

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

November 24, 2025

[REDACTED]

via email: [REDACTED]

RE: CEAP IR #111 – [REDACTED] – Interconnection Feasibility Study

Dear [REDACTED]

Enclosed is the Interconnection Feasibility Study for the proposed Interconnection Request (IR), [REDACTED], submitted under Attachment M-2: Transmission Service and Interconnection Service Procedures for Competitive Electricity Acquisition Process (CEAP) of the Open Access Transmission Tariff (OATT). This letter provides a non-binding good faith estimate of the cost and time to construct the facilities required to interconnect your project to BC Hydro's Transmission System, being the Network Upgrades, based on the findings of the Interconnection Feasibility Study.

Open Access Transmission Tariff

The OATT defines Network Upgrades as additions, modifications, and upgrades to BC Hydro's Transmission System required at or beyond the Point of Interconnection to accommodate the interconnection of the Generating Facility to the BC Hydro's Transmission System. Pursuant to the OATT, BC Hydro will design, procure, construct, install, and own the Network Upgrades. While BC Hydro will pay the costs for the Network Upgrades, the Interconnection Customer provides security for such costs.

Interconnection Study Costs

The Interconnection Customer is responsible for paying the full cost of all Interconnection Studies in cash. Interconnection Study costs vary depending on the scope, complexity, and other factors such as whether any scope is shared with another Interconnection Customer (not applicable to this Interconnection Feasibility Study). The deposit amounts specified in the OATT are not proxy Interconnection Study costs. If actual Interconnection Study costs exceed the deposit amount, the Interconnection Customer must pay the remaining balance in cash. Please refer to the answer for question no. 53 in the posted [Questions & Answers for 2025 Call for Power](#) for typical study cost ranges.

Cost Estimate

Based on the Interconnection Feasibility Study, the non-binding good faith estimated cost (typical accuracy range of +150%/-50%) for Network Upgrades required to interconnect your project is \$310.2 M.

Major Scope of Work Identified:

- Supply and install a new 230kV line position and a new line terminal to terminate the customer's 230 kV line with associated motorized disconnect switch, one 230kV Capacitor Voltage Transformer and Surge Arrester at BC Hydro Kelly Lake substation (KLY)
- Supply and install four new 230kV circuit breakers along with associated disconnects

- Replace the existing 500/230 kV, 300 MVA transformer units T1 and T4 with new 500/230 kV units rated at 600 MVA
- Upgrade the section of the 230kV bus between Transformer - T1 and motorized disconnect switch
- Upgrade the section of the 230kV bus between Transformer - T4 and motorized disconnect switch
- Modify one existing 230kV bus configuration, and upgrade three existing 230 kV buses
- Reconnect 2L90 and 2L93 transmission lines terminals
- Replace the existing disconnect switches
- Upgrade the required substation facilities, infrastructures, and bus work to support new station equipment
- Supply and install required Protection, Control and Telecommunications equipment

Exclusions:

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

Key Assumptions:

- Construction by contractor
- 24 months of construction is considered
- No construction during winter season
- A certificate of public convenience and necessity (CPCN) requirement will be exempt
- Execution of early Engineering and Procurement Agreement
- No expansion of substation and control buildings to accommodate new equipment
- Each phase of T1 and T4 to be replaced with 200MVA 500:230kV autotransformers
- Impact Benefit Agreements with First Nations are not considered

Key Risks:

- Expansion of the existing substation and/or control building may be required leading to increased costs and/or a longer project schedule
- Major equipment delivery presents potential project cost and schedule risks, based on variance in equipment lead times
- If a CPCN is required for the project, it may impact project cost and schedule risks
- No defined supply chain strategy; construction costs may increase depending on delivery method
- Project schedule may be longer than expected, leading to increased overhead costs
- Ground improvements may be required leading to increased construction costs
- Contaminated soil may be encountered leading to increased construction costs
- Cost of materials and major equipment may be affected by market conditions and escalation

Study Limitations and Exclusions***Protection, Control, and Telecommunications***

The Interconnection Feasibility Study does not include a detailed review of the protection, control, and telecommunications system requirements specific to your Interconnection Request. Based on a high-level review, we have identified proxy costs for protection, control, and telecom Network Upgrades drawn from comparable interconnection projects with similar scope and complexity; these proxy costs have been

included solely for indicative budgeting purposes. The relative interconnection cost determined by the Interconnection Feasibility Study includes a telecommunications component based on an assumed solution to deliver teleprotection and telecontrol circuit requirements necessary for the Interconnection Request. Protection, control, and telecommunications system requirements will be reviewed in detail in the System Impact Study if you are a successful participant of the CEAP and meet applicable requirements.

For Interconnection Feasibility Study purposes, it is assumed that any applicant-proposed works that could obstruct or impair the performance of existing BC Hydro microwave systems or new links from the proposed Interconnection Customer Interconnection Facilities (ICIF) to the BC Hydro microwave system would be identified and either relocated or repositioned as determined in a System Impact Study if you are a successful participant of the CEAP and meet applicable requirements. Such works may include, but are not limited to, towers, turbines, dams, support structures, panels, surface materials deposited or redistributed, water surface changes, or vegetation.

