BC Hydro
Power smart

Fred James
Chief Regulatory Officer
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Fax: 604-623-4407
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December 13, 2019

Mr. Patrick Wruck
Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

RE: Project No. 1599020
British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
CB Powerline Exemption Application (2019)

BC Hydro writes in compliance with Commission Order No. G-315-19 to provide, as Exhibit C1-3, its responses to Commission Information Request No. 1.

For further information, please contact Geoff Higgins at 604-623-4121 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,

Fred James
Chief Regulatory Officer

st/tl

Enclosure

1.0 A. BC HYDRO SERVICE AREAS

Reference: ELECTRICAL SERVICE ALTERNATIVES
Exhibit B-1 (Application), Section 3.1, p. 7
Service Area Connection Policy

Page 7 of CB Powerline Ltd.'s (CBP) application for an exemption from Part 3 of the *Utilities Commission Act* (UCA) pursuant to section 88(3) (Application), states:

> Following the Fortis and [Ministry of Transportation and Infrastructure] discussions, CBP approached [BC Hydro] in 2017 and again 2019. These discussions focused upon two alternate supply approaches:
>
> 1. [BC Hydro] to undertake all aspects of service to the community
> 2. CBP to permit and construct service to the community, with the assets subsequently transferred to [BC Hydro] for operation and maintenance.
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> Based upon these discussions, [BC Hydro] declined both alternatives, citing both small scale of the service area and that small size coupled with construction costs would not facilitate [BC Hydro] maintaining its standard rate base for the community members. Consequently, CBP was left to undertake the Project independently.

1.1.1 Please confirm that the area of Cosens Bay is within BC Hydro's service territory.

RESPONSE:

BC Hydro confirms that the area of Cosens Bay is within BC Hydro's service territory.

1.0 A. BC HYDRO SERVICE AREAS

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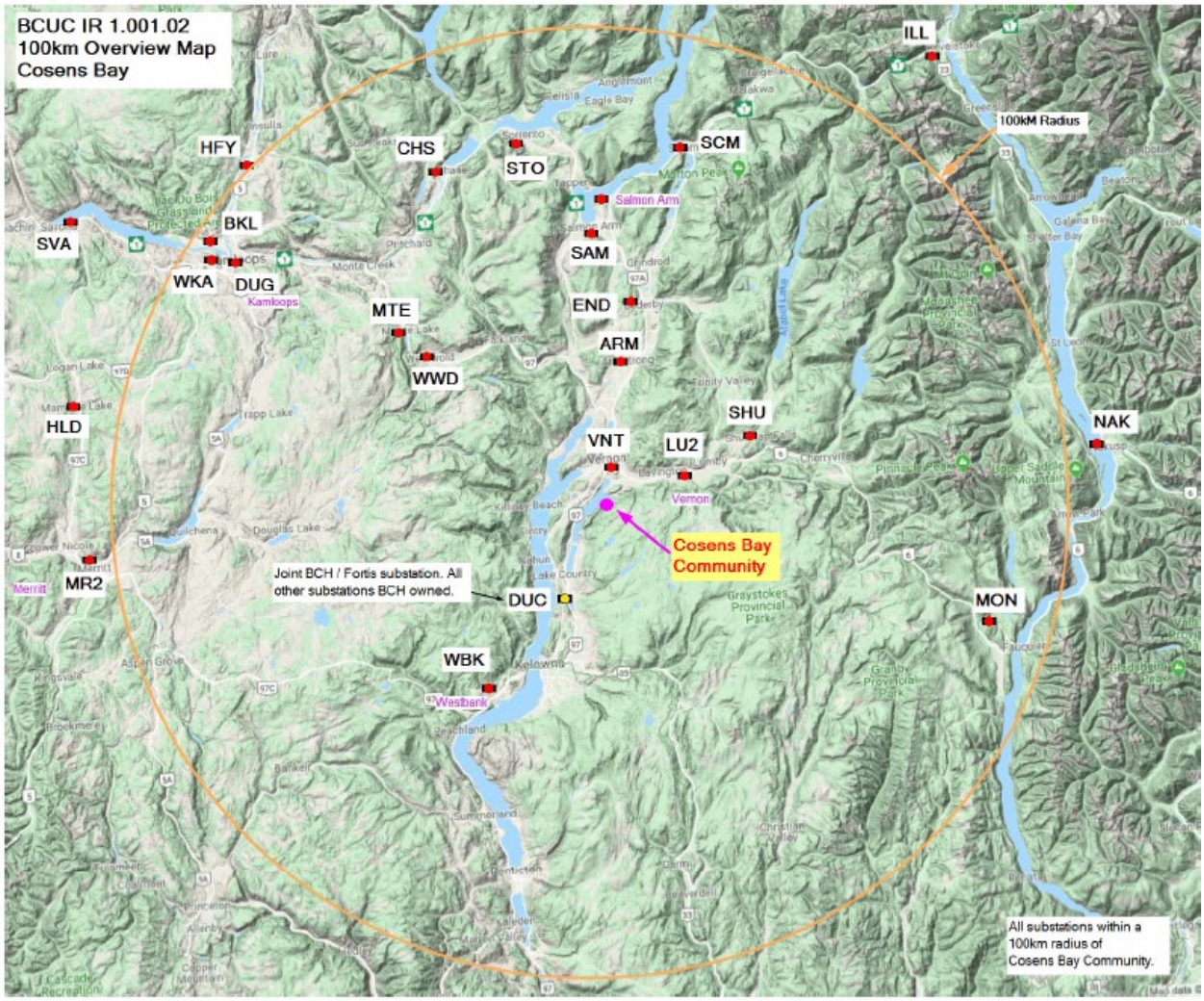
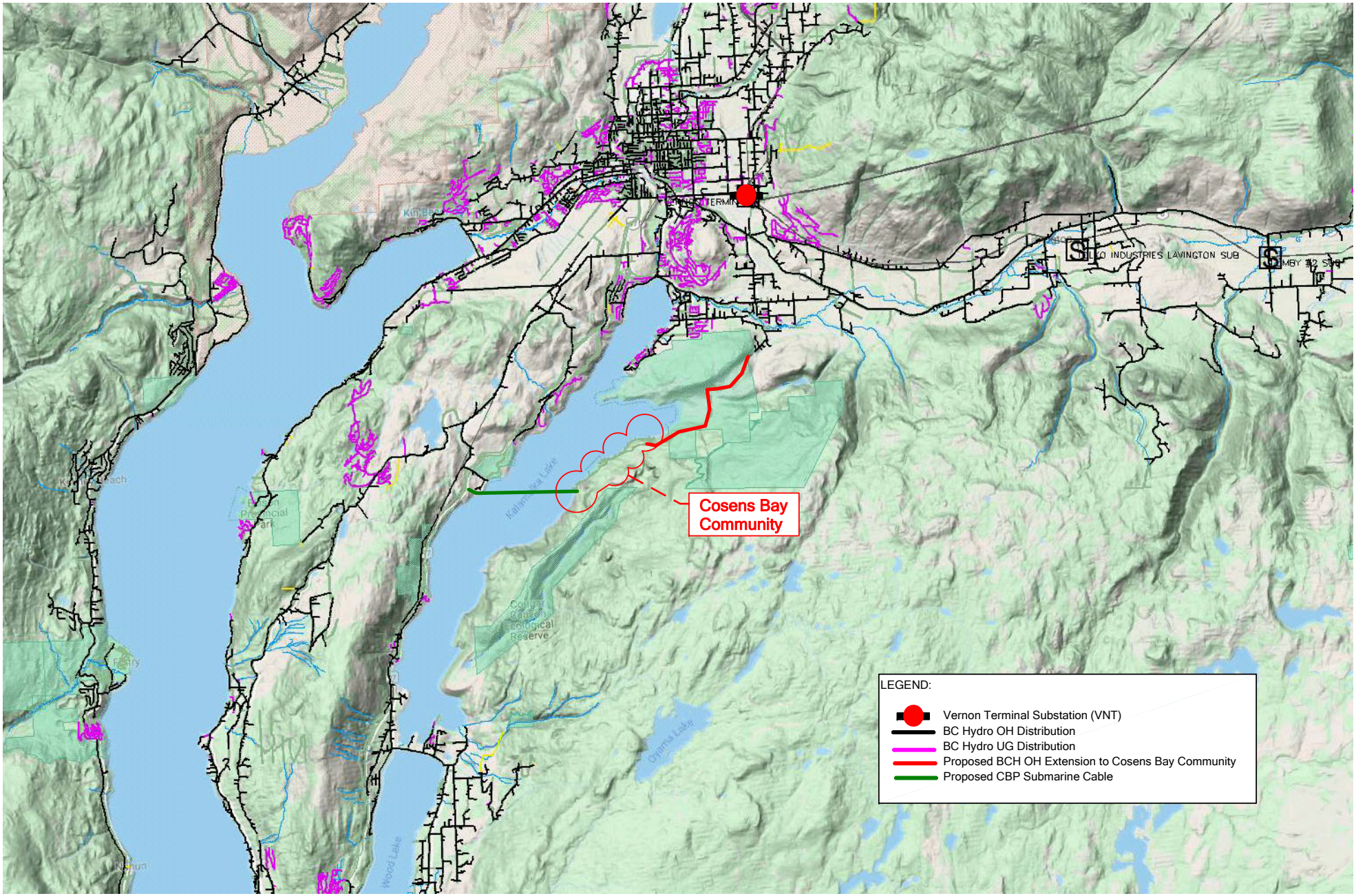
1.1.2 Please provide a detailed map showing BC Hydro's service areas within 100 km of Cosens Bay.

