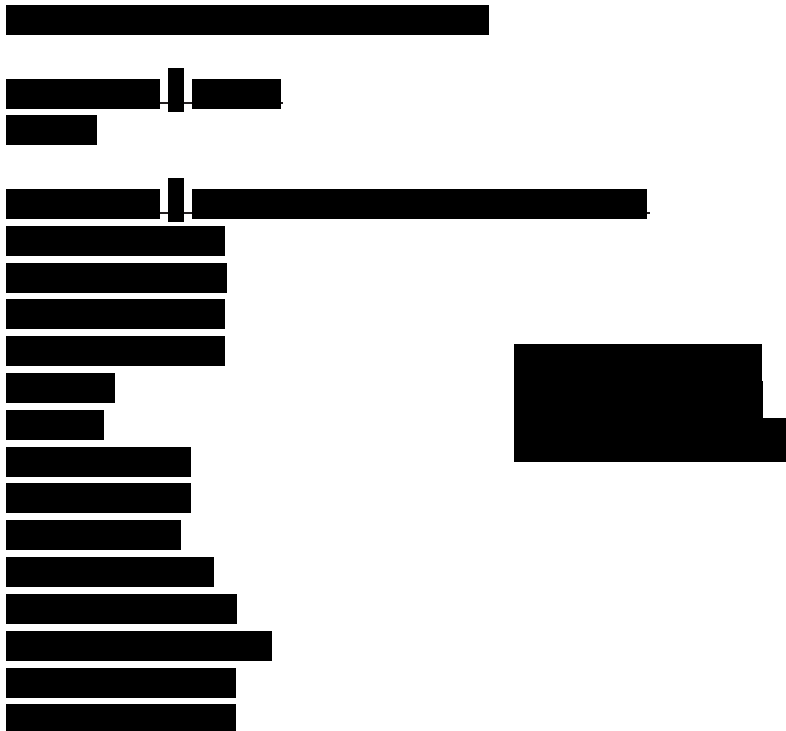
[REDACTED]

[REDACTED]

Design is to issue the station SCADA/Control Architecture Overview Diagram under this project.

10.1 RTU Point Assignment

The existing control point assignment does not include any generator unit control, nor generator circuit breaker control. T&D System Operations have indicated control for these generators is not required. Hence, only the telemetry RTU points will be added for this new G3 unit to follow the other existing unit and practice for this station.



10.2 Alarms

Provide alarms for the new protection relays, new equipment and new telecom facilities in accordance with standardized alarm guidelines.

10.3 Remote Data Access

Connect new protection relays using the existing SEL-3610 port expander which have enough ports to allow connection to new relays for engineering access.

11.0 Control Centre Work

Update the network model, database and displays at FVO/SIO for the new equipment at FNG. Revise alarms and metering points for FNG.

[REDACTED]

[REDACTED]

[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

16.0 Protection AC One Line Diagram



FNG Protection 1-Line Diagram (G3 Addition)