Generation Shedding/Curtailment Scheme and Electromagnetic Transient (EMT) Studies

The generation shedding/curtailment scheme reviews (e.g., Remedial Action Scheme (RAS), and a direct transfer trip for anti-islanding scheme) and EMT studies are completed in a System Impact Study. The outcomes of these studies may result in additional requirements, which could include Network Upgrades or ICIF. Any costs associated with completion of these studies, and resulting requirements, are not included in the Interconnection Feasibility Study cost estimate.

Revenue Metering

Please note that revenue metering requirements have not been determined with the Interconnection Feasibility Study. As such, any costs associated with revenue metering and other interconnection components are not included in the cost estimate provided above. Once these requirements are defined, costs that are attributable to the Interconnection Customer are to be paid in cash. For more details on revenue metering requirements and responsibilities, please refer to:

<https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/distribution/standards/ds-rmr-complex-revenue-metering.pdf>.

Schedule

Based on the Interconnection Feasibility Study, the non-binding good faith estimated in-service date for your Interconnection Request's Network Upgrades is Quarter 3 2032 (calendar year). To achieve this timeline, we may need to expedite certain activities, including engineering design and procurement of long-lead equipment.

Timely actions required from you to minimize risks to the schedule:

- Submission of additional technical data required for the System Impact Study and Facilities Study
- Submission of any required information or document such as demonstration of Site Control
- Execution of Combined Study Agreement and Standard Generator Interconnection Agreement
- Financial commitments and securities

Please note that changes to your Interconnection Request or delays in data submission or financial commitments may also impact the target in-service date.

If you have any questions, please contact the BC Hydro CEAP team at ceap2025@bchydro.com.

Sincerely,

[Redacted signature]

[Redacted name]

Manager, Customer Interconnections

BC Hydro

Encl.: CEAP_2025_IR111_[Redacted]_Feasibility_Study.pdf



Interconnection Feasibility Study

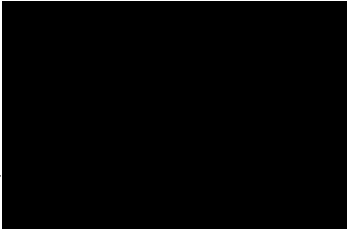
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2025 CEAP IR #111

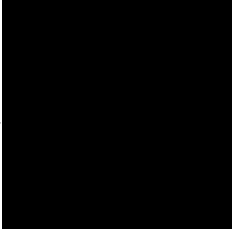
Prepared for:



Prepared by:



Sr. Engineer, Interconnection Planning



Reviewed by:



Manager, Interconnection Planning

Accepted by:



Manager, Transmission Planning

Report Metadata

Header: 2025 CEAP IR # 111
Subheader: Interconnection Feasibility Study
Title: [REDACTED]
Subtitle: 2025 CEAP IR #111
Report Number: 300-APR-00056
Revision: 0
Confidentiality: Public
Date: 2025 Nov 21
Volume: 1 of 1

Prepared for: [REDACTED]
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Checked by: [REDACTED]
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Reviewed by: [REDACTED]
Title: Manager, Interconnection Planning

Related Facilities: Kelly Lake substation (KLY)
Additional Metadata: Transmission Planning 2025-120
Filing Subcode 1350

Revisions

Revision	Date	Description
0	2025 Nov	Initial release

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Contributors

The following accept responsibility for the content in the specified sections. Professionals apply their signature and/or seal as appropriate.

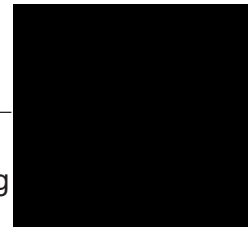
Section:

Entire report
except listed
below

Discipline:

Transmission Planning

Contributed by:



Sr. Engineer, Interconnection Planning

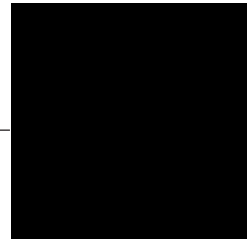
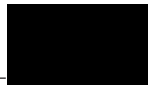
Section:

5.2, 5.3

Discipline:

Stations Planning

Contributed by:



Engineer, Station Planning

Executive Summary

██████████ the interconnection customer (IC), requests to interconnect its ██████████ Project (2025 CEAP IR: # 111) to the BC Hydro (BCH) system. ██████████ Project has one hundred seventy-six (176) ██████████ inverters with total installed capacity of 704 MW. The IC's proposed Point of Interconnection (POI) is on the 230 kV bus of BC Hydro's Kelly Lake substation (KLY). The IC's project will connect to the POI via a new customer built 43 km 230 kV transmission line. The proposed commercial operation date (COD) is July 7, 2030.

