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November 7, 2024

Patrick Wruck
Commission Secretary
British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

In the Matter of an Application by Kyuquot Power Ltd. for a Certificate of Public Convenience and Necessity to Increase the Demand Capacity of the Kyuquot Power System

Kyuquot Power Ltd. is hereby making an application for approval of a Certificate of Public Convenience and Necessity to increase the demand capacity of the Kyuquot Power system.

This filing includes this cover letter, the Application and Appendix 1.

If further information or clarification is required, please contact the undersigned at 604-992-9860 / gregsunell@gmail.com.

Yours truly,
KYUQUOT POWER LTD.

Original signed by:

Greg Sunell
Consultant to Kyuquot Power Ltd.

In the Matter of an Application by

KYUQUOT POWER LTD.

For a Certificate of Public Convenience and Necessity

To Increase the Demand Capacity of the Kyuquot Power System

November 2024

KYUQUOT POWER LTD.

428 Broughton Avenuue
Niagara Falls , Ontario L2E 3K6

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1. APPLICATION SUMMARY

This is an application to the British Columbia Utilities Commission (the "Commission" or "BCUC") pursuant to the Utilities Commission Act, R.S.B.C. 1996, c. 473 as amended ("Act") by Kyuquot Power Ltd. ("KPL" or the "Applicant") for the approval of a certificate of public convenience and necessity ("CPCN") for the approval of the works and expenditures necessary to increase the capacity of the KPL System to 1123kW (the "Works") (the "Application").

The Application sets forth a description and estimated cost of the Works, the need and financial impact of the Works, alternatives to the Works, stakeholder consultations and recommendations for approval of a CPCN.

The Works includes all construction and alterations on both the BC Hydro system and on the KPL system as necessary to achieve approximately 1123kW demand capability for the KPL System and is composed but not limited to the following:

a) A service upgrade by BC Hydro including, but not limited to, BC Hydro detailed design and construction services. The new BC Hydro service will be 1 phase, 14.4 kV, overhead with an increased demand capacity of 1123 kW at the point of interconnection between BC Hydro and KPL (the "BCH POI"). The new works on the BC Hydro System includes, but is not limited to, a new 1 PH Recloser (the "BCH Recloser")

b) Upgrading of the KPL System including the detailed design and construction necessary to have a demand capacity beyond the BCH POI of 700kW in Phase 1 and 1123kW in Phase 2. The primary addition to the KPL System in Phase 1 is a new recloser to be located near the BCH POI (the "KPL Recloser"). The primary addition to the KPL system in Phase 2 is a new voltage regulator to be located depending on the locale of major new customer loads.

c) a CPCN application and other regulatory processes and including public and First Nations consultation.

The Application includes for the following KPL System parameters:

a) an increase in the existing demand capability of the KPL System is necessary to allow existing and new customers to continue to add new electrical loads and systems. Without additional demand capability, KPL will likely have to consider applying restrictions on certain electrical devices of customers in the foreseeable future.

b) The capital cost of the Phase 1 of the Works is estimated to be $370,000, including contingencies. The largest single cost component is for BC Hydro works in the estimated amount of $175,000, without contingencies.

c) The annual operating cost for KPL of the Works is nominal.

The Application seeks the following key approvals:

a) approval of a CPCN for the Works.

KPL submits that the approval of a CPCN is just and reasonable for the reasons set forth in the material provided in the Application.

2. THE APPLICANT AND BACKGROUND

2.1 The Applicant and Corporate History

The details of the Applicant are as follows;

a) Applicant Name: Kyuquot Power Ltd.
b) Place of Business: Area in and around Kyuquot, BC
c) Head Office 428 Broughton Avenue
Niagara Falls, Ontario L2E 3K6

KPL is a wholly owned subsidiary of Synex Energy Resources Ltd. ("SERL"), which is a wholly owned subsidiary of the parent company, Synex Renewable Energy Corporation, formerly Synex International Inc., ("SXI"). SXI is a public company listed on the Toronto Stock Exchange. SERL develops and operates electrical energy facilities.

KPL holds a Certificate of Public Convenience and Necessity to operate a 14.4 kV single phase distribution line in the area extending from the electrical grid of BC Hydro at Oclucje to Kyuquot. Since June 2006, KPL has supplied electrical power to customers principally in and around Fair Harbour, Chamiss Bay and Kyuquot.

2.2 Significant Commission Decisions

November 15, 2005 – CPCN C-18-01
A CPCN was issued to SERL for the construction and operation of a 14.4 kV single phase distribution line from BC Hydro's grid at Oclucje to Kyuquot on the condition that SERL, or a company formed for the purposes, being a public utility.

November 15, 2005 -- Order No. G-123-05
The Commission approved KPL's application for an Electric Tariff on an interim basis and established a Regulatory Timetable to review the Application by way of a written public process.

February 2, 2006 -- Order No. G-11-06
The Commission approved KPL's Electric Tariff, Terms and Conditions of Service and Rates as permanent.

December 7, 2009 -- Order No. G-137-09
The Commission approved KPL's application for amendments to Revenue Requirements along with certain rate matters.

March 31, 2001 – Order No. G-63-11
The Commission denied KPL's application for exemption from the BC Hydro LGS two part rate.

August 16, 2012 – Order No. G-111-12
The Commission approved KPL's application for amendments to Revenue Requirements along with certain rate matters..

October 9, 2014 – Order No. G-158-14

The Commission approved KPL's application for amendments to Revenue Requirements along with certain rate matters.

June 5, 2018 – Order No. G-103-18
The Commission approved KPL's application for amendments to Revenue Requirements along with certain rate matters. The Commission also directed KPL to file its next revenue requirements application by December 1, 2020 and to include in the filing a depreciation study for its distribution plant assets.

March 15, 2020 – Order No G-50-20
The Commission ordered KPL to provide information in respect of a complaint from a customer of KPL.

May 15, 2020 – Order G-115-20
The Commission established a regulatory timetable for the review of an Investigation into the Safefty and Reliability of the KPL System.

October 19, 2020 – Order G-261-20
The Commission ordered KPL to prepare a vegetation management plan and a powerline maintenance plan as approved by a qualified utility arborist and a qualified professional engineer, respectively. The Order included for the two plans to be submitted by November 20, 2020 and any urgent work to be completed by November 27, 2020

July 12, 2021 – Order G-213-21
The Commission approved KPL's application for amendments to Revenue Requirements (2020) along with certain rate matters.

December 16, 2021 – Order G-377-21
The Commission ordered KPL to hold a workshop and file a communication plan in respect of notices for planned outages and ordered KPL to file a comprehensive outage report in its next Revenue Requirements Application

October 27, 2022 – Order G-302-22
The Commission ordered KPL to provide monitoring and reporting by a certified utility arborist, a qualified professional (annual inspection) and a professional engineer (monitoring the KPL System) as well as other reporting by KPL. The other reporting included for KPL to file a long-term resource plan with a 10 year forecast and plan setting out how it will meet the forecasted load that supports KCFN's community aspirations within one year of the Order. The BCUC Panel determined that subject to the Panel's directions set out in the decision and throughout the proceeding, the Complaint is closed.

February 29, 2024 – Decision and Order G-53-24
The Commission approved KPL's application for amendments to Revenue Requirements (2024) along with certain rate matters. The Commission approved the electric tariff charges on an interim and refundable basis pending completion of the BCUC's current generic cost of capital proceeding and KPL's filing of Intercompany Advance agreements ("Directive 4 of G-53-24").

April 25, 2024 – Order G-121-24
The Commission approved KPL's request to vary Order G-53-24 Directive 4 scope and filing date. Directive 4 was varied to direct KPL to apply to the BCUC for a revised deemed interest on notional debt for permanent rates within 45 days of the BCUC's decision on Stage 2 of the GCOC proceeding and for interim and pending the outcome of Stage 2 of the GCOC proceeding.

August 2, 2024 – Decision and Order G-207-24

The Commission accepted KPL's Resource Assessment Report as adjusted to include load from the Chamiss Bay camp.

2.3 Regulatory background of the Capacity Upgrade Project

KPL distributes and sells electricity purchased from BC Hydro within KPL's service area.

The BCUC conducted a hearing into the Safety and Reliability of the KPL System between May 2020 and October 2022 (the "Reliability Hearing"). The Reliability Hearing included significant attention to the limitations of the demand capacity of the KPL System. There was concern expressed by KPL's largest customer, Ka:yu:'k't'h' / Che:k'tles7et'h' First Nation ("KCFN") regarding the lack of available demand capacity. The BCUC in Directive 7 of Order G-302-22 dated October 27, 2022 required KPL to file a long-term resource plan with a 10-year forecast and plan setting out how it will meet the forecasted load that supports KCFN's community aspirations within one year of the Order.

In response to Directive 7, KPL filed a Resource Assessment Report on October 26, 2023 ("RAR 2023"). RAR 2023 forecasted that the customers of KPL will continue to increase their electricity consumption over the next ten years resulting in the peak demand (kW) at some time exceeding the existing demand capacity of 550kW available at the BCH POI. A primary conclusion of RAR 2023 was that a financially feasible alternative for KPL to resolve potential demand capacity (kW) shortfalls would be to increase the supply capability from BC Hydro at the BCH POI. The increase in supply capability from BC Hydro would be achieved by substituting existing fusing on the BC Hydro and KPL systems with new automated reclosers.