RESPONSE:

Please see the attached map (Attachment 1) generated from BC Hydro's geographic information system showing BC Hydro's Substations within 100km of Cosens Bay. BC Hydro has also attached a map (Attachment 2) showing infrastructure within 15km of Cosens Bay to provide a more area specific graphic of BC Hydro's transmission and distribution lines.


BCUC IR 1.001.02
100km Overview Map
Cosens Bay
100kM Radius
ILL
SCM
CHS
STO
HFY
BKL
SVA
WKA
DUG
SAM
END
MTE
ARM
WWD
SHU
NAK
HLD
VNT
LU2
Cosens Bay Community
Joint BCH / Fortis substation. All other substations BCH owned.
DUC
MR2
MON
WBK
All substations within a 100km radius of Cosens Bay Community.


Cosens Bay
Community
LEGEND:
Vernon Terminal Substation (VNT)
BC Hydro OH Distribution
BC Hydro UG Distribution
Proposed BCH OH Extension to Cosens Bay Community
Proposed CBP Submarine Cable

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> Based upon these discussions, [BC Hydro] declined both alternatives, citing both small scale of the service area and that small size coupled with construction costs would not facilitate [BC Hydro] maintaining its standard rate base for the community members. Consequently, CBP was left to undertake the Project independently.

1.1.3 Please discuss if BC Hydro has an obligation to serve the community of Cosens Bay.

RESPONSE:

Section 28 of the UCA provides, in part, that, on being requested by the owner or occupier of a premises to do so, a public utility must supply its service to premises that are located within 200 metres of its supply line or any lesser distance that the Commission prescribes suitable for that purpose.

The community of Cosens Bay is located approximately three kilometers away from BC Hydro's nearest supply line across Kalamalka Lake (the Lake), and approximately four kilometers away from BC Hydro's nearest supply line through Kalamalka Lake Provincial Park (the Park). Please refer to Attachment 2 to BC Hydro's response to BCUC IR 1.1.2.

The Commission discussed BC Hydro's obligation to provide service in its decision regarding BC Hydro's application for a Certificate of Public Convenience

and Necessity (CPCN) for the Dawson Creek/Chetwynd Area Transmission Project (the Project). The Commission held that:[1]

> **The Commission Panel considers BC Hydro's obligation to serve as one part of the many considerations involved in a CPCN Application. The Panel further considers that the obligation to serve is subject to the Commission's judgment that such service is adequate, safe, efficient, fair and reasonable.**
>
> **The Commission Panel recognizes BC Hydro's own interpretation of its obligation to serve all customers who come to it ready, willing and able to meet the requirements that the Commission deems necessary for customers to meet under TS 6. Clearly, if BC Hydro has new customers applying for new service, and it has capacity, then it would seem reasonable that BC Hydro should not discriminate. Further, the Commission Panel acknowledges BC Hydro's obligation to serve under section 39 of the *UCA*.**
>
> **However, the Commission Panel wishes to emphasize that the absolute obligation to serve is always in context: the service must meet the appropriate electrical standards; options must be weighed diligently; and the service must be adequate, safe, efficient, fair and reasonable. (*UCA*, section 28) If the Project does not meet the necessary prerequisite conditions, that is, adequate, safe, efficient, fair and reasonable, then the obligation to serve is not absolute. The spirit and intent of the UCA support this notion, that the obligation to serve must be adequate, safe, efficient, fair and reasonable. Therefore, the Panel will not approve a CPCN application simply because a new customer requires service [emphasis added].**

Therefore, in order to obtain service, customers must meet the requirements of BC Hydro's Electric Tariff, and BC Hydro is only then obligated to provide service if the service is adequate, safe, efficient, fair and reasonable.

Some residents of Cosens Bay have enquired about service from BC Hydro over the past several years. BC Hydro remains open to working with CBP and the residents of Cosens Bay to provide service to their community, but the requirements of BC Hydro's Electric Tariff must be met and the service must be

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[1] **Certificate of Public Convenience and Necessity for the Dawson Creek/Chetwynd Area Transmission Project at page 101.**

adequate, safe, efficient, fair and reasonable. To date, CBP has not met the requirements of BC Hydro's Electric Tariff.

Section 3.4 of the Electric Tariff applies to any service for Cosens Bay, because the properties have not been previously connected. That section, which is copied below for ease of reference, provides that an Extension may also be required.

> **3.4 Premises Not Previously Connected**
>
> **If a Premises is not connected to BC Hydro's distribution system at the time when the application for Service is made, a Service Connection, Metering Equipment and possibly an Extension will be required and the applicant will pay BC Hydro the amount set out under section 3.14 (Service Connection Charges) and, where applicable, the Extension Fee, provided that no Metering Equipment will be required in cases where BC Hydro permits unmetered Service.**

In this case, due to the distance between the premises seeking connection and the nearest point of connection on BC Hydro's distribution system, both an Extension and Service Connection are required. The Service Connection and Extension must be installed in accordance with the Tariff, such as sections 3.1, 8.2 and 8.3, all of which are, in part, copied below for ease of reference. Those sections provide that these works are subject to applicable laws and regulations and that the payment of an Extension Fee must be paid by the Customer.

> **3.1 New and Replacement Service Connections**
>
> **BC Hydro will provide an overhead or underground Service Connection for a Premises, subject to and in accordance with BC Hydro's current distribution system development plans, distribution standards and applicable laws and regulations in each case. BC Hydro may from time to time remove and replace any Service Connection as necessary to ensure compliance with BC Hydro's distribution system development plans, distribution standards and applicable laws and regulations.**
>
> **8.2 Types of Distribution Extensions**
>
> **Extensions may be constructed either overhead or underground, subject to and in accordance with BC Hydro's current distribution system development plans, distribution standards and applicable laws and regulations in each case.**

8.3 Extension Fee for Rate Zone I

No Extension will proceed until the Customer has paid to BC Hydro the Extension Fee in accordance with this section. The Extension Fee is the Estimated Construction Cost of the Extension less the maximum contribution that BC Hydro is prepared to make toward the Extension.

Subject to meeting the requirements of the Electric Tariff, there are two options for providing service to the community of Cosens Bay: (1) through the Park (Park Option); and a submarine cable under the Lake (Lake Option). Both of those options are described below.

<u>Park Option</u>

Cosens Bay Road is within the Park, so BC Parks has jurisdiction under the *Parks Act* to grant park use permits for Cosens Bay Road.

BC Parks issued Park Use Permit No. 108154 to the Ministry of Transportation Infrastructure (MOTI) on March 30, 2017 (Permit). The Permit authorizes MOTI to enter areas beyond the travelled portion of Cosens Bay Road within the Park up to 10 meters from the existing road centreline for general road maintenance and approved road improvements. The Permit does not allow for the installation of utilities.