To interconnect the ██████████ Project and its facilities to the BCH Transmission System at the proposed POI, this Feasibility Study has made the recommendations and conclusions as follows:

1. A new 230 kV line position is required at KLY substation to facilitate the interconnection of the ██████████ Project.
2. The study finds a thermal overload violation under system normal operating conditions on the existing power transformers T1 and T4 at Kelly Lake (KLY) substation, which is caused by the connection of the ██████████ Project.
3. The study does not find voltage performance violation or voltage stability concern, caused by the connection of the ██████████ Project.
4. The existing transformers T1 and T4 at Kelly Lake will need to be replaced with the new sets rated at 600 MVA each.
5. Under certain single contingencies, the interconnection of the ██████████ Project contributes to thermal overloads on KLY T1/T4 (with either T4 or T1 OOS), 1L204 (SVA-DUG), and 1L206 (SVA-WKA), especially in summer season. To address these overload concerns, the ██████████ Project will need to participate in a generation shedding or runback Remedial Action Scheme (RAS) to secure the system. The RAS function scope will be specified in the System Impact Study (SIS) if the need for RAS is determined.

6. [REDACTED] Project is required to install anti-islanding protection within its facility to disconnect the IC's generating plant from the grid when an inadvertent island with the local load forms. The anti-islanding protection shall be configured in the manner that does not compromise the required fault ride-through performance.
7. [REDACTED] Project is required to have the dynamic reactive power capability at a minimum of +/- 33% of its MPO at the high voltage side of the IC's switchyard over the full MW operating range, per BC Hydro's TIR Section 6.4.2. Based on the IC-submitted PSS/E model, the proposed project does not meet the requirement above, which needs to be addressed if the project proceeds to the next stage of the interconnection process.
8. The "Reactive Power at Night" function for solar inverter is required so that each inverter can provide reactive power capability at zero MW output including during nighttime.

The above conclusions are made based on the IC's input data and study assumptions listed in Section 4, which represent the best available information on October 14, 2025.

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

Please note that, this Feasibility Study report does not include the descriptions of Protection, Control, and Telecommunications requirements and the associated upgrade scopes; however, as discussed in Section 2 "Purpose and Scopes of Study", the associated cost implications are captured and delivered in the cover letter to the IC.

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Appendices

Appendix A	Schematic Diagram of the IC's Project
Appendix B	Power Flow Study Results
Appendix C	One-Line Sketch for KLY Station Upgrade

Acronyms

The following are acronyms used in this report.

BCH	BC Hydro
BR	Bridge River
BRT	Bridge River Terminal Substation
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
IR	Interconnection Request
KLY	Kelly Lake Substation
LAPS	Local Area Protection Schemes
LM	Lower Mainland
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 “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	██	
Name of Interconnection Customer (IC)	██	
Point of Interconnection (POI)	230 kV bus at Kelly Lake (KLY) Substation	
IC's Proposed COD	7 th July 2030	
Type of Interconnection Service	NRIS <input checked="" type="checkbox"/>	ERIS <input type="checkbox"/>
Maximum Power Injection (MW)	682.9 MW (Summer)	682.9 MW (Winter)
Number of Inverters	176 x 4 MW	
Plant Fuel	Solar	

██████████ the interconnection customer (IC), requests to interconnect its ██████████ Project (2025 CEAP IR #111) to the BC Hydro (BCH) system. ██████████ Project has one hundred seventy-six (176) ██████████ inverters with total installed capacity of 704 MW. The IC's proposed Point of Interconnection (POI) is on the 230 kV bus of BC Hydro's Kelly Lake substation (KLY). The IC's project will connect to the POI via a new customer built 43 km 230 kV transmission line. The proposed commercial operation date (COD) is July 7, 2030.

Figure 1-1 shows the Kelly Lake substation (KLY) and its surrounding area including the proposed IC's station and IC's new transmission line. KLY is a major substation in this area with two 500/230 kV transformers (KLY T1 & KLY T4), rated at 300 MVA each. KLY has three regional transmission paths, to Bridge River Terminal substation (BRT) in Bridge River area via 2L90, to supply the loads in the Central Interior region via 2L86 and 2L94, and to Savona Substation (SVA) in the SIW region via 2L92 and 2L93 in the SIW region.