On December 7, 2023, BCUC under Order G-333-23 initiated a proceeding to review RAR 2023 ("Resource Assessment Proceeding" or "Project No. 1599633") and invited KCFN to participate in the proceeding as an intervenor. On August 2, 2024, BCUC closed the proceeding and issued Order G-207-24 which states[1]:

> "Now therefore for the reasons outlined in the decision accompanying this order, the BCUC orders pursuant to section 44.1(6) of the UCA, KPL's Resource Assessment Report as adjusted to include load from the Chamiss Bay camp is accepted"

The August 2, 2024, Decision and Order states[2]:

> "Pursuant to section 44.1(6) of the UCA, the Panel determines that carrying out the Resource Assessment Report is in the public interest, and therefore accepts the Resource Assessment Report as adjusted to include load from the Chamiss Bay camp.
>
> In making this determination, we conclude that KPL has provided sufficient information on how its system demand will grow in the future and has demonstrated a reasonable basis for its approach to forecasting future demand. Additionally, the Panel acknowledges that KPL has outlined how it plans to meet demand forecast alongside alternative options. Based on the evidence available at this time, the Panel is convinced that the capacity upgrade is the preferable option and provides a superior alternative compared to other options." (underlining added)"

[1] Order G-207-24 dated December 7, 2023 - page 2
[2] Decision accompanying Order G-207-24 - page 11 of 12

2.4 Engineering Report for the Capacity Upgrade Project

In early 2020, KPL engaged Primary Engineering and Construction Ltd. ("Primary" or "Electrical Engineers") to liaise with BC Hydro and to design the Capacity Upgrade Project, if appropriate. In July 2020, KPL made an application to BC Hydro for an increase in available peak demand capacity at the BCH POI. Recently, Primary provided a Tech Report dated October 31, 2024 ("Primary Report"), which includes the design and construction cost estimates for a capacity of the BC Hydro and KPL systems (the "Capacity Upgrade Project" or the "Project"). The Primary Report includes BC Hydro documentation ("BC Hydro Invoice") which provides for an increase of peak demand capacity at the POI to 1123kW based on an estimated upfront cost of $143,048.85. The Primary Report is provided in Appendix A to this submission

The Primary Report provides for an increase in peak demand capacity for the KPL system to 1123kW. The increase is split into two phases, namely:

a) Phase 1: Increases the KPL system capacity to 700kW at a construction cost estimate of $213,000. Phase 1 includes the BC Hydro Invoice work and new additions, primarily a recloser, to the KPL system.

b) Phase 2: Increases the KPL system capacity to 1123kW at a further construction cost estimate of $130,000

The proposed Works will enable the BC Hydro Electrical Service Agreement ("ESA") to be revised to 1123kW from 500kW.

3. SYSTEM CAPACITY LIMITATION AND ALTERNATIVES

3.1 Background

The KPL System can currently provide about 550kW of electrical capacity to its customers based on the limit of kW capacity that the BC Hydro system can provide to the KPL System.

During the Reliability Hearing, the issue of kW capacity of the KPL System was subject to detailed review. At the closing of the Reliability Hearing, BCUC issued Order G-302-22 in which Directive #7 states;

> "Within one year of this Order, KPL is directed to (sic) file a long-term resource plan with a 10-year forecast and plan setting out how it will meet the forecasted load that supports KCFN's community aspirations."

On October 26, 2023, KPL filed RAR 2023. A recommendation of RAR 2023 is that KPL authorize the necessary work of BC Hydro and KPL to increase the demand capacity to at least 700kW, subject to BCUC approving a CPCN for the project.

The project is necessary to meet the estimated electric load growth based on historical electricity use and the KCFN community aspirations.

3.2 Projected Electrical Use based on Historical Records

KPL commenced operations in May 2006. RAR 2023 included historical monthly electricity consumption records from Fiscal[3] 2008 to Fiscal 2023 and monthly demand peak (kW) for Fiscal 2008 to Fiscal 2023.

RAR 2023 included a forecast of annual electricity consumption and annual peak demand (kW) at the BCH POI for the period Fiscal 2024 to Fiscal 2034. Forecasts were computed by using the regression modelling embedded in the forecast function of Microsoft Excel. The statistical function includes mean forecasts as well as upper and lower confidence bounds at the 95 percentile.

The energy consumption of KPL customers was 1,705 MWh in fiscal 2023 with a projected increase to 2,098 MWh in fiscal 2034. The average rate of annual compound increase over the period is 1.90% with the 95 percentile confidence bounds at 2,014 MWh and 2,181 MWh.

The maximum annual energy demand of the KPL System was 397 kW in fiscal 2023 with a projected increase to 596 kW in fiscal 2034. The average rate of annual compound increase over the period is 3.77% with the 95 percentile confidence bounds in fiscal 2034 at 509 kW and 684 kW.

The forecast peak annual energy demand of the KPL System exceeded the existing limit of 550kW commencing in Fiscal 2031 with the 95 percentile upper bound in Fiscal 2024 being 546 kW and exceeding 550 kW thereafter.

BCUC Order G-207-24 accepted KPL's Resource Assessment Report as adjusted to include load from the Chamiss Bay camp. Accordingly, a revised forecast of peak annual demand will be higher than the forecasts in RAR 2023. KPL has not been advised of the expected loads of the Chamiss Bay camp, although earlier estimates of camp demand was of the order of 50kW and the camp was serviced by a generation plant of about 65kW capacity.

[3] Fiscal period covers from July 1 to June 30 of the following year (eg Fiscal 2008 is July 1, 2007 to June 30, 2008)

3.3 Project Alternatives

The Resource Assessment Proceeding included representation from the KCFN that their community aspirations included for significant increases in electrical demand based on new ventures that were not included in the load forecasts for RAR 2023.

The Resource Assessment Proceeding concluded that there is a near and longer term need to increase the KPL System to meet forecast electrical demand. Further, the alternatives for addressing the demand capacity limitations of forecast load projections included the following Options:

Option A.	Increasing the supply capability from BC Hydro at the BC Hydro POI;
Option B.	Decreasing the future winter peak demand (kW) by limiting use of specific customer facilities; or
Option C.	Decreasing the future winter peak demand (kW) by utilizing self-generation by customers during winter peak demand periods.

Option A is the only alternative that can be implemented by KPL, on its own. Options B and C require negotiations and agreement with one or two customers of KPL, namely KCFN and/or School District 84 ("SD84"). Further, the extent of the capability of KCFN or SD84 to limit certain facilities or to utilize self-generation at unplanned times is unknown.

The planning and implementation of Options B and/or C would require KCFN and/or SD84 to expend considerable effort and costs. Based on an additional cost of $0.025 per kWh and annual consumption of the KCFN and SD84 of 1240 MWh and 153MWh, respectively, the annual costs of implementing Option B and/or C would need to be less than $30,000 and $4,000 respectively. On a cost basis, SD84 will undoubtedly prefer Option A. KCFN operates as an electrical supplier to local households, businesses, and community services. The ability of KCFN to implement Options B and/or C is unknown. However, given that KCFN provides electricity to a diverse group, the inconvenience and costs associated with Option B and/or C would be highly variable over either a short term or longer term planning horizon.

The Resource Assessment Proceeding canvassed the available options for addressing the demand capacity limitations of the KPL system. BCUC in Decision and Order G-207-24 stated[4]:

> "Based on the evidence available at this time, the Panel is convinced that the capacity upgrade is the preferable option and provides a superior alternative compared to other options."

Decision and Order G-207-24 was dated August 2, 2024. The options available to KPL are unchanged at this time.

4. STAKEHOLDER CONSULTATION

4.1 General

The two largest KPL customer accounts are KCFN at Houpsitas and SD84 at the School and Teacherages. These two accounts represent about 73% and 9%, respectively of total annual electricity sales (in kWh). In addition, it is expected that the two accounts represent the two largest peak demand (kW) loads during the winter season (the peak demand period for the KPL system). Further, KCFN have acquired the tenures for the Chamiss Bay logging camp, which new account would represent the largest potential near-term increase in annual electricity sales and peak demand (kW) load.

[4] Decision accompanying Order G-207-24 - page 11 of 12

KCFN and SD84 both maintain diesel generation capable of providing sufficient electricity to replace the Houpsitas and School and Teacherages electrical loads during times of KPL power outages.

For this CPCN, KPL has limited the consultation efforts to KCFN and SD84.

4.2 KCFN Stakeholder Consultation

The BCUC initiated an Investigation into the Safety and Reliability of the KPL System in May 2020 after the KCFN filed a complaint to the BCUC. The capacity of the KPL System was a primary component of the complaint. BCUC Order G-302-22 closed the complaint but included the directive that:

> Within one year of the Order, KPL is directed to file a long-term resource plan with a 10-year forecast and plan setting out how it will meet the forecasted load that supports KCFN's community aspirations.

KPL filed RAR 2023 on October 26, 2023. RAR 2023 included KPL's efforts to consult with the KCFN. A recommendation of RAR 2023 was for KPL to pursue the increase in peak demand (kW) from the BC Hydro system at the BC Hydro POI.