There are no provisions in the *Parks Act* that would allow for the installation of the proposed utilities in the Park. BC Hydro contacted BC Parks and was advised that a boundary adjustment to the Park would be required to install the proposed utilities, which would remove the necessary land from the Park boundaries. BC Hydro has also been advised by BC Parks that it has not received an application from the residents of Cosens Bay for a boundary adjustment to the Park.

Accordingly, the requirements under BC Hydro's Electric Tariff have not been met for the Park Option, because BC Hydro can only provide Service Connections and Distribution Extensions subject to and in accordance with applicable laws and regulations in each case.

If CBP is able to meet the requirements of BC Hydro's Electric Tariff, BC Hydro would consider whether providing service to the Cosens Bay community with the Park Option is safe. BC Hydro has not been able to fully assess whether the Park Option is safe, because the risk of Unexploded Ordinances (UXO) in the Park has not been fully assessed by Department of National Defense. Please refer to BC Hydro's response to BCUC IR 1.3.5.

Lake Option

The Lake Option requires the installation of an underground power line under the Okanagan Rail Trail. When BC Hydro assessed the Lake Option, the Regional District of North Okanagan (RDNO) declined to grant a statutory right of way for that crossing. The Lake Option also requires the installation of overhead and/or underground power lines on private properties to access the Lake's foreshore to connect to the submarine cable. The required statutory right of way agreements for permanent and safe access on private property have not been obtained. Accordingly, the requirements under BC Hydro's Electric Tariff were not met, because BC Hydro can only provide Service Connections and Distribution Extensions subject to and in accordance applicable laws and regulations in each case.

In CBP's response to BCUC IR 10.2 (Exhibit B-2), it states that a crossing agreement with the RDNO will be executed following approval of the corresponding crossing application by CBP and is targeted for submission in Q4 2019.[2] However, BC Hydro notes that such a crossing agreement may not necessarily meet BC Hydro's standards for crossing agreements.

For the reasons discussed in BC Hydro's response to BCUC IR 1.1.5, BC Hydro has been unable to undertake detailed design work for the Lake Option. However, as discussed in BC Hydro's response to BCUC IR 1.1.8, BC Hydro has completed conceptual level estimates for the construction cost for the Lake Option.

As with the Park Option, BC Hydro has also not been able to fully assess whether the Lake Option is safe, because the risk of UXOs near and under the Lake has not been fully assessed by Department of National Defense. Please refer to BC Hydro's response to BCUC IR 1.3.5.

Even if CBP is able to meet the requirements of BC Hydro's Electric Tariff, BC Hydro needs to consider whether providing service to the Cosens Bay community with the Lake Option is safe, efficient, fair and reasonable.

---

[2] **Exhibit B-2, PDF 50.**

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1.1.4 Please confirm that CBP made a request to BC Hydro for service between 2017 and 2019. In your response please provide details of any request(s) made and any correspondence between BC Hydro and CBP regarding this matter.

RESPONSE:

BC Hydro has been working with CBP since its inception in 2017. BC Hydro confirms that CBP made a request for service to BC Hydro between 2017 and 2019. The details of CBP's request are discussed below and in correspondence between BC Hydro and CBP regarding this matter, which is attached to this response as Attachment 1.

CBP is currently in the process of submitting a formal PSC application to BC Hydro. However, as discussed in BC Hydro's response to BCUC IR 1.1.3, CBP has not finalized a location to take service from BC Hydro.

The servicing options that have been considered between 2017 and 2019 include:

A **BC Hydro overhead and/or underground extension through Kalamalka Lake Provincial Park;**

B **BC Hydro overhead and/or underground extension options on public and private properties on the west side of Kalamalka Lake, combined with a BC Hydro submarine cable crossing of Kalamalka Lake to point of egress in the Cosens Bay Community;**

C **BC Hydro overhead and/or underground extension options on public and private properties on the northeast side of Kalamalka Lake, combined with a BC Hydro submarine cable crossing of Kalamalka Lake to the a point of egress in the Cosens Bay Community; and**

D **BC Hydro overhead and/or underground extension connected to a customer owned extension starting at Bailey Road on the west side of Kalamalka Lake and having a point of delivery and primary service terminating at a distribution system that is owned and maintained by CBP on the west side of Kalamalka Lake at 167 Highway 97.**

From: Byrnes, Adrian
Sent: 2016, November 24 2:19 PM
To: 'Joshua C. Laye'
Subject: RE: Preliminary Information - Cosens Bay Primary Service Application
Attachments: GIS_PLOT_COSENS_BAY.pdf

Hi Josh,

Let me know if you're able to open the attached. Relatively small PDF file. Shouldn't take too long to load.

Regards,

Adrian Byrnes | Design Specialist, Distribution Design

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC, V1T 8S4

P 250-549-8625
M 250-804-6552
E adrian.byrnes@bchydro.com

bchydro.com

Smart about power in all we do.

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2016, November 24 11:28 AM
To: Byrnes, Adrian
Subject: RE: Preliminary Information - Cosens Bay Primary Service Application

Adrian,

The GIS PFD you sent over does not appear to be loading for us. We are able to open the file, but it just loads forever. Are you able to send this a different way? I assume the file size is presumably large.

Thanks,

JOsh

From: Byrnes, Adrian [mailto:Adrian.Byrnes@bchydro.com]
Sent: November 24, 2016 10:05 AM
To: Joshua C. Laye <jcl@icieng.com>
Cc: gmoug@telus.net; Sean R. Bouchard <srb@icieng.com>
Subject: Preliminary Information - Cosens Bay Primary Service Application

Hello Joshua,

Thank you for the information regarding the Cosens Bay primary service and submarine cable project.

Please provide us with the following:

1. Total connected load and nature of the load, including a list of:
   - Motors 50 hp and larger in 12.5 kV areas and motors 100 hp and larger in 25 kV areas, which require soft start controllers;

2. Preferred service type - overhead or underground;

3. Estimated maximum demand;

4. Emergency standby generators as applicable;

5. Service address/location, and

6. Planned in-service date.

I may then determine a preferred service connection location and upstream BCH protection.

See attached preliminary letter and documents for more information.

Let me know if you have any questions.

Regards,

Adrian Byrnes | Design Specialist, Distribution Design

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC, V1T 8S4

P 250-549-8625
M 250-804-6552
E adrian.byrnes@bchydro.com

bchydro.com

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From: Joshua C. Laye <jcl@icieng.com>
Sent: 2017, October 23 9:28 AM
To: Samonchik, Daniel
Cc: Patrick Tivas; Byrnes, Adrian
Subject: RE: Cosens Bay Submarine Cable - BC Hydro Coordination
Attachments: GIS_PLOT_COSENS_BAY.pdf; 17901-SKE1-20171020.pdf

Daniel,

I would like to setup a time where we may meet and discuss how to get power down to the west side of Kalamalka Lake. Would you be available early next week to meet?

Attached are a few files to provide you with a visual of what we are proposing. One of these was provided to us last year by Adrian Byrnes.

Let me know a time and date that works for you to meet. We would like to narrow this down so we can proceed with a survey.

Here is a bit of information (preliminary) that may assist you too.

1. Total connected load is estimated at around 2 MW. This is preliminary, but I can't imagine it being much more than this. There are no motors or generators. This will service cabins only.
2. Service across the lake will be 15kV.
3. Estimated maximum demand is same as number 1 for now. This is based off 80% of the cabins connected, each with a 125A 120/240V service and each loaded to 80%.
4. Service address and location is to be determined. This will be on the west side of Kalamalka Lake where we can get access and approvals. This is where BC Hydro comes in.
5. In-service date would be fall 2018 at the earliest.

Thanks and regards,

Joshua C. Laye, P.Eng.
ICI Electrical Engineering Ltd. | www.icieng.com
200-1425 Pearson Pl., Kamloops, BC, CANADA V1S 1J9
D: 778-696-2083 | O/F: 1-888-372-1486 E: jcl@icieng.com

From: Samonchik, Daniel [mailto:Daniel.Samonchik3@bchydro.com]
Sent: October 20, 2017 11:10 AM
To: Joshua C. Laye <jcl@icieng.com>
Cc: Patrick Tivas <pt@icieng.com>; Byrnes, Adrian <Adrian.Byrnes@bchydro.com>
Subject: RE: Cosens Bay Submarine Cable - BC Hydro Coordination

Hi Joshua,

Please view my contact information below.