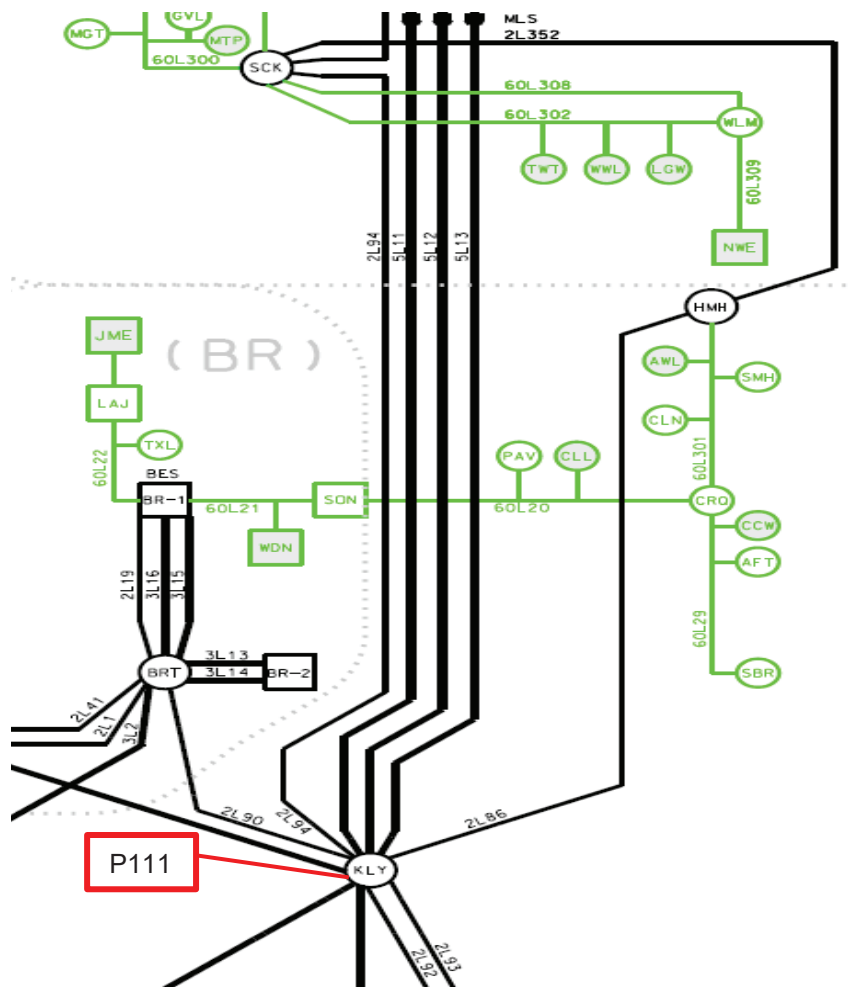


Figure 1-1: Kelly Lake Area Transmission System Diagram

2 Purpose and Scopes of Study

This Feasibility Study is a preliminary evaluation of the system impact of interconnecting the proposed project to the BC Hydro system based on power flow and short circuit analysis in accordance with BCH's Open Access Transmission Tariff (OATT) and produces the estimated cost of required Network Upgrades and the implementation schedule.

Per OATT, the Feasibility Study is performed individually for each of the participating projects in the CEAP process and focuses specifically on the BC Hydro regional transmission system where the proposed generating project is connected and affects.

This is a "limited scope" study which is restricted to power flow studies of P0, P1 and P2 planning events as defined in TPL-001-4 and short circuit analysis. The study does not address other technical aspects such as transient stability and switching transients and impact of multiple contingencies. These subjects will be addressed in subsequent System Impact Study if the project proceeds further. In addition, any potential impacts to the adjacent external systems to BC Hydro would be addressed in subsequent detailed and coordinated studies with the relevant adjacent entities if the proposed generator project proceeds further.

Please note that, due to the compressed study timeline for CEAP 2025 Feasibility Study, this report does not include the descriptions of the Protection, Control, and Telecommunication requirements and the associated upgrade scopes. Instead, the network upgrades associated with Protections, Controls and Telecommunications are incorporated with cost estimates in a separate cover letter to the IC.

3 Standard and Criteria

The Feasibility Study is performed in compliance with the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) reliability standards, and the BCH interconnection requirements in the TIR, and upon the ratings of the existing BCH transmission facilities described in Operating Orders, specifically:

- NERC standards: TPL-001-4 and FAC-002-3 relevant to the scope of this Feasibility Study.
- WECC criteria TPL-001-WECC-CRT-4 Transmission System Planning Performance, July 1, 2023.
- BC Hydro's 60 kV to 500 kV Technical Interconnection Requirements for Power Generators, Rev 2.1.1, Effective: Sept 22, 2025.
- BC Hydro Operating Order 5T-10, Ratings for All Transmission Circuits 60 kV or Higher, Sept 17, 2025.
- BC Hydro Operating Order 5T-14, Ratings for All Transmission and Distribution Transformer, Sept 22, 2025.
- BC Hydro System Operating Order 7T-22 System Voltage Control, Sept 19, 2023.

4 Assumptions and Conditions

This Feasibility Study is performed based on the IC's submitted data and information available to BC Hydro on Oct 14, 2025 for the study purpose. Assumptions are made wherever the IC's input is unavailable. Appendix A shows the schematic diagram of the IC's project used in the study model.

The power flow study cases used in this Feasibility Study are established based upon the BC Hydro's base resource plan and load forecasts available at the time of performing the study, which includes existing and future generators, transmission facilities, and loads in addition to the subject interconnection project in this study. Applicable seasonal conditions and the appropriate study years for the planning horizon are also incorporated. Additional assumptions are listed as follows.