KPL continues to have emails and telephone conversations regarding the anticipated connection of Chamiss Bay camp to the KPL system. As of October 2024, it had been confirmed that Chamiss Bay intends to proceed with a connection to the KPL system, potentially in early 2025. The forecast energy demand and consumption have not been determined.

The KCFN fully participated in the Resource Assessment proceeding and indicated support for the Project.

4.2 SD84 Stakeholder Consultation

The SD84 has for the past few years, progressed different options to provide improved electrical demand (kW) service from the KPL System. KPL understands that these applications are to resolve existing and potential demand loads within the School.

SD84 has recently indicated to KPL that its electricity purchases in kWh and peak demand load in kW are expected to increase over the medium term (eg two years). SD84 is anticipating the addition/upgrading of some portable classrooms and upgrading heat exchange requirements for the gymnasium and other facilities at the school.

SD84 requested to be an intervener in the RAR 2023 proceeding but did not participate further.

5. PROJECT DESCRIPTION, COSTS AND SCHEDULE

5.1 Project Description

The Project includes the works necessary to upgrade the BC Hydro and KPL systems in order to increase the capacity in kW of the KPL system for the benefit of KPL customers. The capacity of the KPL System is currently about 550 kW and would increase to 1123 kW. The Primary report included in Appendix A describes the Project which is split into two phases, namely:

a) Phase 1: Increases the KPL system capacity to 700kW at a construction cost estimate of $213,000. Phase 1 includes the BC Hydro Invoice works and new additions to the KPL system.

b) Phase 2: Increases the KPL system capacity to 1123kW at a further construction cost estimate of $130,000. Phase 2 includes new additions to the KPL system only.

The Project upgrade components can be described generally as follows:

a) BC Hydro upgrades

The BC Hydro upgrades include but are not limited to the changeout of the fuse at Ehatis to a single phase recloser, other lesser upgrade works on the BC Hydro system, all related studies and engineering by BC Hydro and all other incidental works. The BC Hydro upgrades will make 1123 kW available at the BCH POI.

b) KPL Phase 1: Supply and installation of a KPL recloser near the BCH POI

KPL work includes the replacement of the fuse near the BCH POI with a single phase recloser with a trip capacity rating of 700kW and related electrical works.

c) KPL Phase 2: Supply and installation of a KPL voltage regulator and revised recloser settings

KPL work includes the installation of a voltage regulator at a location to be determined based on size and location of new KCFN facilities and the setting of the KPL recloser limit to 1123kW.

d) Engineering and related Services

KPL has engaged Primary to provide engineering services regarding the design, construction, inspection and approval of the facilities. KPL also anticipates that minor testing, delivery and related services will be required from qualified third parties during the acquisition and construction of the Project.

e) Regulatory Approval from BCUC

KPL will prepare a CPCN and make submissions and responses to BCUC and Intervenors, if any, during the CPCN proceeding in respect of the Project.

The Project may change during the CPCN application process. The final description of the Project will be as approved by the BCUC under a CPCN.

5.2 Preliminary Estimate of Project Cost

The Project Cost shall be those costs incurred by KPL from third parties, without markup. The Project Cost shall be subject to final review and acceptance by the BCUC, on a prudent expenditure basis, as determined in a future KPL revenue requirements application.

The preliminary cost estimate for the Project at this time, without contingency, is $285,000 for Phase 1 and $130,000 for Phase 2 and is composed of the following;

a) BC Hydro upgrades: $175,000

The preliminary estimate is based on a budget quotation provided by BC Hydro, as included in Appendix A. The BC Hydro Invoice is for an amount of $136,237.00 (plus GST), payable in full prior to December 23, 2024. The regulatory requirement for a CPCN means that the December 23, 2024 deadline may not reasonably be met. KPL requested BC Hydro to extend the December 23, 2024 deadline. However, BC Hydro advised that payment deadline date cannot be extended and, further, that the terms and conditions of the BC Hydro Invoice include "If your account is not paid within 90 days, a new design estimate and new invoice will need to be issued.". KPL understands that if KPL makes a new application to BC Hydro in early January 2025 and such application is valid for about 3 months later (eg a new payment deadline date of March 31, 2025), BC Hydro would endeavour to review/amend only the costs and not include a design review. In this case, BC Hydro would expect to be able to provide a new BC Hydro Invoice soon after early January 2025. The BC Hydro Invoice is an estimate only and is subject to changes depending on actual costs/efforts incurred by BC Hydro.

The cost of the BC Hydro upgrades has been estimated at $175,000 which is composed of the BC Hydro Invoice plus added inflation/changes, carrying costs, engineering administration and certifications by Primary and other applicable costs.

b) Phase 1 - KPL Recloser: $70,000

The preliminary cost estimate for the supply and installation of the KPL Recloser is based on a construction cost estimate provided by Primary. The Primary estimate is based on supplier quotations and budget estimates by qualified contractors. The recloser is not equipped with remote access capability as the location of the BCH POI is not electronically accessible.

c) Phase 2 - KPL Voltage Regulator: $130,000

The preliminary cost estimate for the supply and installation of the KPL Voltage Regulator is based on a construction cost estimate provided by Primary. The Primary estimate is based on supplier quotations and budget estimates by qualified contractors.

d) The preliminary cost estimate for Engineering and Project Management Services: $20,000

The preliminary cost estimate for Engineering and Project Management Services excludes any such related costs incurred by BC Hydro, as BC Hydro has included those costs in their cost estimate. The preliminary costs for engineering and project management services is in addition to the services included in the KPL Recloser or Voltage Regulator estimates. The cost estimate is primarily based on project management costs and the potential need for site visits and inspections. The cost estimate includes an allocated reduction of costs to account for potential non-Project services to be carried out concurrently with site visit(s) for the Project.

e) Regulatory Approval of a CPCN from BCUC: $40,000

The preliminary cost estimate for regulatory approval of a CPCN from BCUC is based on a preliminary cost estimate by KPL. KPL has previously been involved in revenue requirements applications and generally estimated such applications at $10,000 each. The difficulty and labour time requirements of a CPCN are estimated to approximate a revenue requirements application, which includes internal, consultant and legal counsel costs. Prior KPL revenue requirement applications have not included for responses/submissions by intervenors or KPL legal counsel costs.

KPL expects that this CPCN will be on an expedited basis and does not anticipate significant Intervenor involvement/questions. KPL does anticipate some costs due to the requirement for legal counsel.

The installation costs for electrical equipment in isolated locations within BC are highly variable. A significant factor in the installation costs is the availability of contractors at the time of actual construction. Further the BC Hydro estimate is anticipated as being within +30%/-20%. Accordingly, a contingency of about $65,000 for Phase 1 or 22% is realistic for approval purposes.

The project cost estimate for Phase 1 including a $65,000 contingency is $370,000.

5.3 Project Timing

The timing of the Project has a significant impact on KPL's customers. Early implementation of the Project is critical, for each of project security, project cost and customer need. Early implementation will require a CPCN for the Project to be issued by March 30, 2024.

For project security, without a commitment from KPL by March 30, 2025, there is no assurance that BC Hydro will be able to retain their design solutions included in the current BC Hydro Invoice. Without early implementation, a new BC Hydro design parameter review could be anticipated and would involve a protracted time period.

For project costs, in addition to the uncertainty of a new BC Hydro design and cost estimate, there is the significant cost of the CPCN proceeding. If the CPCN proceeding does not conclude promptly, the regulatory cost will exceed the estimate of $40,000 included in this application. As a very small utility trying to reduce regulatory cost impacts on customers, KPL enquired about receiving approvals for the Project outside of a CPCN process but was advised that the CPCN process was strongly preferred. Accordingly, KPL is approaching this CPCN application including a request for expedited scheduling and decision making.

For customer need, KCFN or its wholly owned entities, have contended in the Resource Asssessment Proceeding and in discussions regarding Chamiss Bay camp, that their business plans and electrical upgrades are being re-assessed and/or reduced due to the uncertainty about the availability of electrical demand from the KPL system.

Phase 1 of the Project is anticipated to require about 12 months from initiation to commissioning. Initiation of the project can occur promptly after a CPCN is issued. The timing is uncertain due to the long lead times for materials ordering. The BC Hydro construction time is 40 days after all KPL submissions/payments are completed and assuming materials are available in-stock. BC Hydro may or may not have the recloser for this project in-stock at the time of KPL payment to BC Hydro. For KPL, the materials order is anticipated to take up to 12 months after initial payment. Depending on the progress of the CPCN proceeding, KPL may choose to order the recloser prior to issuance of the CPCN.

The schedule for Phase 1 of the Project, is primarily dependent on the date of approval of the CPCN. An approval date later than March 30, 2024 risks the current design approval of the BC Hydro works as well as deferring commissioning of the BC Hydro works to beyond the 2025/2026 winter peak demand period.