Regards,

Daniel Samonchik, P.Eng
Regional Distribution Engineer, Okanagan-Shuswap Regions
BC Hydro Engineering – South Interior & NIA

BC Hydro
1401 Kalamalka Lake Rd
Venon, BC V1T 8S4

T 250 549 8681
M 604 442 2092
E Daniel.Samonchik3@bchydro.com

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From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2017, October 20 11:07 AM
To: Samonchik, Daniel
Cc: Patrick Tivas; Patton, Josh
Subject: RE: Cosens Bay Submarine Cable - BC Hydro Coordination

Daniel,

Could you please provide your contact information? I'll be in touch to schedule a on-site review with you to discuss some location options. Attached is some information that will help provide you with a visual. We will be connecting to BC Hydro on the west side of the lake, but will have to determine the location in which we can connect.

Thanks,

Joshua Laye

From: Patton, Josh [mailto:Josh.Patton@bchydro.com]
Sent: October 20, 2017 10:23 AM
To: Joshua C. Laye <jcl@icieng.com>; Samonchik, Daniel <Daniel.Samonchik3@bchydro.com>
Cc: Patrick Tivas <pt@icieng.com>
Subject: RE: Cosens Bay Submarine Cable - BC Hydro Coordination

Hi Josh,
As discussed, Daniel Samonchik is the new Regional Engineer replacing Paul Therrien for Okanagan-Shushwap areas. My areas still remain the same.

Regards,

Josh Patton, P.Eng. | Regional Distribution Engineer, Thompson-Nicola
BC Hydro Engineering

BC Hydro
1401 Kalamalka Lake Rd
Venon, BC V1T 8S4

T 250 549 8696
M 250 812 1048
E josh.patton@bchydro.com

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From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2017, October 19 4:19 PM
To: Patton, Josh

Cc: Patrick Tivas
Subject: Cosens Bay Submarine Cable - BC Hydro Coordination

Josh,

Cosens Bay is moving forward with the pre-design for their underwater cable across Kalamalka Lake. Would you be able to meet me on site to discuss a few different locations for where we may be able to get a connection from BC Hydro?

I will be out of the office next week, but the earlier we can meet the better.

Thanks and regards,

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From: Samonchik, Daniel
Sent: 2017, October 23 2:43 PM
To: Joshua C. Laye
Cc: Patrick Tivas; Byrnes, Adrian
Subject: RE: Cosens Bay Submarine Cable - BC Hydro Coordination

Hi Joshua,

The Kekuli Bay campground gate works for me.
Could you please send me and Adrian a meeting invite, so it will appear in calendars?

Thank you.

Regards,
Daniel

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2017, October 23 2:39 PM
To: Samonchik, Daniel
Cc: Patrick Tivas; Byrnes, Adrian
Subject: RE: Cosens Bay Submarine Cable - BC Hydro Coordination

Daniel,

This sounds great. I will arrange to be in Vernon at 9:00AM if that works for you? Where is the best place to meet? The Kekuli Bay campground gate?

Regards,

Joshua Laye

From: Samonchik, Daniel [mailto:Daniel.Samonchik3@bchydro.com]
Sent: October 23, 2017 10:19 AM
To: Joshua C. Laye <jcl@icieng.com>
Cc: Patrick Tivas <pt@icieng.com>; Byrnes, Adrian <Adrian.Byrnes@bchydro.com>
Subject: RE: Cosens Bay Submarine Cable - BC Hydro Coordination

Hi Joshua,

Thank you for provided information.
Adrian and I could meet with you on Monday, or Tuesday morning next week.
Please view my comments below in green.

Please let me know what time works best for you.

Regards,
Daniel

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ICI Electrical Engineering Ltd. | www.icieng.com
200-1425 Pearson Pl., Kamloops, BC, CANADA V1S 1J9
D: 778-696-2083 | O/F: 1-888-372-1486 E: jcl@icieng.com

From: Byrnes, Adrian
Sent: 2017, November 30 11:36 AM
To: 'Joshua C. Laye'
Cc: Samonchik, Daniel
Subject: RE: Cosens Bay Power - BC Hydro Coordination

No. More likely is that we'd limit to 500kVA or less depending on the circumstances.

With only 60 or so cabins is more than 700kVA really necessary? Or are there future development plans hinging on power being supplied to the area?

Regards,

Adrian Byrnes | Design Specialist, Distribution Design

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC, V1T 8S4

P 250-549-8625
M 250-804-6552
E adrian.byrnes@bchydro.com

bchydro.com

Smart about power in all we do.

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2017, November 23 4:10 PM
To: Byrnes, Adrian
Cc: Samonchik, Daniel
Subject: RE: Cosens Bay Power - BC Hydro Coordination

Adrian, Daniel;

Are there any exceptions to the 700kVA at 14.4kV?

Thanks,

JOsh

From: Byrnes, Adrian [mailto:Adrian.Byrnes@bchydro.com]
Sent: November 23, 2017 1:32 PM
To: Joshua C. Laye <jcl@icieng.com>
Cc: Samonchik, Daniel <Daniel.Samonchik3@bchydro.com>
Subject: RE: Cosens Bay Power - BC Hydro Coordination

Hello Josh,

My apologies for the delayed response. Attached is the expanded area map as requested.

Typically we would not connect more than 700kVA from a single phase line at 14.4kV. Daniel may confirm or expand on that.

Regards,

Adrian Byrnes | Design Specialist, Distribution Design

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC, V1T 8S4

P 250-549-8625
M 250-804-6552
E adrian.byrnes@bchydro.com

bchydro.com

Smart about power in all we do.

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2017, November 16 1:54 PM
To: Byrnes, Adrian
Cc: Samonchik, Daniel
Subject: Cosens Bay Power - BC Hydro Coordination

Adrian,

Could you please provide the BC Hydro service location drawing that you had while we met on site a couple weeks back?

What is the maximum load that BC Hydro would allow us to service across the lake in order to maintain the service as single phase? Our Client is quite concerned over the 3 phase requirement.

Thanks,

Joshua C. Laye, P.Eng.
ICI Electrical Engineering Ltd. | www.icieng.com
200-1425 Pearson Pl., Kamloops, BC, CANADA V1S 1J9
D: 778-696-2083 | O/F: 1-888-372-1486 E: jcl@icieng.com

From: Byrnes, Adrian
Sent: 2017, December 12 2:44 PM
To: 'John Keating'; Sharman, Dag
Cc: Samonchik, Daniel; Gord Moug; Gord Allan; DAVID ETHIER; John Williams
Subject: RE: Exchanging contact info re. Cosens Bay

Thanks John.

As discussed, BC Hydro rate information is posted in the BC Electrical Tariff and can be found on our website:

https://www.bchydro.com/about/planning_regulatory/tariff_filings/electric-tariff.html

Your service would fall into rate schedule 1611 for Large General Service (>150kW) metered at primary potential with customer-supplied transformation. There is a 1.5% discount applied for metering at primary potential and a $0.25 discount per billing period per kW billing demand where the customer supplies transformation. The 1.5% discount is applied first.

Section 8 outlines the maximum contribution that BC Hydro is prepared to make towards the cost of the extension (BCH distribution system alterations) which for general service can be boiled down to $200 per kW of estimated billing demand.

Regards,

Adrian Byrnes | Design Specialist, Distribution Design

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC, V1T 8S4

P 250-549-8625
M 250-804-6552
E adrian.byrnes@bchydro.com

bchydro.com

From: John Keating [mailto:jkeating403@gmail.com]
Sent: 2017, December 12 1:52 PM
To: Sharman, Dag
Cc: Samonchik, Daniel; Byrnes, Adrian; Gord Moug; Gord Allan; DAVID ETHIER; John Williams
Subject: Re: Exchanging contact info re. Cosens Bay

Hi Dag,

Thank you, Adrian and Daniel for taking the time to speak with us as well. As mentioned, our new single purpose company, CB Powerline Ltd., has 5 directors. Each of their names and contact information follows:

Gord Moug	gmoug@telus.net	cell 403-819-9084
Gord Allan	sandgallan@outlook.com	cell 250-870-7945
Dave Ethier	david.m.ethier2@gmail.com	cell 250-371-7831

John Williams john@qcasystems.com cell 604-908-1051
John Keating jkeating403@gmail.com cell 403-978-0251

Again, thank you for your time this morning and for your interest in helping us with our project!
John

John Keating
jkeating403@gmail.com

On Dec 12, 2017, at 1:11 PM, Sharman, Dag <Dag.Sharman@bchydro.com> wrote:

Hi John,

It was good chatting with you this morning.