- 1) Bridge River Transmission Reinforcement Project (BRTTP), which is to thermally uprate the existing line 2L90 between BRT and KLY, will be in-service in summer 2029.
- 2) The following [REDACTED] projects in the study area are included in the study cases.
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
- 3) The generation in the study area are dispatched to the patterns that stress the transmission system in the study area. In these patterns, the associated generators are typically set to their Maximum Power Outputs (MPO) unless otherwise specified.

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 system reinforcement requirement based on steady state performance analysis.

The study focuses on the base scenario - 31HW/32LS/32HS system conditions that include all the higher-queued generating projects (MMW, HVW, K2W, BEW, SHQ) in the region. These base cases were prepared based on factors such as seasonal variation in load conditions, and generation patterns that stress the transmission system.

The studies are performed under system normal conditions and under system contingencies in this area as specified in the P1 and P2 events by NERC TPL-001-4. Study results are summarized below.

In addition to the base scenario, sensitivity scenarios are also checked to capture any performance violations under summer load conditions.

Various generation dispatch scenarios are considered in the base scenario studies, including:

- High Columbia generation
- High Peace generation

Sensitivity checks are performed for generation dispatch scenarios below:

- High Lower Mainland (LM) generation

The studies are performed for system normal conditions and under critical system contingencies in the P1 and P2 events specified by NERC TPL-001-4. Study results are summarized below.

5.1.1 Thermal Overload Analysis

Appendix B shows the details of thermal overload analysis results. The study finds that the addition of [REDACTED] Project would cause new thermal overloads on the existing KLY T1/T4 under system normal (N-0) condition in summer cases. Thermal upgrades of KLY T1 and T4 are required to

accommodate the interconnection of the proposed project. The replacement transformers rated at 600 MVA each would have adequate performance with no overloading under system normal conditions.

For critical single contingency (N-1) conditions, the study observed overloads on the existing KLY T1/T4 (with either T4 or T1 OOS), and several pre-existing overloads on 138 kV circuits such as 1L203/1L205 (SVA–HLD) and 1L204 (SVA–DUG). Overloading on the new transformer at KLY was observed as well, when the other KLY transformer is out-of-service. While the [REDACTED] project does not exacerbate the overload on 1L203/1L205, it does contribute to increased loading on 1L204 and 1L206 under contingencies.

To mitigate the overload concerns under a contingency on the new transformers KLY T1/T4, lines 1L204, and 1L206, the [REDACTED] project will be required to participate in a generation shedding or runback Remedial Action Scheme (RAS), which will be determined during the System Impact Study (SIS) stage in future if needed.

5.1.2 Steady-State Voltage Analysis

With the connection of the IC's project, the steady-state voltage performance under system normal and single contingency conditions is acceptable for all the load conditions. Appendix B shows the details in the steady-state voltage study results.

5.1.3 Reactive Power Capability Evaluation

The BC Hydro TIR requires an 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 IC-submitted PSS/E model data, the proposed [REDACTED] Project does not meet the requirement above, which needs to be addressed if the project proceeds to the next stage of the interconnection process.

In addition, according to the IC-provided reactive capability data, the proposed solar inverter would provide +/-2.64 Mvar reactive capability at the zero MW output if the inverter's "reactive power at night" function is enabled. This function needs to be re-confirmed if the IC's project proceeds to next stage of the interconnection process.

5.1.4 Anti-Islanding Requirements

████████████████████ Project is not arranged for islanded operation. In addition, the IC is required to install anti-islanding protection within its facility to disconnect the IC's wind farm from the grid when an inadvertent island with the local loads forms.

5.2 Fault Analysis

The short circuit analysis in the Feasibility Study 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

Kelly Lake substation (KLY) will be upgraded to provide a 230 kV line termination for interconnecting the ████████████████████ Project.

The scope of substation work at KLY is as follows:

- Replace both existing 500/230 kV, 300 MVA transformers (T1 & T4) with 500/230 kV 600 MVA transformers.
- Add the following station equipment. Appendix C shows the one-line sketch for Kelly Lake substation (KLY) upgrade.
 - Four new 230 kV circuit breakers and associated disconnects
 - One 230 kV line terminal for the ████████████████████'s 2LXXX transmission line
- Replace all the existing disconnects associated with the existing and future 230 kV circuit breakers and replace 230 kV motorized disconnects associated with the transformers.
- Upgrade the required substation facilities, infrastructures, and bus work to support new station equipment.
- Reconnect 2L90 and 2L93 transmission lines terminals.

Refer to one-line sketches Appendix C for further details.