6. REGULATORY SCHEDULE AND FINANCIAL IMPACT ON KPL CUSTOMERS

6.1 Regulatory Schedule

The Project requires a prompt review and approval of this application for a CPCN. The BC Hydro Invoice is valid on the basis that full payment is received by BC Hydro on or before December 23, 2024. KPL has confirmed with BC Hydro that if the payment condition is not met, KPL must make a new application for the capacity upgrade and BC Hydro, at its discretion, will reassess its existing design and determine a new cost estimate. The present BC Hydro Invoice was provided more than 2 years after the KPL application in July 2021. BC Hydro has indicated that should the new application be submitted soon after January 1, 2025, BC Hydro may decide to only update its cost estimates, which would entail a limited time period. The new BC Hydro Invoice would then be valid for 90 days after delivery. Further, unless the Project is commenced in the first quarter of 2025, the increased capacity is not expected to be available until the 2026/2027 peak demand winter season.

KPL is proposing that the CPCN proceeding not allow for any intervenors other than KCFN and that the KCFN intervenor response times be minimized and limited to issues directly related to the CPCN. KCFN was the only intervenor at the Resource Assessment Proceeding. Further, during the Resource Assessment Proceeding, the KCFN strongly appealed for promptly providing a demand capacity increase for the KPL system.

6.2 Financial Impact on KPL Customers

The principal change to existing customers of KPL, other than increased available demand capacity, is an increase in the cost of electrical service of KPL. The costs of the Project, including the CPCN proceeding, will represent an addition to the rate base of KPL. For information purposes, KPL has estimated the increase in its cost of service in the first year after commissioning of Phase 1 of the Project to be $44,000, broken down as follows:

a) Capital Structure and Return: $25,160

   Since commencement of operations, KPL has been approved for a notional capital structure of 40% equity and 60% debt. The capital structure was approved in Order G-231-21 dated July 12, 2021 and included financial costs of notional debt and notional equity of 5.0% interest and 9.50% return on equity. The weighted average cost of capital ("WACC") calculates as 6.80 percent. The most recent KPL revenue requirements application in 2024 was approved with an interim WACC of 6.80%.

   Based on a Phase 1 cost of $370,000, the cost at WACC of 6.8% would be $25,160 annually (in year 1).

b) Amortization and Depreciation: $14,800

   The Project assets have a long service life. For KPL powerline assets the average service life is about 30 years. Assuming an average service life of 25 years and a Phase 1 cost of $370,000, the cost of Amortization and Depreciation would be $14,800 annually (for 25 years)

c) Annual Operating and Maintenance: $ nominal

The increase in annual operating and maintenance costs due to the KPL system incorporating a recloser and other improvements is anticipated to be less than $1000 annually and may be further reduced in the future if internet connectivity becomes available at the BCH POI.

KPL is proposing to ignore the increased annual operating and maintenance costs on the basis of nominal, if any, additional costs.

Using a fiscal 2026 forecast of electricity sales of 1,800,000 kWh, the approximate cost per kWh in year 1 of operation of Phase 1 would be about $0.022 per kW. The negative financial impact on customers will be rapidly reduced and/or eliminated should new customers emerge who would not have connected without additional capacity on the KPL system being available. The KCFN stated in the Resource Assessment Proceeding their plans for such new loads.

7. SUMMARY AND CONCLUSION

7.1 Summary

The capacity of the existing KPL system has been reviewed repeatedly over the past few years. KPL recently filed RAR 2023, which includes the need and alternatives for an increase in the peak demand capacity (kW). RAR 2023 concluded that an increase in the supply capability from BC Hydro at the BC Hydro POI, if financially feasible, would be the most attractive option to provide increased peak demand capacity.

KPL made an application to BC Hydro to increase the capability at the BCH POI in July 2021. Subsequently, KPL and BC Hydro have advanced a technical review and determined complementary changes to both the KPL system and the BC Hydro system which will increase the supply capability from 550kW to 700Kw in Phase 1 and 1123kW in Phase 2. The preliminary project cost estimate to completion of Phase 1 is $370,000.

The BCUC has been well informed regarding the desire of KCFN for the KPL system to have increased peak demand capacity. This application for a CPCN adequately addresses the BCUC request in Order G-302-22 that KPL provides a plan to meet the forecasted loads of KCFN.

The increase in capacity of the KPL system may be needed within the foreseeable future and approval of the CPCN prior to March 30, 2024, is necessary and prudent.

The financial impact on KPL customers would be an expected KPL cost of service increase of about $40,000 in the first year after commissioning of Phase 1. The expected increase in revenue requirement of KPL from the capacity increase will be partially/fully offset by future increases in electricity sales to the Chamiss Bay camp and other potential facilities, which require a capacity increase to fully proceed.

7.2 Conclusion

KPL considers that the demand capacity upgrade project is necessary, prudent and in the interests of the customers of KPL and requests the BCUC provide approval of a CPCN for the demand capacity upgrade on an expedited proceeding basis.

The financial costs of the Project will be subject to BCUC review under a future revenue requirement application of KPL.

PRIMARY

KELOWNA OFFICE
7 - 2250 Leckie Road
Kelowna, BC V1X 7K1
250.859.6859
kelowna@primaryeng.com

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Primary Engineering and Construction – Tech Memo

Subject	**KPL – Capacity Increase**
Date	**November 4, 2024**
Revision	**1**
Done by	**James Kivai, E.I.T.**
Reviewed by	**Shannon Mason - Distribution Program Manager** **Ben Lee, P.Eng. – Engineer of Record**
Project	**HR-0014191 – KPL Capacity Upgrade**

PERMIT# 1002839

BACKGROUND

Kyuquot Power Ltd. (KPL) owns and operates a 14.4kV single phase distribution utility (44km overhead / 12km submarine cable) originating at Oclucje (near Zeballos) and extending to Fair Harbour, Chamiss Bay and then Houpsitas / Walters Island. KPL commenced operations in May 2006. The utility serves 41 customers, the largest of which is the First Nation at Kyuquot ("KCFN"). Currently, KPL has an electrical service agreement (ESA) with BC Hydro that limits the maximum demand to 500kVA.

KPL would like to increase the authorized maximum demand from BC Hydro to accommodate future load growth. Primary Engineering investigated the requirements to increase the maximum demand to 78A (1123kVA). A system study was conducted on KPL distribution network and a BC Hydro inquiry was made to understand the necessary upgrades required. BC Hydro has authorized the increase to 78A (1123kVA) following the installation of new protective devices (electric reclosers) on both BC Hydro and KPL systems. However, the KPL distribution network will be limited to 48.6A (700kVA) due to the voltage drop limitations. For KPL to utilize the full load increase greater than 48.6A (700kVA) and up to the authorized load 78A (1123kVA), a voltage regulator would be required on the system. This would likely be positioned near Chamiss Bay, but ultimately would be positioned as close as possible to proposed load increases. Below is a summary of the requirements:

1. Increase total system capacity up to 700kVA
    a. BC Hydro to upgrade existing protective device that feeds the KPL distribution system. BC Hydro will replace existing fuse with an electronic recloser
    b. KPL to install new electronic recloser to satisfy BC Hydro's requirements
2. Increase total system capacity from 700kVA to 1123kVA
    a. KPL to install new single phase voltage regulator on new pole

SCOPE OF WORK

1. Increase total system capacity up to 700kVA

Total cost of approx. $213K
The system improvements required to increase capacity to 48.6A (700kVA) is as follows:

1.1 BC Hydro Scope

The BC Hydro scope of works would consist of:

- Install single phase recloser on new pole
- Install transformer power supply on new pole
- Removal of existing fuse protection
- Labour/vehicle costs
- Overhead loadings
- Design and engineering

Total project cost (including GST): **$143,048.85**

Note the invoice provided by BC Hydro is valid for 90 days (till December 23, 2024). Should this time lapse, BC Hydro will need to re-quote. No further design is expected in that case, only re-pricing. See BC Hydro Invoice and Terms and Conditions in Appendix A.

1.2 KPL Scope

The KPL scope of works would consist of:

- Final design, construction and survey
- Salvage existing fuse and install single phase recloser on new pole
- Commissioning
- TSBC Permit
- Record inspection, drawings and PSA 5.4 Package submission

Total estimated project cost: $70,000 +/- 20%

Note this cost is estimated only as material, contractor and design costs do fluctuate and quotes are typically only valid for 30 days. See KPL design plans (Site Plan, Recloser details, SLD Extract, TCC plot) in Appendix B.

2. Increase total system capacity from 700kVA to 1123kVA

In addition to the above scope of works (Section 1), the system improvements required to increase capacity from 48.6A (700kVA) up to 78A (1123kVA) is as follows:

Total cost of approx. $130k

2.1 KPL Scope

(no BC Hydro scope required)

The KPL scope of works would consist of the following:

- Design, construction and survey
- Install new single phase voltage regulator on new pole
- Commissioning
- TSBC Permit
- Record inspection and drawings

Total estimated project cost: $130,000 +/- 30%

Note this cost is estimated only as material, contractor and design costs do fluctuate and quotes are typically only valid for 30 days. The scope has been determined through conceptual engineering modelling for total system voltage drop with multiple load positions being considered. This assumes that the distribution voltage provided by BC Hydro at the point of interconnection is within acceptable tolerances. As this is only concept in nature and no actual position for the regulator has been confirmed, there is no current design drawing available.