Adrian's and Daniel's addresses are here:

Adrian Byrnes: Adrian.Byrnes@bchydro.com
Daniel Samonchik: Daniel.Samonchik3@bchydro.com

All the best,

Dag

Dag Sharman | Community Relations Manager, Thompson/Okanagan/Columbia Region, Communications

BC Hydro
1401 Kalamalka Lake Road
Vernon, BC V1T 8S4

P 250 549 8531
M 250 308 7633
E dag.sharman@bchydro.com

bchydro.com
Smart about power in all we do.

From: Tarbit, Susan
Sent: 2018, January 04 2:59 PM
To: 'Joshua C. Laye'
Cc: Byrnes, Adrian; Samonchik, Daniel
Subject: RE: Kekuli Bay Extension for private line to Cosens Bay

Hi Josh,

It is possible for 2 of the options but the 3rd one will require a 2nd deposit as this will be an underground primary service. An additional deposit of $5K would be required for that as well. Please let me know if you would like a deposit letter for that option as well. This design would be supplied by our technologist.

Please note that the option to the south of Kekuli may require additional right of way discussion with the land owner. There is also limited space in the area for a private switch pole connection. Do you have a proposal for this option so I can further look at if this is even possible?

Susan Tarbit | Design Technician

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC V1T 8S4

P 250 549-8632
E susan.tarbit@bchydro.com

bchydro.com

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2018, January 04 2:47 PM
To: Tarbit, Susan
Cc: Byrnes, Adrian; Samonchik, Daniel
Subject: RE: Kekuli Bay Extension for private line to Cosens Bay

Susan,

Thank you for this and for taking my phone call earlier in regards to your past discussions with the owners of the property that requires passing through the Park entrance.

Understandably, this $5,000 deposit would be to provide a design and BC Hydro cost for the work to provide power to this site as discussed. However, within this same design deposit, is it possible to get cost estimates for the other two options shown in the attached? We are having discussions with different property owners to narrow down the options.

I've copied Adrian and Daniel as I have previously been in contact with them on this project.

Thanks and regards,

Joshua Laye, P.Eng. – Project Engineer
ICI Electrical Engineering Ltd. | Kamloops, British Columbia | Canada
Direct: 778-696-2083 | jcl@icieng.com | www.icieng.com

From: Tarbit, Susan [mailto:Susan.Tarbit@bchydro.com]
Sent: January 4, 2018 2:39 PM
To: Joshua C. Laye <jcl@icieng.com>
Subject: Kekuli Bay Extension for private line to Cosens Bay

Hi Josh,

The prelim letter was sent to you by Adrian Bynes is still valid as this would still be a private line. This letter was sent out when 3ph was proposed and since has now changed to single phase. Once I receive the design deposit I can start the design process for the pole extension along Highridge Rd to the provincial park. Once the deposit is paid I will be able to contact with any further questions.

Thank you.

Susan Tarbit | Design Technician

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC V1T 8S4

P 250 549-8632
E susan.tarbit@bchydro.com

bchydro.com

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From: Joshua C. Laye <jcl@icieng.com>
Sent: 2018, January 04 4:07 PM
To: Tarbit, Susan
Cc: Byrnes, Adrian; Samonchik, Daniel
Subject: RE: Kekuli Bay Extension for private line to Cosens Bay

Susan,

Just to confirm what you are saying;

The location of our switch pole may be difficult due to the limit space in the area, assuming it is placed within the ROW and not on private property?

Thanks,

Joshua Laye

From: Tarbit, Susan [mailto:Susan.Tarbit@bchydro.com]
Sent: January 4, 2018 3:24 PM
To: Joshua C. Laye <jcl@icieng.com>
Cc: Byrnes, Adrian <Adrian.Byrnes@bchydro.com>; Samonchik, Daniel <Daniel.Samonchik@bchydro.com>
Subject: RE: Kekuli Bay Extension for private line to Cosens Bay

Ok sounds good. I will send the letter tomorrow after discussing with Adrian. Do not worry about the proposal at this time. Once I have the design deposit I can take a look at the rights we have there and the right of way space. The location of your switch pole may be difficult due to the limited space in the area. Once payment is made we may have to meet onsite to further discuss once I have completed some research in the area.

Thank you.

Susan Tarbit | Design Technician

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC V1T 8S4

P 250 549-8632
E susan.tarbit@bchydro.com

bchydro.com

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2018, January 04 3:19 PM
To: Tarbit, Susan

Cc: Byrnes, Adrian; Samonchik, Daniel
Subject: RE: Kekuli Bay Extension for private line to Cosens Bay

Susan,

Thank you. If you could please provide a deposit letter for the 3rd option there, that would be great. I will discuss this information over with the Owners and see how we would like to proceed.

As for the option to the south of Kekuli Bay, does BC Hydro perform these land discussions, or would that be up to CB Powerline Ltd to coordinate? I'm not sure how much easement/ROW space there is, and I do not have any form of proposal for this option at this time. What would you like to see as for a proposal?

Thanks and regards,

Joshua Laye

From: Tarbit, Susan [mailto:Susan.Tarbit@bchydro.com]
Sent: January 4, 2018 2:59 PM
To: Joshua C. Laye <jcl@icieng.com>
Cc: Byrnes, Adrian <Adrian.Byrnes@bchydro.com>; Samonchik, Daniel <Daniel.Samonchik@bchydro.com>
Subject: RE: Kekuli Bay Extension for private line to Cosens Bay

Hi Josh,

It is possible for 2 of the options but the 3rd one will require a 2nd deposit as this will be an underground primary service. An additional deposit of $5K would be required for that as well. Please let me know if you would like a deposit letter for that option as well. This design would be supplied by our technologist.

Please note that the option to the south of Kekuli may require additional right of way discussion with the land owner. There is also limited space in the area for a private switch pole connection. Do you have a proposal for this option so I can further look at if this is even possible?

Susan Tarbit | Design Technician

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC V1T 8S4

P 250 549-8632
E susan.tarbit@bchydro.com

bchydro.com

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2018, January 04 2:47 PM
To: Tarbit, Susan
Cc: Byrnes, Adrian; Samonchik, Daniel
Subject: RE: Kekuli Bay Extension for private line to Cosens Bay

Susan,

Thank you for this and for taking my phone call earlier in regards to your past discussions with the owners of the property that requires passing through the Park entrance.

Understandably, this $5,000 deposit would be to provide a design and BC Hydro cost for the work to provide power to this site as discussed. However, within this same design deposit, is it possible to get cost estimates for the other two options shown in the attached? We are having discussions with different property owners to narrow down the options.

I've copied Adrian and Daniel as I have previously been in contact with them on this project.

Thanks and regards,

Joshua Laye, P.Eng. – Project Engineer
ICI Electrical Engineering Ltd. | Kamloops, British Columbia | Canada
Direct: 778-696-2083 | jcl@icieng.com | www.icieng.com

From: Tarbit, Susan [mailto:Susan.Tarbit@bchydro.com]
Sent: January 4, 2018 2:39 PM
To: Joshua C. Laye <jcl@icieng.com>
Subject: Kekuli Bay Extension for private line to Cosens Bay

Hi Josh,

The prelim letter was sent to you by Adrian Bynes is still valid as this would still be a private line. This letter was sent out when 3ph was proposed and since has now changed to single phase. Once I receive the design deposit I can start the design process for the pole extension along Highridge Rd to the provincial park. Once the deposit is paid I will be able to contact with any further questions.

Thank you.