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 POI, this Feasibility Study has identified the following conclusions and requirements:

1. A new 230 kV line position is required at KLY substation to facilitate the interconnection of the [REDACTED] Project.
2. The study finds a thermal overload violation under system normal operating conditions on the existing power transformers T1 and T4 at Kelly Lake (KLY) substation, which is caused by the connection of the [REDACTED] Project.
3. The study does not find voltage performance violation or voltage stability concern, caused by the connection of the [REDACTED] Project.
4. The existing transformers T1 and T4 at Kelly Lake will need to be replaced with new sets rated at 600 MVA each.
5. Under certain single contingencies, the interconnection of the [REDACTED] Project contributes to thermal overloads on KLY T1/T4 (with either T4 or T1 OOS), 1L204 (SVA-DUG), and 1L206 (SVA-WKA), especially in summer season. To address these overload concerns, the [REDACTED] Project will need to participate in a generation shedding or runback Remedial Action Scheme (RAS) to secure the system. The RAS function scope will be specified in the System Impact Study (SIS) if the need for RAS is determined.
6. [REDACTED] Project is required to install anti-islanding protection within its facility to disconnect the IC's generating plant from the grid when an inadvertent island with the local load forms. The anti-islanding protection shall be configured in the manner that does not compromise the required fault ride-through performance.
7. [REDACTED] Project is required to have the dynamic reactive power capability at a minimum of +/- 33% of its MPO at the high voltage side of the IC's switchyard over the full MW operating range, per BC Hydro's TIR Section 6.4.2. Based on the IC-submitted PSS/E model,

the proposed project does not meet the requirement above, which needs to be addressed if the project proceeds to the next stage of the interconnection process.

8. The “Reactive Power at Night” function for solar inverter is required so that each inverter can provide reactive power capability at zero MW output including during nighttime.

Appendix A

Schematic Diagram of the IC's Project

Figure A-1 shows the schematic diagram for the [REDACTED] Project.

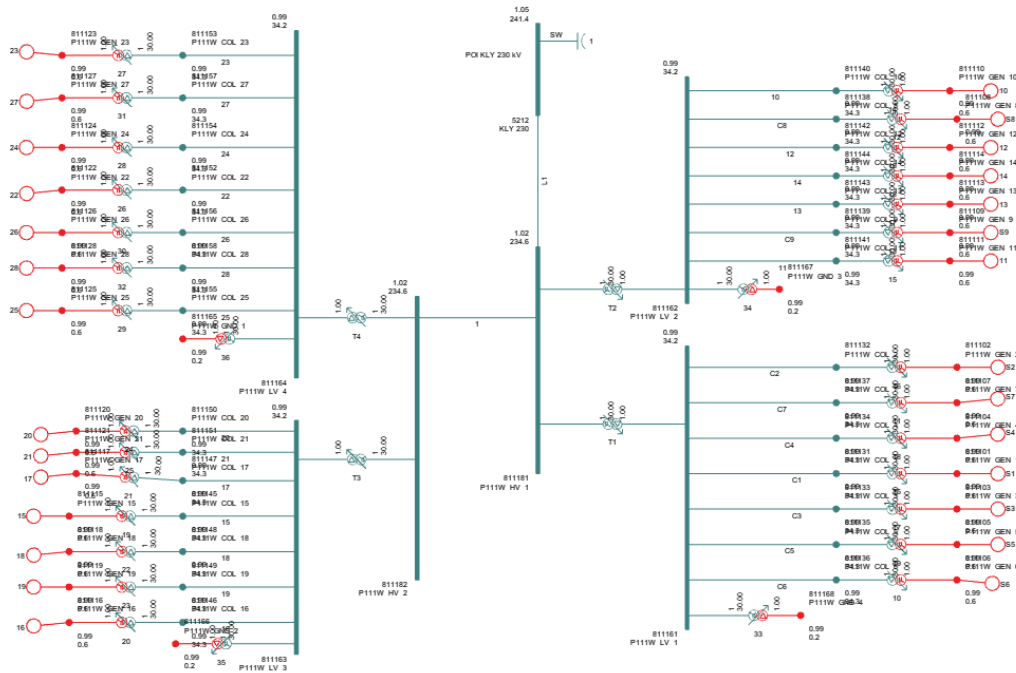


Figure A-1: [REDACTED] Project Plant Schematic Diagram.

Appendix B

Power Flow Study Results

Base Scenario (32LS & 32HS)

Table B-1: Power Flow Study Results - High Columbia generation Scenario

Case	IC's Plant Output (MW)	Contingency		Branch Loading (%)							
		Category	Description	KLY T4	2L92	2L90	2L94	2L86	1L203	1L204	1L206
				KLY T4	KLY-SVA	KLY-BRT	KLY-SCK	KLY-HMH	HLD-SVA	SVA-AFN	SVA-WKA
Summer Rating				300 MVA	230 MVA	404 MVA	218 MVA	319 MVA	173 MVA	143 MVA	169 MVA
32LS	MAX	P0	System Normal	100	18	28	27	17	79	49	31
		P1	Loss of █ █ █	39	28	28	17	12	85	38	24
		P1	KLY T1	164	11	38	32	20	75	57	37
		P1	2L90	115	16	-	29	19	78	52	33
		P1	2L93	98	30	28	27	17	77	53	34
		P1	5L87	100	30	20	28	18	85	35	22
		P2	KLY 2CB2 internal Fault	162	-	20	32	20	73	62	40
		P1	1L205	98	14	28	27	17	110 (pre-existing 122%)	43	27
		P1	1L204	103	24	29	27	17	75	-	51
		P1	1L206	102	21	28	27	17	78	69	-