APPENDIX A

BC Hydro Power smart

Prepared for
KYUQUOT POWER LTD
4248 BROUGHTON AVE
NIAGARA FALLS ON L2E 0A4
CANADA

Account number	Invoice number	Invoice date	Page
12727400	51345885	Sep 24, 2024	1 of 2

Invoice details

Design Number: 0004975032
Project Site: FAIR HARBOUR RD, ZEBALLOS BC V0P 2A0

Customer share of construction costs	$136,237.00
Less: Calculated value of work completed by customer	$0.00
Net Construction Cost	**$136,237.00**
GST 5% (GST Registration #R121454151)	$6,811.85
Invoice Total	**$143,048.85**

ACCOUNT BALANCE OWING **$143,048.85**

Account Balance Owing

$143,048.85

Payment required before work can start. Invoice is valid for 90 days. After December 23, 2024, a new estimate and invoice will be generated.

To avoid delays to your project, please pay your invoice via online banking or in person at your bank and:

1. Select BC Hydro as a payee
2. Enter your Account Number 12727400

To ensure your payment is properly credited towards your project, please include the account number shown on this bill. Do not pay using the invoice number.

Kindly note that your local BC Hydro office will not accept payments for your design project. Payments by cheque may take up to 10 working days to process. This invoice is valid for 90 days.

For payment inquiries, please call 604-224-9376 or 1-800-224-9376 (toll-free).

BC Hydro Power smart

Prepared for
KYUQUOT POWER LTD

Account number
12727400

For payment by cheque, return this portion with your payment.

Payments should be made to BC Hydro.
Please allow enough time for us to receive your payment by the due date shown.
Please don't mail cash or post-dated cheques.

Mail cheque to:
BC Hydro
PO Box 9501 Station Terminal
Vancouver, BC V6B 4N1

$143,048.85
Expires on December 23, 2024

Amount Paid
$

56 00 000012727 400 014304885 000000000

⑆06390⑈900⑆ 96

NOTES

- The design estimate is valid for 90 days from the date of this invoice.
- If your site conditions and/or project scope are changed, and/or the BC Hydro tendered civil construction bids are higher or lower than estimated, the design estimate may be revised and a revised invoice will be issued for the change in design estimate.
- If your account balance is not paid within 90 days, a new design estimate and new invoice will need to be issued.
- Project scheduling, release of materials, and construction will not proceed until your full payment has been cleared by our payment control department.
- You should expect to receive a payment receipt by email within 3 business days after your payment has been cleared.
- A terms and conditions letter, outlining the project details, roles and responsibilities will be sent to you and any identified project agents, consultants and/or contractors separately from this invoice. BC Hydro will consider payment of the invoice to be agreement to all terms, conditions and responsibilities set out in the terms and conditions letter.

Subject to unforeseen changes to the project, your final account balance may not be exactly as shown.

Mail cheque to:
BC Hydro
PO Box 9501 Station Terminal
Vancouver, BC V6B 4N1

To avoid delays to your project, please pay your invoice via online banking or in person at your bank and:

1. Select BC Hydro as a payee
2. Enter your Account Number 12727400

KYUQUOT POWER LTD
4248 BROUGHTON AVE
NIAGARA FALLS ON L2E 0A4
CANADA

BC Hydro
Power smart

Courtenay District Office
330 Lerwick Rd,
Courtenay, BC V9N 9E5

October 15, 2024

Project No. 4975032

Greg Sunell
gregsunell@gmail.com

Dear Greg:

Your design project terms and conditions for
Primary Service Alteration for Kyuquot Power Ltd.

We're pleased to provide below a detailed design and construction service letter for your project. Your service will be 1 phase, 14.4 kV, overhead to your existing private primary line with new works (1 PH Recloser) on upstream BC Hydro infrastructure to accommodate an increased demand of 1123 kW on KPL private line.

Access your project online

If you and your project representative(s) wish to set up or track this project online, please visit our design service connection request application at http://www.bchydro.com/myhydroconnections.

Please review and keep a copy of this letter as it includes important information, terms, conditions and responsibilities related to your project. By processing the net payment in your invoices, you will agree to all terms, conditions, and responsibilities set out in this letter.

Your Project Cost

We have completed your design and estimate and are ready to invoice you for the full amount required to schedule your project construction. Please note that no work will commence prior to full payment. The project invoice will be emailed to the non-energy account owner with specific payment instructions.

BC Hydro
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Project Delays

We will need to review and revise your design requirements and re-estimate project costs and adjust the estimated in-service date if:

- Your construction work is delayed;
- If site conditions require a revision in design or costs;
- If changes are made to the original design;

When do you need power?

Based on our discussions, we will need more information to estimate your in-service date (ISD). It's important to note that for this project, BC Hydro's construction lead time for service energization is 40 business days after you have completed your pre-requisite activities listed below.

Once your project has advanced further and you, the general contractor or project manager know your construction schedule, please contact me to determine your estimated in-service date.

Please note that while BC Hydro endeavors to complete its responsibilities in a timely manner, the estimated ISD is subject to change without notice due to other safety and reliability priorities on the electrical system. BC Hydro is not liable for any impacts or delays to your project resulting from changes made to the estimated ISD.

Your Pre-requisite Activities

BC Hydro cannot start our work until you have completed the following pre-requisite activities:

- Payment
- Submission of up-to-date operating permit
- Complete and submit an Electric Service Agreement (ESA) form

Your pre-requisite activities: Construction checklist

☑ Identify and determine any site-specific environmental sensitivities and requirements.

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- ☑ Remove and/or trim trees and vegetation as required, both on public and private property, to provide proper clearances during construction.
- ☑ Ensure the area of the installation on private property is free of trees and other obstacles to ensure safety and access to facilities.

Your pre-requisite activities: Electrical connection checklist

BC Hydro's responsibilities

- ☑ Install all overhead electrical materials up to the Service Connection.
- ☑ Provide site inspection for BC Hydro approval.

Your environmental responsibility

The design doesn't consider site specific environmental sensitivities and requirements. It's solely your responsibility to:

- Determine site specific environmental sensitivities and requirements.
- Implement and build the designed electrical infrastructure in an environmentally safe and lawful manner.

Information Collected by BC Hydro

BC Hydro collects your personal information for the purpose of fulfilling your electrical connection request and processing payment for the Work. We may need to disclose your information to the developer, your electrical contractors, general contractor, and project managers. If required, we may also share your details with the local municipal government, Technical Safety BC, and other utilities to coordinate service. If you are acting as an agent on behalf of the customer, you warrant you have their permission to provide their personal information.

BC Hydro collects this information under the authority of section 26(c) of the Freedom of Information and Protection of Privacy Act.

.

BC Hydro
Power smart

If you have any questions concerning this project, please contact me.

Sincerely,

S. Kemp

BC Hydro | Design Technician

T: (250) 897-7427
M: (250) 897-7445
E: shane.kemp@bchydro.com

Helpful Links:

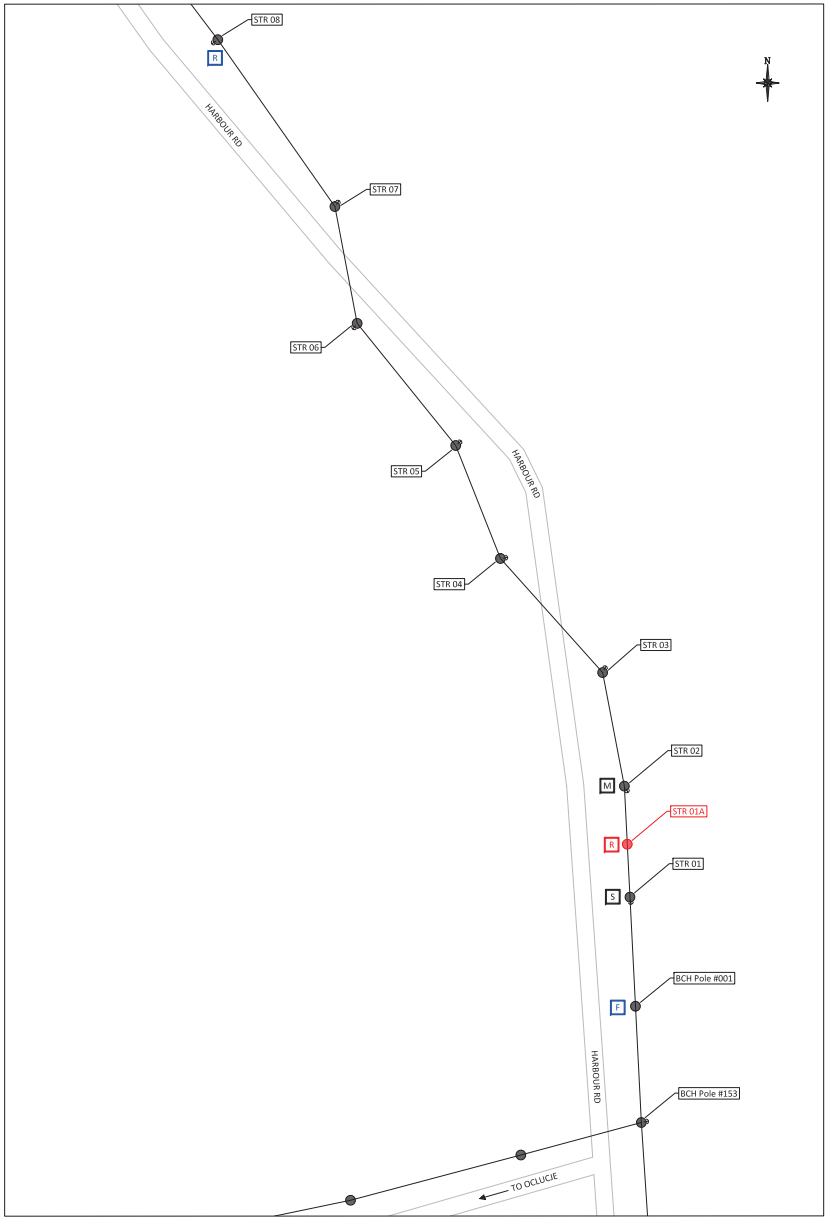
bchydro.com
Secondary Metering Guide
Electrical Connections
Electric Service Information(ESI) form
Distribution Technical Standards and Guides

ABOUT OUR SURVEY: We are always looking for ways to improve service to our customers; you will be emailed a survey once this project is completed. We hope that you are able to provide us your feedback about the service you received during the design process with BC Hydro. All information collected in the survey is for business purposes only and will not be shared with any outside parties. If you have any questions about the survey, or about how your answers will be handled, please contact our program department at CPO@bchydro.com. For all other inquiries, please contact the BC Hydro designer listed above.