Susan Tarbit | Design Technician

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC V1T 8S4

P 250 549-8632
E susan.tarbit@bchydro.com

bchydro.com

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From: Byrnes, Adrian
Sent: 2018, January 05 8:24 AM
To: 'david.m.ethier2@gmail.com'; 'sandgallan@outlook.com'; 'gmoug@telus.net'; 'jkeating403@gmail.com'; 'john@qcasystems.com'; 'jcl@icieng.com'; 'sean@icieng.com'
Cc: Tarbit, Susan; Sharman, Dag
Subject: Cosens Bay Primary Service - Submarine Cable - Kalamalka Lake - Cosens Bay Rd, Coldstream - 3682871
Attachments: RE: Kekuli Bay Extension for private line to Cosens Bay

Hello all,

Please refer to attached email.

Given Susan Tarbit's involvement in a previously proposed extension to the property enveloped by the Kekuli Bay park and that I will relocating to Victoria in three weeks, Susan will now be acting as your contact for BCH distribution design.

Please direct any future correspondence relating to this project directly to Susan.

Thank you,

Adrian Byrnes | Design Specialist, Distribution Design

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC, V1T 8S4

P 250-549-8625
M 250-804-6552
E adrian.byrnes@bchydro.com

bchydro.com

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January 5, 2018

Project No. 4138585

Joshua Laye, P.Eng
ICI Electrical Engineering
jcl@icieng.com

Dear Mr. Laye:

Your electrical service design request for Cosens Bay Primary Service UG from 429 Highridge Dr, Vernon

Thanks for contacting us to request a servicing design for your proposed project. Please don't start construction related to the electrical service until you've received a detailed design from us, or written confirmation to proceed.

Unapproved installations may require changes which could cause additional delays and costs to you.

Please note that the design we prepare won't relate to services from any other utility (telephone, gas, cable, etc.). You'll need to contact those utilities separately to arrange for their designs, costs and construction scheduling.

Also, BC Hydro collects your personal information for the purpose of fulfilling your electrical connection request and to that end; BC Hydro may need to disclose your information to the developer, your electrical contractors, general contractor, and project managers. We may also require your details to be shared with the local municipal governments, and the BC Safety Authority (BCSA).

BC Hydro collects this information in furtherance of its mandates under the Hydro and Power Authority Act, the Clean Energy Act, and the Electric Tariff regulated by the BC Utilities Commission under the Utilities Commission Act.

If you have any questions concerning how your personal information is handled, please contact me. My contact information is at the end of the letter.

As some or all of the poles involved with your project are jointly owned by both BC Hydro and TELUS please note the following:

- Your estimate, as noted above, is only for the BC Hydro portion of the total project cost(s).
- Please contact TELUS at **engineering.BC@telus.com** to arrange payment for the TELUS portion of the total project cost(s), and to coordinate any work to be performed by TELUS.

Before we can begin a design, we'll need the following:

- Receipt of the design deposit
- Site plans showing locations and dimensions of buildings.

- Civil drawings that indicate the location of the termination of the electrical duct showing other utilities including water, sanitary, and storm sewers on public and private property.
- Civic address and copy of the registered legal plan of property.
- Completed BC Hydro Electrical Service Information form (attached).

During the design phase, we'll also need the following to finalize a detailed design:

- Primary service switchboard drawings, including circuit breaker control wiring diagram and key interlock scheme (if applicable).
- Completed BC Hydro Form "Statement to BC Hydro Regarding Primary Voltage Service Entrance Equipment".
- Electrical one-line diagram including calculated fault levels, interrupting rating of protective devices, and emergency standby generation.
- Proposed protective device coordination graph.
- Profile of the proposed duct run.
- Completion of the details on the enclosed Customer Guide.

Important information about required documents

- Site plan, civil plan and architectural drawings must be supplied digitally in CAD format, preferably in metric (AutoCAD 2010 or prior version, with all drawings bound (no XRefs). File size must be less than 10MB (zipped files are acceptable) and PDF formats.

- All other drawings must be supplied in PDF format.

For further information, refer to the BC Hydro publication "Requirements for Customer-Owned Primary Services at 4kV to 35kV", found on our website: www.bchydro.com.

How to pay your design deposit

Our preliminary review has determined that, to secure design resources for a project of your scope, we'll need a non-refundable design deposit in the amount of $**5,000.00** plus $**250.00** (GST, BC Hydro Registration No. R121454151) for a total of $**5,250.00**.

Please make payment, by cheque or money order, made out to BC Hydro and mail with a copy of this letter to:

Attention: BC Hydro and Project No. 4138585
1401 Kalamalka Lake Rd
Vernon, BC, V1T 8S4

This deposit will be credited to the overall project if the job is started within 12 months of receipt. If, after 12 months the project doesn't proceed, the BC Hydro file will be closed and the design deposit forfeited.

When will you receive a cost quote?

We'll present you with a detailed design and quote within 85 business days of receiving the necessary documents and other information. Note that because this quote time estimate is based on our initial review of your project requirements, it's subject to change.

Remember - we can't go any further with this project until all items have been received.

When will you get details of the construction timeline?

The above quote timeline doesn't include the time we require for construction and service installation. You'll get the timeline for construction, and the estimated in-service date, at a later date.

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

Sincerely,

Susan Tarbit

Susan Tarbit
BC Hydro | Design Technician

T: (250) 549-8632
E: susan.tarbit@bchydro.com

Attachments

"Statement to BC Hydro Regarding Primary Voltage Service Entrance Equipment" form
"Electric Service Information" form

From: David Ethier <david.m.ethier2@gmail.com>
Sent: 2018, June 14 11:39 AM
To: Tarbit, Susan
Cc: Gord Moug; John & Lynn Keating; Joshua C. Laye
Subject: Re: CB Powerline Ltd.

Thanks for talking with me and your quick response. I think we all agree that the present option we are working on is the best solution however the NORD Board of Directors are creating a big hurdle. I don't think anyone thought that such a benign aspect of the Project would be an issue or concern.
As mentioned, we do plan to try and talk with some of the NORD Directors in an effort to ensure they understand that the proposed Powerline crossing will have essentially zero impact on the Rail Trail.

It appears that you now have an answer to the question of BCHYDRO running the line down to the Rail Trail and installing the submarine cable. Can you provide the reason for the answer so that CB Powerline can understand BCHYDRO's position.

Regards
Dave

On Thu, Jun 14, 2018 at 10:58 AM Tarbit, Susan <Susan.Tarbit@bchydro.com> wrote:

> Hi David,
>
> As discussed on the phone your options are limited to get power to Cosens Bay. As BC Parks will not allow a powerline (underground / Overhead) through the park BC Hydro cannot entertain any option that will be proposed through either Kekuli or Kal Park. If BC Hydro is crossing any private land including the rail trail a right of way would be required. That is why a couple of the proposed options for power have been cancelled such as the connection proposed off of the existing pole at Kekuli parking lot area.
>
> The latest option in which BC Hydro is completing the connection to your private switch pole off of Highridge Rd is the best option as you have the private property owner buy in. BC Hydro will not entertain running the line down to the bottom and installing a submarine cable across the lake. The crossing should belong to CB powerline. I would suggest to continue working with NORD to see if you can get approval.
>
> Thank you.

Susan Tarbit | Design Technician

BC Hydro

1401 Kalamalka Lake Rd

Vernon, BC V1T 8S4

P 250 549-8632

E susan.tarbit@bchydro.com

bchydro.com

Smart about power in all we do.

From: David Ethier [mailto:david.m.ethier2@gmail.com]
Sent: 2018, June 14 10:15 AM
To: Tarbit, Susan
Cc: Gord Moug; John & Lynn Keating; Joshua C. Laye
Subject: CB Powerline Ltd.

Good morning Susan.

I am one of the Directors of CB Powerline. I understand you have been dealing with our file and our electrical consultants, ICI (Mr Josh Laye). I would like to me with you to provide an update on the issue we are having with NORD (OK Rail Trail) and perhaps explore some possible solutions.

Might you have time Monday or Tuesday as I will be at my property at Cosens Bay? Morning, earlier the better, would be great.