Case	IC's Plant Output (MW)	Contingency		Branch Loading (%)							
		Category	Description	KLY T4	2L92	2L90	2L94	2L86	1L203	1L204	1L206
				KLY T4	KLY-SVA	KLY-BRT	KLY-SCK	KLY-HMH	HLD-SVA	SVA-AFN	SVA-WKA
Summer Rating				300 MVA	230 MVA	404 MVA	218 MVA	319 MVA	173 MVA	143 MVA	169 MVA
32HS	MAX	P0	System Normal	87	21	31	38	27	85	49	39
		P1	1L204	90	26	43	39	27	81	-	59
		P1	1L206	90	25	44	39	27	82	74	-

Table B-2: Power Flow Study Results - High Peace generation Scenario

Case	IC's Plant Output (MW)	Contingency		Branch Loading (%)							
		Category	Description	KLY T4	2L92	2L90	2L94	2L86	1L203	1L204	1L206
					KLY-SVA	KLY-BRT	KLY-SCK	KLY-HMH	HLD-SVA	SVA-AFN	SVA-WKA
Summer Rating				300 MVA	230 MVA	404 MVA	218 MVA	319 MVA	173 MVA	143 MVA	169 MVA
32LS	MAX	P0	System Normal	75	11	29	8	6	68	89	56
		P1	Loss of [REDACTED]	39	5	30	6	4	75	71	46
		P1	KLY T1	130	17	55	11	9	65	95	62
		P1	2L90	104	16	-	9	9	66	93	61
		P1	2L93	81	18	48	8	7	69	87	56
		P1	5L87	49	35	48	8	6	55	114 (pre-existing 89%)	75
		P2	KLY 2CB2 internal Fault	136	-	56	12	9	68	89	58
		P1	1L205	78	15	56	7	6	93	84	54
		P1	1L204	84	5	49	8	7	62	-	94
		P1	1L206	83	6	47	8	7	63	125 (pre-existing 98%)	-

Case	IC's Plant Output (MW)	Contingency		Branch Loading (%)							
		Category	Description	KLY T4	2L92	2L90	2L94	2L86	1L203	1L204	1L206
					KLY-SVA	KLY-BRT	KLY-SCK	KLY-HMH	HLD-SVA	SVA-AFN	SVA-WKA
Summer Rating				300 MVA	230 MVA	404 MVA	218 MVA	319 MVA	173 MVA	143 MVA	169 MVA
32HS	MAX	P0	System Normal	87	20	49	12	10	69	99	74
		P1	1L204	89	10	31	12	11	61	-	115 (pre-existing 94%)
		P1	1L206	86	13	30	12	10	63	146 (pre-existing 120%)	-

Table B-3: Steady-State Voltage Study Results- High Columbia generation Scenario

Case	IPP's Plant Output (MW)	Contingency		Bus Voltage (PU)			
		Category	Description	KLY 500	KLY 230	SVA 230	HMH 230
32LS	MAX	P0	System Normal	1.06	1.05	1.04	1.05
		P1	████████████████████	1.06	1.07	1.05	1.06
		P1	KLY T1	1.06	1.05	1.03	1.05
		P1	2L90	1.06	1.05	1.04	1.05
		P1	2L93	1.06	1.05	1.03	1.05
		P1	5L87	1.05	1.05	1.03	1.05
		P2	KLY 2CB2 internal Fault	1.07	1.04	1.04	1.05
		P1	1L205	1.06	1.05	1.04	1.05
P1	1L206	1.06	1.05	1.04	1.05		

Table B-4: Steady-State Voltage Study Results - High Peace generation Scenario

Case	IPP's Plant Output (MW)	Contingency		Bus Voltage (PU)			
		Category	Description	KLY 500	KLY 230	SVA 230	HMH 230
32LS	MAX	P0	System Normal	1.06	1.05	1.05	1.06
		P1	████████████████████	1.08	1.08	1.07	1.08
		P1	KLY T1	1.06	1.05	1.05	1.06
		P1	2L90	1.06	1.05	1.04	1.05
		P1	2L93	1.06	1.05	1.04	1.06
		P1	5L87	1.03	1.03	1.03	1.04
		P2	KLY 2CB2 internal Fault	1.05	1.05	1.04	1.06
		P1	1L205	1.04	1.04	1.04	1.05
P1	1L206	1.04	1.04	1.04	1.05		

Additional Thermal Overload checks (31HW/32HS/32LS)

Table B-5: Power Flow Study Results- High LM generation Scenario

High LM generation:

Case	IC's Plant Output (MW)	Contingency		Branch Loading (%)				
		Category	Description	KLY T4	2L92	2L90	2L94	2L86
Winter Rating				300 MVA	326 MVA	499 MVA	381 MVA	319 MVA
31HW	MAX	P0	System Normal	74	23	17	14	21
		P1	████████████████████	14	15	37	10	17
		P1	KLY T1	117	27	10	16	24