4

APPENDIX B

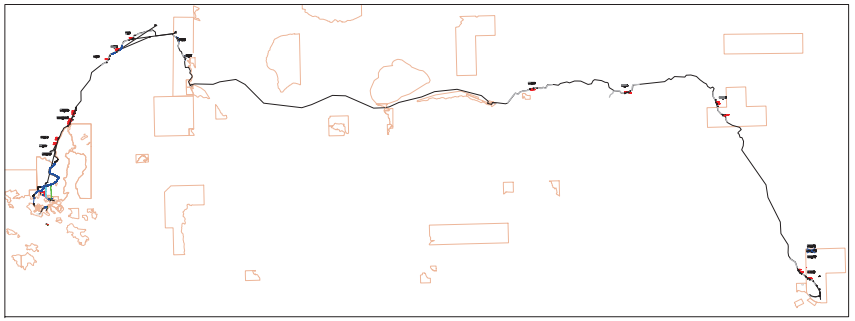
THIS PAGE IS INTENTIONALLY BLANK. THE FOLLOWING PAGES INCLUDE REFERENCED DESIGN DRAWINGS APPLICABLE TO THIS REPORT.



STRUCTURE FRAMING DETAILS				
STRUCTURE ID	POLE HEIGHT & CLASS	REQUIRED WORK	STANDARD DRAWING #	ANCHOR DETAILS
BCH #001	45/2	EXISTING FUSE TO BE SALVAGED		
STR 1	45/2	EXISTING LOAD BREAK SWITCH		
STR 1A	45/2	INSTALL NEW WOOD POLE FRAME TOP AS 1-PH ELECTRONIC RECLOSER INSTALL RECLOSER GROUND	7145 5505	
STR 2	60/2	EXISTING BC HYDRO PRIMARY REVENUE METER		
STR 8	50/2	EXISTING RECLOSER TO BE SALVAGED		

LOCATION MAP

N.T.S.



OVERVIEW: OCLUCJE TO WALTER'S ISLAND

GENERAL NOTES:

1. ALL COMPONENTS OF THE CONSTRUCTION MUST BE CANADIAN STANDARDS ASSOCIATION (CSA) CERTIFIED OR BEAR A 3RD PARTY EQUIVALENCY MARKING ACCEPTABLE TO THE LOCAL ELECTRICAL INSPECTION AUTHORITY HAVING JURISDICTION.
2. EXISTING PRIMARY CONDUCTORS ASSUMED TO BE 1/0 ACSR AND NEUTRAL CONDUCTORS ASSUMED TO BE #2 ACSR SPARROW.
3. DRAWING MUST BE PRINTED IN COLOUR.
4. ANY VARIANCE TO DESIGN SHALL BE APPROVED BY ENGINEER ON RECORD PRIOR TO CONSTRUCTION.

LEGEND	
	PRIMARY OVERHEAD
	GROUND
R	RECLOSER
M	METER
S	SWITCH
	GUY & ANCHOR
	POLE

COLOR ASSIGNMENTS

EXISTING SALVAGE INSTALL

REVISIONS					REFERENCE DRAWINGS		
#	DATE	DESCRIPTION	DESIGNED BY (FULL NAME)	CHECKED BY (FULL NAME)	DRAWING No.	DESCRIPTION
0	2024-02-18	ISSUED FOR CONSTRUCTION	M. SCHIPPI	S. MASON		

P.ENG STAMP & DATE

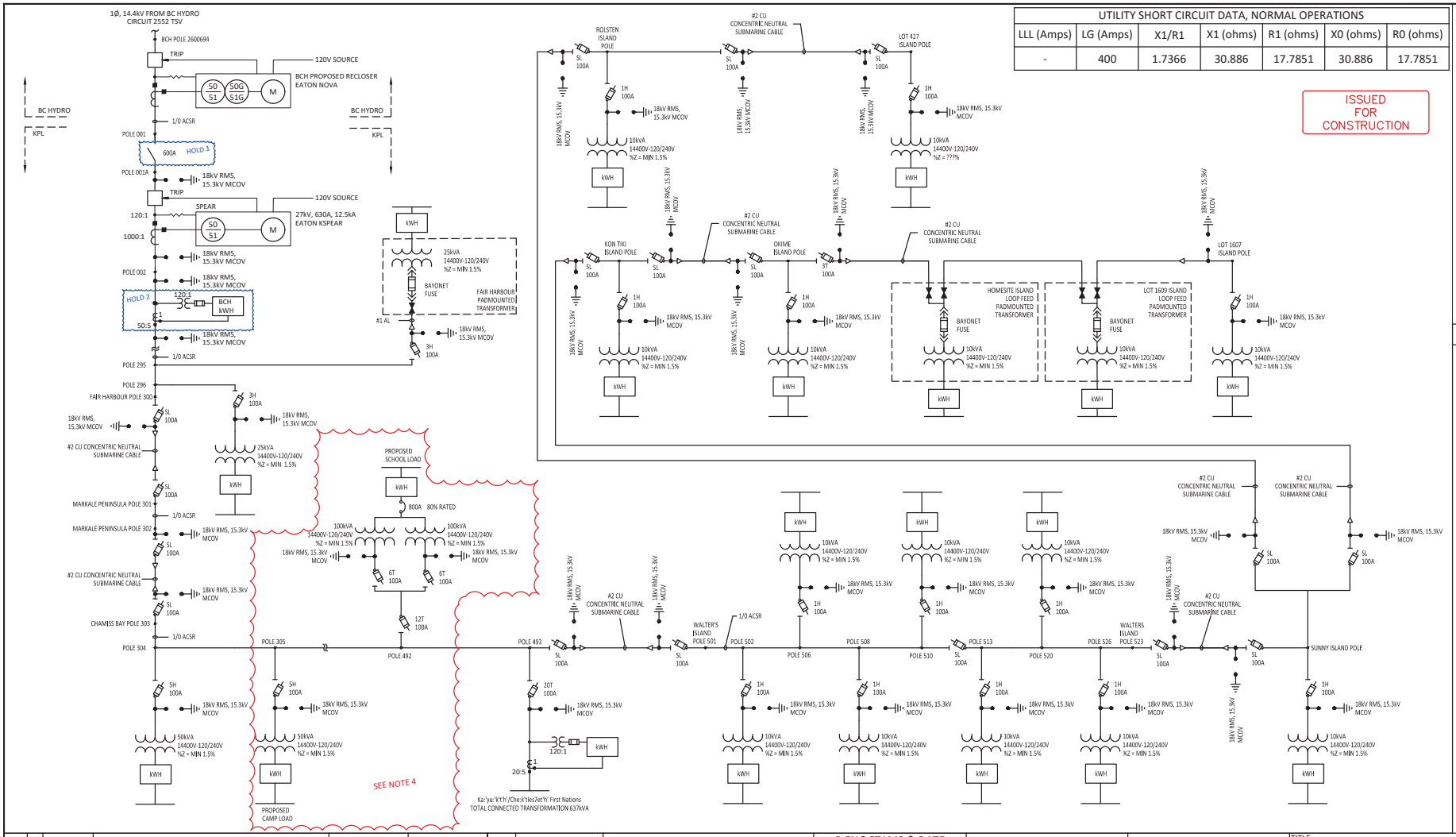
ISSUED FOR CONSTRUCTION

PRIMARY
KELOWNA OFFICE
7 - 2293 Leckie Road
Kelowna, BC V1X 7K1
250.763.0401
kelowna@primaryeng.com

TITLE

KPL POWER
OCLUCJE TO FAIR HARBOUR
VANCOUVER ISLAND
SITE PLAN - KPL SERVICE ENTRANCE

SCALE	
1:1000	
DRAWING NUMBER	REVISION
HR-2847-SP21	0



UTILITY SHORT CIRCUIT DATA, NORMAL OPERATIONS						
LLL (Amps)	LG (Amps)	X1/R1	X1 (ohms)	R1 (ohms)	X0 (ohms)	R0 (ohms)
-	400	1.7366	30.886	17.7851	30.886	17.7851

ISSUED FOR CONSTRUCTION

NOTES:

1. UNLESS NOTED OTHERWISE, ALL CONNECTION POINTS ARE ASSUMED TO BE NORMALLY CLOSED.
2. ALL COMPONENTS OF THE CONSTRUCTION MUST BE CANADIAN STANDARDS ASSOCIATION (CSA) CERTIFIED OR BEAR A 3RD PARTY EQUIVALENCY MARKING ACCEPTABLE TO THE LOCAL ELECTRICAL INSPECTION AUTHORITY HAVING JURISDICTION.
3. EXISTING TRANSFORMER FUSE SIZING IS ASSUMED BASED ON TYPICAL UTILITY DISTRIBUTION FUSING PHILOSOPHY
4. ONLY STRUCTURES 001A, 305 AND 492 WILL HAVE NEW ASSETS INSTALLED UNDER THIS APPLICATION, ALL OTHER ASSETS ARE EXISTING IN SERVICE.
5. BC HYDRO REVENUE METER EXISTS ON POLE 002. ALL OTHER DOWNSTREAM REVENUE METERS ARE OPERATED BY KYUQUOT POWER LTD.