Thanks

Dave Ethier

Cell phone # is 250-371-7831

From: David Ethier <david.m.ethier2@gmail.com>
Sent: 2018, July 24 11:51 AM
To: Tarbit, Susan
Cc: Gord Allan; Gord Moug; John & Lynn Keating; John Williams
Subject: CB Powerline - Cosens Bay Service

Hi Susan
In our continuing effort to get electrical service to Cosens Bay we have talked with Vance Gerlib in Kamloops. He has recommended we talk with Mr Steve Poutney. We would like to meet with you and Mr Poutney to explore some alternative supply locations that would avoid the Rail Trail crossing and any other suggestions BCHYDRO may have to help move this project forward.
Can you arrange this meeting or would you rather we contact Mr Poutney?
Regards
Dave

From: David Ethier <david.m.ethier2@gmail.com>
Sent: 2018, July 24 1:01 PM
To: Tarbit, Susan
Cc: Gord Allan; Gord Moug; John & Lynn Keating; John Williams
Subject: Re: CB Powerline - Cosens Bay Service

Thanks Susan
Yes we have talked to Fortis about a substation off their transmission line. Costs was estimated at $15 million + in 2011.
We have not talked to Lake Country.
Two potential options we wish to discuss with you are in Coldstream on Westkal Rd and Ponderosa Way.
Another option might be the Crystal Waters subdivision in Lake Country however the distance is really starting to multiply.
Regards
Dave

On Tue, Jul 24, 2018 at 12:27 PM Tarbit, Susan <Susan.Tarbit@bchydro.com> wrote:

> Hi David,
>
> I will discuss this matter with my worklead and Steve Poutney and explore if there are any options that I have missed. I can then get back to you regarding this matter.
>
> To date I have explored 3 different options near Kekuli Bay for the overhead primary service. Have you explored discussions with District of Lake Country and landowners to come from a property and rail trail on District of Lake Country property (further south)? Or explored the possibility of a customer owned substation from Fortis BC off the transmission line at Cosens Bay?
>
> BC Hydro will provide a primary service to the 1st private switch pole in most locations as long as any right of ways required will be signed and all permitting is obtained. After the switch pole it will be up to CB Powerline to obtain the right of ways for their portion of the line.
>
> ---
>
> **Susan Tarbit** | Design Technician

BC Hydro

1401 Kalamalka Lake Rd

Vernon, BC V1T 8S4

P 250 549-8632

E susan.tarbit@bchydro.com

bchydro.com

Smart about power in all we do.

From: David Ethier [mailto:david.m.ethier2@gmail.com]
Sent: 2018, July 24 11:51 AM
To: Tarbit, Susan
Cc: Gord Allan; Gord Moug; John & Lynn Keating; John Williams
Subject: CB Powerline - Cosens Bay Service

Hi Susan

In our continuing effort to get electrical service to Cosens Bay we have talked with Vance Gerlib in Kamloops. He has recommended we talk with Mr Steve Poutney. We would like to meet with you and Mr Poutney to explore some alternative supply locations that would avoid the Rail Trail crossing and any other suggestions BCHYDRO may have to help move this project forward.

Can you arrange this meeting or would you rather we contact Mr Poutney?

Regards

Dave

collect call or return email to notify us of this error. Thank you for your cooperation.

From: Tarbit, Susan
Sent: 2019, December 12 11:40 AM
To: Tarbit, Susan
Subject: FW: BC Hydro/Cosens Bay Powerline

From: Dalgarno, Kevin
Sent: 2018, October 25 8:08 PM
To: Sharman, Dag
Cc: Campbell, Chris; Tarbit, Susan
Subject: Fwd: BC Hydro/Cosens Bay Powerline

Cousins bay request for assistance re a private primary power line from west side of Kal Lk submarine cable to east side. Claim RDNO will not allow private utility to cross under the rail trail. Any one at RDNO that can provide an update on the private utility request.

Sent from my iPhone

Begin forwarded message:

> **From:** Gord Moug <gmoug@telus.net>
> **Date:** October 25, 2018 at 5:53:46 PM PDT
> **To:** <Kevin.Dalgarno@bchydro.com>
> **Subject: Fwd: BC Hydro/Cosens Bay Powerline**
>
> Hi Kevin ,
>
> I know we haven't spoke in some time and I want to tell you that all the BC Hydro people we have had dealings with in our quest for a better lifestyle and safer community have been very helpful and courteous and are sympathetic with our situation.
> However there is a growing frustration among our community in our dealings with RDNO inre crossing of the rail trail as everyone feels that BC Hydro is not going the full distance in providing service to Cosens Bay.
> This is becoming a very hot topic and I was hoping that you could point me in a direction or to someone within BC Hydro who could guide our efforts in the right direction.
> We have been trying to present our feasibility plan to RDNO and they won't even give us an audience.
> Is this normal for a government district to withhold power to a community?
> Our initial timeline had us connecting to the grid right about now and we are no where near doing that because of a 10 meter stretch of land that most of
> the residents feel is up to the power provider to deal with.
> I hope you can answer these questions and put us on to someone who can guide CB Powerline to the finishing of this project.
>
> Thank you

Regards
Gord Moug
President
CB Powerline
Begin forwarded message:

From: "Alice Klim" <aliceklim@shaw.ca>
Date: October 21, 2018 at 8:16:33 AM PDT
To: "gordon Moug" <gmoug@telus.net>
Cc: "Dave Either" <david.m.ethier2@gmail.com>, "John Keating" <jkeating403@gmail.com>, <john.williams@qcasystems.com>, "gord allan" <sandgallan@outlook.com>
Subject: Re: BC Hydro

Hi Gord,

Thank-you for your response to my concern. With all due respect I remember you stating you were working with Hydro on design but, that does not deal with the legal issue of access under the rail trail, and that is the issue which I am addressing as B.C. Hydro has ultimate and unquestionable rights to secure that access to bring power to a community. They also have the same rights on the road, but, you are pursuing the marine cable, so lets talk about that route. Under the rail trail, or along the road right of way, is not the issue; it is B.C. Hydro's right to have access to bring the power where it is needed that is unquestionable. I believe B.C. Hydro wants to be seen as cooperating with you while staying out of the political fray so they can say they worked cooperatively and did not do anything that would obstruct Cosens Bay Community from accessing power. That is the issue which I believe is the elephant in the room which is not being talked about. Your committee is taking on a role which B.C. Hydro used to deal with exclusively and can best deal with very quickly and efficiently and they know that. Please hold B.C. Hydro accountable to help you secure the access under the rail trail. It is crazy to allow some Director and staff at the Regional District to chuckle while they put road blocks up.

B.C. Hydro can get access under the rail line and likely know what legislation will give you that same right. I encourage you to ask them to assist you. They have the power to tell the Regional District that they are going under the rail trail. End of discussion! There is case law showing how public utilities can put lines where ever they are needed and local government cannot delay or put bylaws in their way. I will have to dig up the case law, but, I have read it. I think it was the City of Delta that tried to stop B.C. Hydro from installing lines in a specific location within their jurisdiction, and Delta was squashed. I encourage you to talk to B.C. Hydro about securing the right of way under the rail line. If you get resistance, then I will do some research for you on the case law that authorizes this.

At this time I am very busy with my lawyer as the Attorney General is trying to get my case dismissed as they tried to do to the case we launched which we won in 1996. It is all about obstacles and increasing costs.

I would appreciate hearing if you need case law on this issue and would fit in some research for this.

Kind regards,

Alice Klim

-----Original Message----- From: Gord Moug
Sent: Thursday, October 11, 2018 5:17 PM
To: Alice Klim
Cc: david.m.ethier2@gmail.com ; John Keating ; John Williams ; Gord Allan
Subject: BC Hydro

Dear Alice,
In response to your letter last week I will remind you that I sat down with you late July and responded to these very same questions.
We have applied to BC Hydro and have been working with them since last November identifying crossing points for a submersible cable as the under the road option thru the park is not a feasible(politically) or an economically viable route.

The people at BC Hydro have been very helpful and cooperative in design and sizing of our needs.CB Power and ICI want to keep it that way.
If you have any documents to support that BC Hydro has legal responsibility to bring service to Cosens Bay then please forward it to our board as well as anything you may have from BCUC.

The CB Powerline Board does not want to enter any debate regarding the road and will leave that up to MoTI who are aware of CB Powerline and our intentions .

If you have any further questions please contact myself or any member of the board .