		P1	2L90	65	22	-	13	20
		P1	2L93	78	38	16	14	22
		P1	5L87	70	25	16	14	21
		P2	KLY 2CB2 internal Fault (Note1)	131	-	17	17	25
Summer Rating				300 MVA	230 MVA	404 MVA	218 MVA	319 MVA
32HS	MAX	P0	System Normal	105	36	39	23	15
		P1	Loss of █ █ █	41	22	39	17	12
		P1	KLY T1	174	44	39	28	18
		P1	2L90	84	32	-	21	14
		P1	2L93	109	56	38	23	16
		P1	5L87	97	41	34	23	15
		P2	KLY 2CB2 internal Fault	190	-	24	30	19
32LS	MAX	P0	System Normal	125	34	64	27	15
		P1	Loss of █ █ █	53	22	64	20	12
		P1	KLY T1	207	43	51	33	19
		P1	2L90	139	28	-	23	13
		P1	2L93	129	54	63	27	16
		P1	5L87	120	36	63	27	15
		P2	KLY 2CB2 internal Fault	222	-	48	34	20

Note 1: KLY 2CB2 internal Fault: tripping KLY T1, 2L92 and SVA T3

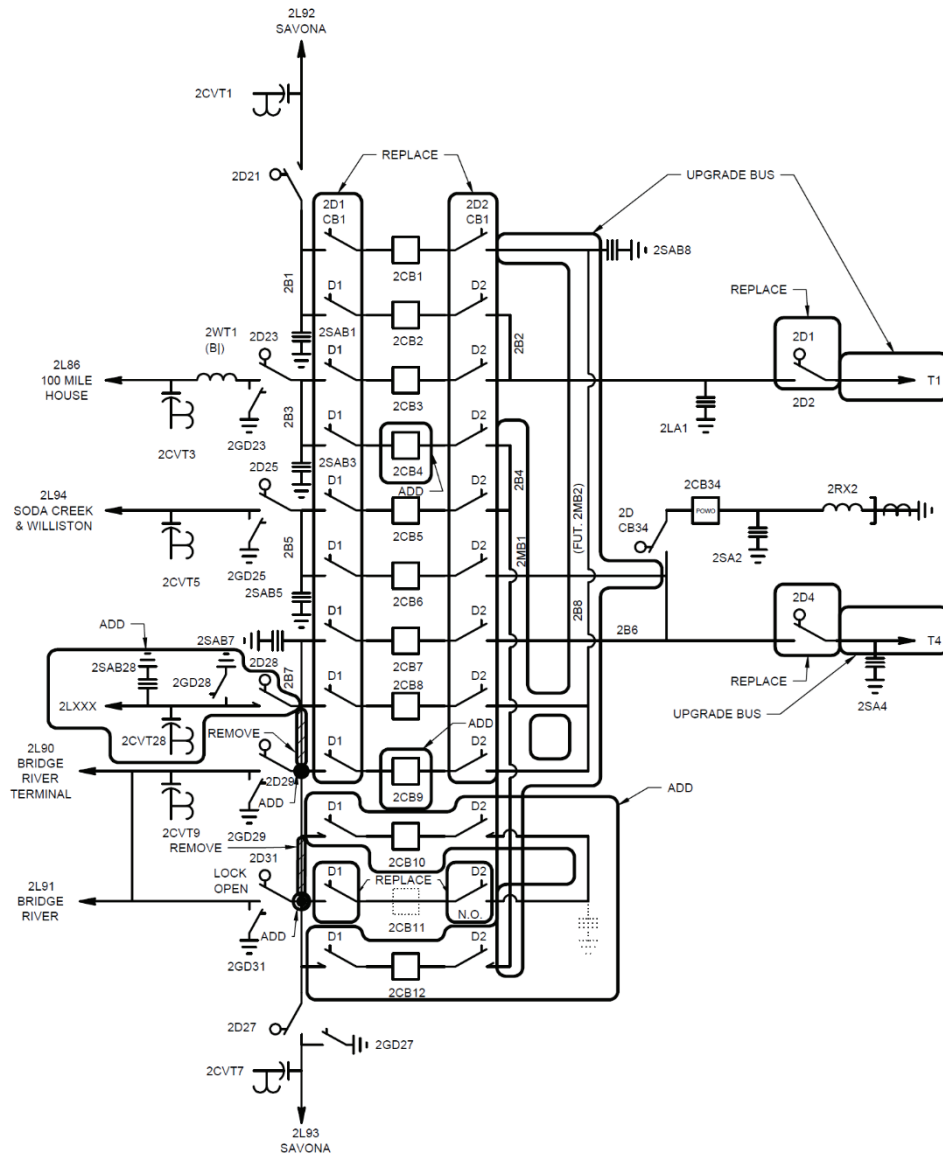


Figure C-2: Stations Planning One-Line Sketch for Kelly Lake Substation 230 kV Upgrade