HOLDS:

1. SWITCH RATING FOR CONFIRMATION BY CONTRACTOR.
2. BC HYDRO TO CONFIRM METER CT SIZE.

LEGEND

	POWER TRANSFORMER
	GROUND
	GANG OPERATED NON-FUSED DISCONNECT LOAD BREAK
	ARRESTER
	FUSE
	FUSED CUTOUT NON-LOAD BREAK
	POTENTIAL TRANSFORMER
	BOLTED CABLE TERMINATION
	DIP W/ CABLE TERMINATION
	SEPARABLE TERMINATION
* #	CURRENT TRANSFORMER * INDICATE RATIO OF CURRENT TRANSFORMER # INDICATE QUANTITY REQUIRED POLARITY MARK
_T	T SPEED EXPULSION FUSE LINK RATING
__H	H SPEED EXPULSION FUSE LINK RATING
DM	DIGITAL METERING
kWH	KPL REVENUE METERING
BCH kWH	BCH REVENUE METERING
SL	SOLID LINK REPLACEMENT FOR EXPULSION FUSE

REVISIONS

#	DATE	DESCRIPTION	DESIGNED BY (FULL NAME)	CHECKED BY (FULL NAME)
3	2024-02-21	ISSUED FOR CONSTRUCTION	M. SOMPPI	S. MASON
2	2022-11-03	REVISED AS PER 5.1 COMMENTS	M.COX	B. LEE
1	2022-10-13	ISSUED FOR CONSTRUCTION	G. TRUEMAN	S. MASON
0	2022-10-04	RECORD DRAWING	G. TRUEMAN	S. MASON

REFERENCE DRAWINGS

DRAWING No.	DESCRIPTION
-	-

P.ENG STAMP & DATE

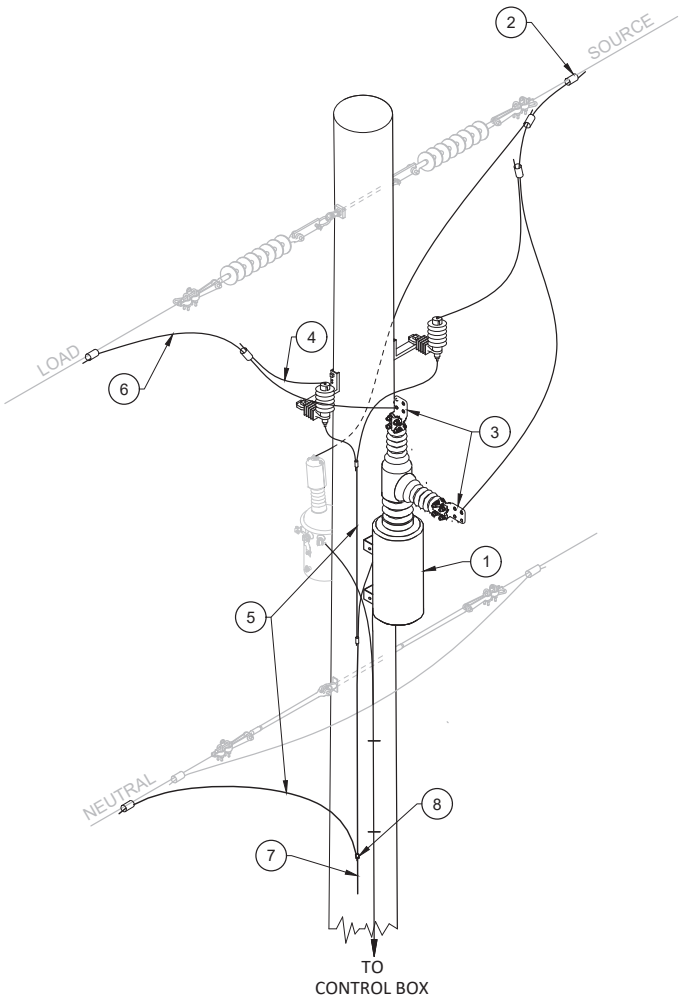
PRIMARY
KELOWNA OFFICE
7 - 2250 Leckie Road
Kelowna, BC V1X 7K1
250.763.0401
kelowna@primaryeng.com

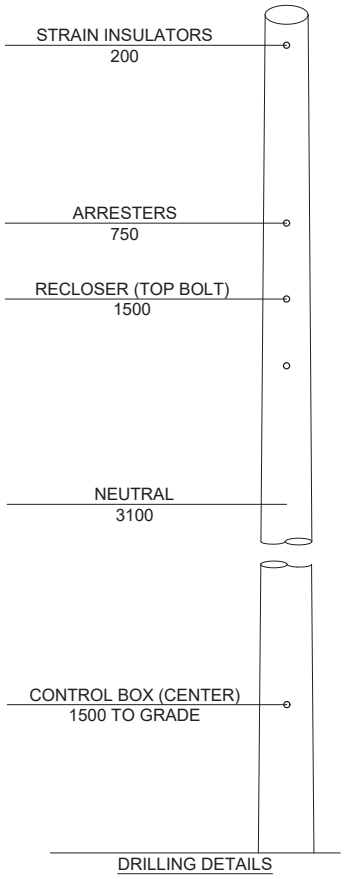
TITLE

KYUQUOT POWER LTD
OCLUCJE TO WALTER'S ISLAND
PRIMARY SERVICE APPLICATION
SINGLE LINE DIAGRAM

SCALE: N.T.S

DRAWING NUMBER	REVISION
HR-2847-SL1	3





DRILLING DETAILS

BILL OF MATERIALS

ITEM	DESCRIPTION	QUANTITY	PEC PART NUMBER
1	SEE RECLOSER SELECTION CHART	1	
2	CONNECTOR, COMPRESSION H-TAP (SEE NOTE 1)	6	
3	CONNECTOR, COMPRESSION, 2 HOLE NEMA PAD (SEE NOTE 1)	3	
4	WIRE/CABLE, INSULATED, #4 , COPPER, BLACK XLPE (PER METER)	2	9272
5	WIRE/CABLE, INSULATED, #4 , COPPER, GREEN XLPE (PER METER)	2	9264
6	WIRE/CABLE, INSULATED, #2, COPPER, BLACK XLPE (PER METER)	6	
7	WIRE/CABLE, BARE 2/0 COPPER (PER METER)	10	
8	CONNECTOR, COMPRESSION C-TAP (SEE NOTE 1)	3	
	BOLT, MACHINE, 3/4"DIA, (LENGTH AS REQUIRED) c/w SQUARE NUT	AS REQUIRED	
	WASHER, LOCK, 3/4" NOM, HELICAL SPRING, GALV CSAG164M	AS REQUIRED	
	WASHER, FLAT, 3/4" NOM	AS REQUIRED	

RECLOSER SELECTION CHART

DESCRIPTION	QUANTITY	PEC PART NUMBER
RECLOSER, 27KV, EATON KSPREARC SPEAR CONTROL, 1KVA TRANSFORMER, 18KV SURGE ARRESTERS	1	5008
RECLOSER, 15KV, EATON KSPEARC SPEAR CONTROL, 1KVA TRANSFORMER, 9KV SURGE ARRESTERS	1	5012

NOTES

1. FOR CONNECTOR SELECTION, REFER TO CONNECTOR SELECTION CHART (7198).
2. ATTACHMENT HEIGHTS OUTLINED ON THIS DRAWING SUPERCEDE THOSE DISPLAYED ON OTHER FRAMING DRAWING(S) THAT APPLY TO THE INSTALLATION.
3. DRAWING TO BE USED IN ASSOCIATION WITH DETAILED SITE PLAN DRAWING(S) PROVIDED BY PRIMARY ENGINEERING AND CONSTRUCTION CORP.
4. CONNECTION OF SURGE ARRESTERS AND TRANSFORMER TO RECLOSER MAY BE COMPLETED BY RECLOSER MANUFACTURER DURING ASSEMBLY
5. OPTIONAL CONTROL POWER TRANSFORMER, VERIFY REQUIREMENT ON SITE PLAN.
6. REFER TO PEC DETAIL DRAWING #5505 FOR GROUNDING REQUIREMENTS.

REVISIONS

#	DATE	DESCRIPTION	FULL NAME	FULL NAME
0	2023-02-16	ISSUED FOR USE	J. KIVAI	S. MASON
			DESIGNED BY	CHECKED BY

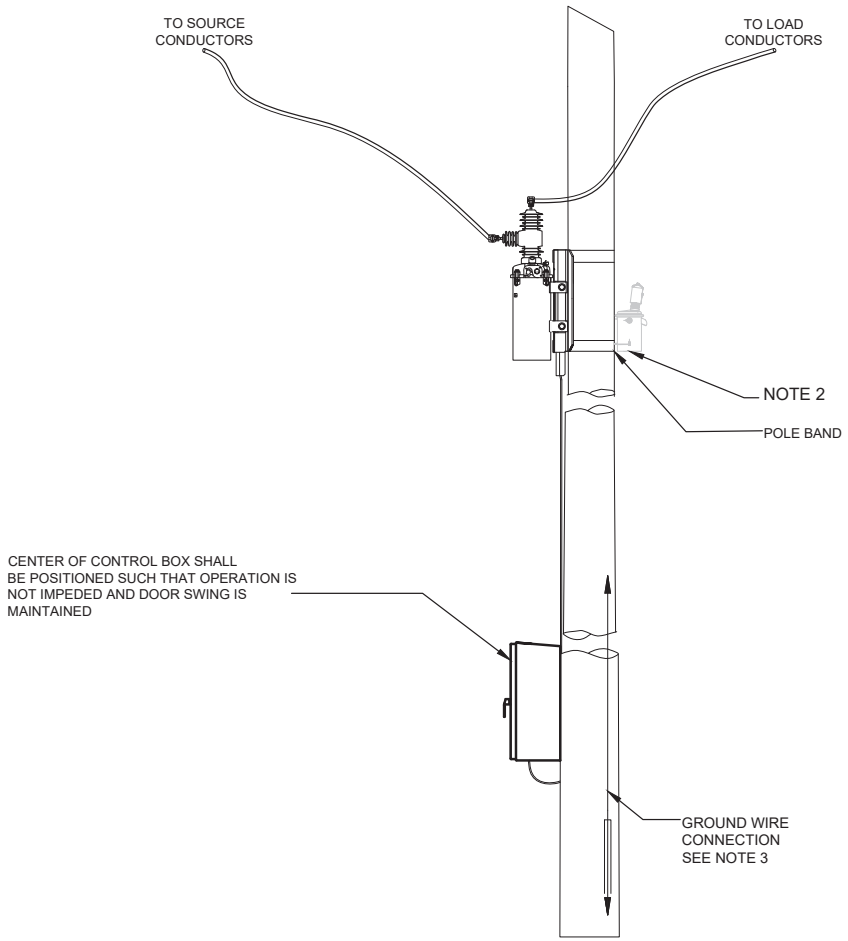
P.ENG STAMP & DATE

PRIMARY
KELOWNA OFFICE
7 - 2250 Leckie Road
Kelowna, BC V1X 7K1
250.763.0401
kelowna@primaryeng.com

TITLE

PRIMARY ENGINEERING AND CONSTRUCTION CORP.
DISTRIBUTION STRUCTURE STANDARDS
1-PHASE ELECTRONIC RECLOSER

SCALE		
N.T.S		
DRAWING NUMBER	SHEET	REVISION
7145	1 of 2	0



RECLOSER DETAIL

RECLOSER POWER TRANSFER SWITCH OPTIONS		
DESCRIPTION	QUANTITY	PEC PART NUMBER
POWER TRANSFER SWITCH 30 A, 240 V, UN-FUSED, OUTDOOR RATED NEMA 3R. GE TC10323R W/ APPLETON 2 POLE RECEPTACLE	1 1	5032 5033
100A, 2 POLE, SAFETY SWITCH NEMA 3R	1	5034

NOTES

1. CONNECTION OF SURGE ARRESTERS AND TRANSFORMER TO RECLOSER MAY BE COMPLETED BY RECLOSER MANUFACTURER DURING ASSEMBLY
2. OPTIONAL CONTROL POWER TRANSFORMER, VERIFY REQUIREMENT ON SITE PLAN.
3. REFER TO PEC DETAIL DRAWING #5505 FOR GROUNDING REQUIREMENTS.

REVISIONS

#	DATE	DESCRIPTION	FULL NAME	FULL NAME
0	2023-02-16	ISSUED FOR USE	J. KIVAI	S. MASON
#	DATE	DESCRIPTION	DESIGNED BY	CHECKED BY

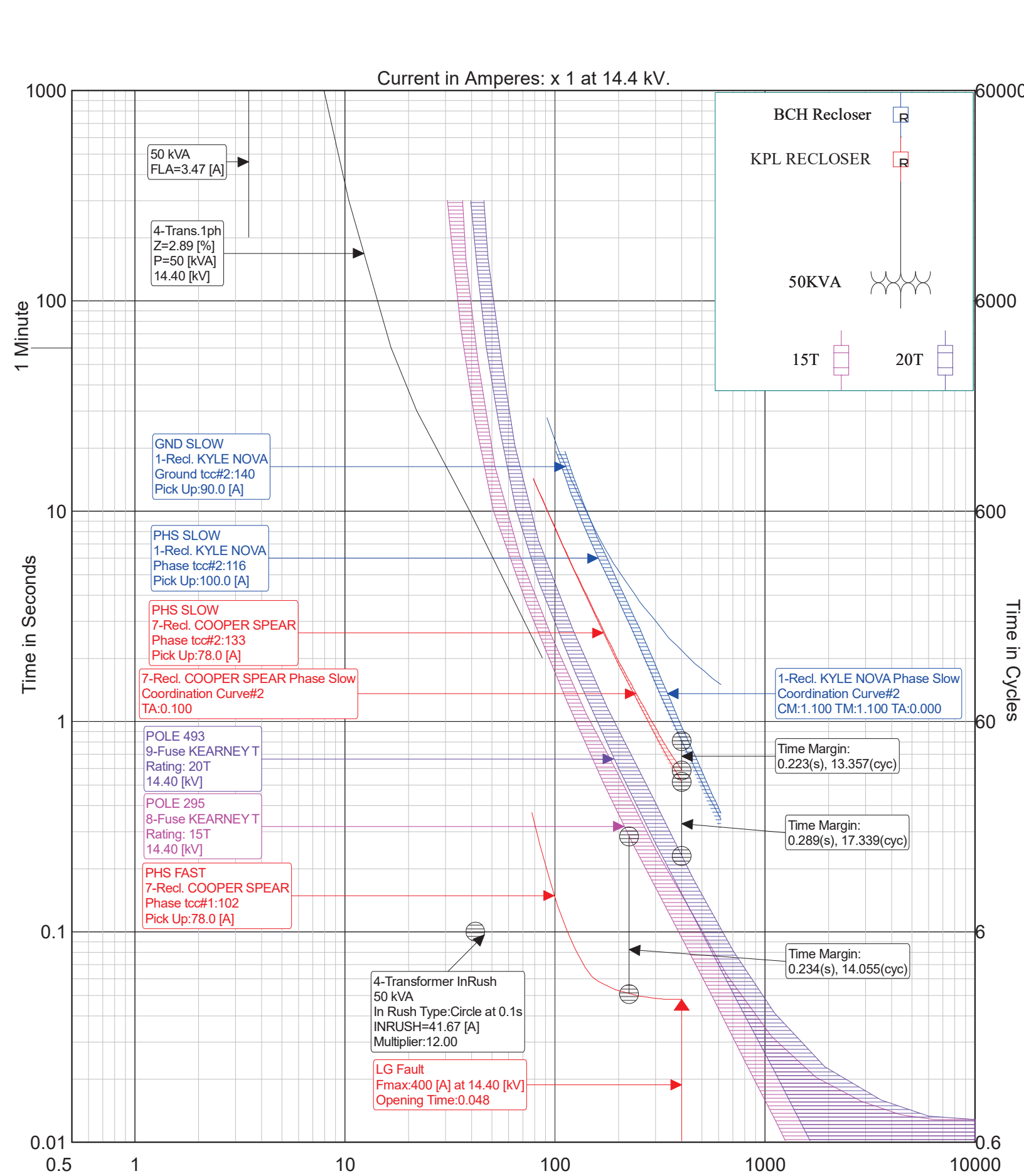
P.ENG STAMP & DATE

PRIMARY
KELOWNA OFFICE
7 - 2250 Leckie Road
Kelowna, BC V1X 7K1
250.763.0401
kelowna@primaryeng.com

TITLE

PRIMARY ENGINEERING AND CONSTRUCTION CORP.
DISTRIBUTION STRUCTURE STANDARDS
1-PHASE ELECTRONIC RECLOSER

SCALE		
N.T.S		
DRAWING NUMBER	SHEET	REVISION
7145	2 of 2	0



KPL - KYUOQUOT POWER LIMITED
VANCOUVER ISLAND, BC
OVERCURRENT PROTECTIVE DEVICE
COORDINATION STUDY

PLOTTING VOLTAGE:14.4 kV
BY: M. SOMPPI
PRIMARY ENGINEERING

APPROVED BY: B. LEE
NO: HR-2847-TCC3-IFC-R1
DATE: 2024-02-16