Regards
Gord Moug
President
CB Powerline

From: Tarbit, Susan
Sent: 2019, December 13 12:00 PM
To: Tarbit, Susan
Subject: FW: BC Hydro/Cosens Bay Powerline

From: Gord Moug [mailto:gmoug@telus.net]
Sent: 2018, November 16 11:29 AM
To: Tarbit, Susan
Cc: Dalgarno, Kevin
Subject: Re: BC Hydro/Cosens Bay Powerline

Good Morning Susan

Thanks for your attention to this matter.
CB Powerline is trying to work with the RDNO and await the reorganization after the recent election to see what committee's are being formed and who is on them as there are new elected officials we have yet to make contact with.
Have a good weekend !

Regards
Gord Moug

On Nov 16, 2018, at 10:49 AM, Tarbit, Susan <Susan.Tarbit@bchydro.com> wrote:

> **Good Morning Gord,**
>
> **Kevin spoke with our Community Relations Manager for the area to discuss the project and asked him to call his contacts at RDNO to see if we can get some communication proceeding on this issue. He has since called them and asked them to touch base with you. Please let me know if you had received any communication from RDNO to date. Thank you.**

Susan Tarbit | Design Technician

BC Hydro
1401 Kalamalka Lake Rd
Vernon, BC V1T 8S4

P 250 549-8632
E susan.tarbit@bchydro.com

bchydro.com
Smart about power in all we do.

From: Gord Moug <gmoug@telus.net>
Date: October 25, 2018 at 5:53:46 PM PDT
To: <Kevin.Dalgarno@bchydro.com>
Subject: Fwd: BC Hydro/Cosens Bay Powerline

Hi Kevin ,

I know we haven't spoke in some time and I want to tell you that all the BC Hydro people we have had dealings with in our quest for a better lifestyle and safer community have been very helpful and courteous and are sympathetic with our situation.
However there is a growing frustration among our community in our dealings with RDNO inre crossing of the rail trail as everyone feels that BC Hydro is not going the full distance in providing service to Cosens Bay.
This is becoming a very hot topic and I was hoping that you could point me in a direction or to someone within BC Hydro who could guide our efforts in the right direction.
We have been trying to present our feasibility plan to RDNO and they won't even give us an audience.
Is this normal for a government district to withhold power to a community?
Our initial timeline had us connecting to the grid right about now and we are no where near doing that because of a 10 meter stretch of land that most of the residents feel is up to the power provider to deal with.
I hope you can answer these questions and put us on to someone who can guide CB Powerline to the finishing of this project.

Thank you

Regards
Gord Moug
President
CB Powerline
Begin forwarded message:

> **From:** "Alice Klim" <aliceklim@shaw.ca>
> **Date:** October 21, 2018 at 8:16:33 AM PDT
> **To:** "gordon Moug" <gmoug@telus.net>
> **Cc:** "Dave Either" <david.m.ethier2@gmail.com>, "John Keating" <jkeating403@gmail.com>, <john.williams@qcasystems.com>, "gord allan" <sandgallan@outlook.com>
> **Subject: Re: BC Hydro**
>
> Hi Gord,
>
> Thank-you for your response to my concern. With all due respect I remember you stating you were working with Hydro on design but, that does not deal with the legal issue of access under the rail trail, and that is the issue which I am addressing as B.C. Hydro has

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The CB Powerline Board does not want to enter any debate regarding the road and will leave that up to MoTI who are aware of CB Powerline and our intentions .

If you have any further questions please contact myself or any member of the board .

Regards
Gord Moug
President
CB Powerline

From: Design Construction Payment
Sent: 2019, March 22 2:15 PM
To: Tarbit, Susan
Subject: FW: Follow Up - Design and Construction Payment Account Form - Design No. 0003682871

FYI-Hi Susan, this customer below has responded wondering if the deposit can be refunded. Can the Vernon office look after this please? I will just suspend DPS until you have the refund done and then Helen can cancel it.

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2019, March 22 1:25 PM
To: Design Construction Payment
Subject: RE: Follow Up - Design and Construction Payment Account Form - Design No. 0003682871

Annmarie,

At this point it is not clear if this job is moving forward. Are you able to cancel and refund the deposit so it does not get caught up in the system changes?

Thanks,

Joshua Laye

From: Design Construction Payment <designconstructionpayment@bchydro.com>
Sent: March 21, 2019 1:05 PM
To: Joshua C. Laye <jcl@icieng.com>
Subject: RE: Follow Up - Design and Construction Payment Account Form - Design No. 0003682871

BC Hydro is changing the way customers can pay for Design construction projects. Your project is in our system and we are trying to catch the inflight Designs so we can have customers set up before our go live date. This job is fairly old and I am not sure if it is still proceeding? I can cancel this if it is not moving forward. I've attached the prelim letter that was sent out last year and to date, appears we have received nothing. Let me know if you have any other questions.

Thanks,
Annemarie

From: Joshua C. Laye [mailto:jcl@icieng.com]
Sent: 2019, March 21 10:26 AM
To: Design Construction Payment
Subject: RE: Follow Up - Design and Construction Payment Account Form - Design No. 0003682871

Annemarie,

Can you please provide more context on this? I know the address and I think I know which project this may be referring to, but was something formally submitted by someone else? Can you provide me more details on what is going on?

Thanks,

Josh

From: Design Construction Payment <designconstructionpayment@bchydro.com>
Sent: March 21, 2019 8:38 AM
To: Joshua C. Laye <jcl@icieng.com>
Subject: Follow Up - Design and Construction Payment Account Form - Design No. 0003682871
Importance: High

Dear Customer,

We sent you an email requesting additional information to set up your Design and Construction Payment Account. We did not receive your completed form by the required date. If you will not be moving forward with this project, please advise us with a return email so we can cancel the project. If you are proceeding, please return the application as soon as possible. We appreciate your attention to this matter. Thank you *

Design No.: 000 3682871
Project: 429 HIGHRIDGE RD, VERNON

The design connection project you have initiated will require future deposit and/or construction payments. A BC Hydro Design and Construction Payment Account **must** be set up to enable invoicing and payment for all future design and construction costs including deposits *regardless of payment method.* These changes are aligned with our new payment system enabling automated invoices and receipts being introduced in Spring 2019.

Please access the online form and provide us with the information required to set up this new Design and Construction Payment Account by **March 25, 2019.**

Additional Benefits
We will also introduce new electronic banking payment options. With the rollout of these new options, you will benefit from a more convenient way to pay for the costs associated with the design, material and construction estimates through your banking institution – either online or in person at your bank.

Questions?
If you have any questions regarding the new payment options or completing the online form, please email us at DesignConstructionPayment@bchydro.com.

If you are experiencing problems with the online form, you can complete the attached PDF form and email a signed copy back to DesignConstructionPayment@bchydro.com by the above date.

Thank you,

Annemarie Johnson | Service & Design Assistant
Distribution Design/Thompson Shuswap

BC Hydro

bchydro.com

Smart about power in all we do.

collect call or return email to notify us of this error. Thank you for your cooperation.

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, April 23 10:17 AM
To: Anil, Deniz
Subject: RE: Cosens Bay

Thanks Deniz.

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Tuesday, April 23, 2019 10:14 AM
To: Jim Pinter <jim@pinterco.ca>
Subject: Cosens Bay

Hi Jim,
As per our conversation this morning please find attached standards.
Regards,
Deniz

From: Anil, Deniz
Sent: 2019, April 03 8:52 AM
To: 'Jim Pinter'; 'David Ethier'
Cc: Serko, Larry; Samonchik, Daniel; Tarbit, Susan
Subject: Cosens Bay Meeting

Dave/Jim,
It was a pleasure meeting you both yesterday. I believe we had a productive meeting towards helping you find solutions for powering Cosens Bay.
Highlights from our meeting were,
-Possible agreement from North Okanagan Regional District for the railway crossing to allow for submarine cable across the lake.
-BCH power quality issues with providing single phase only, 3Phase extension is the better and cheaper option.
-Possible extension/tie points and known land and rights issues.
-Primary application and BCH Standards at possible Point of Connections.
-General discussions around primary metering, rates and re-sale of electricity agreements through BCUC and similar BCH submarine crossing projects .

I prepared the attached maps to help you move forward with discussions around lake crossing points with the Regional District and possible routes for BCH 3Phase extensions. Also below links are the information you may find helpful on items discussed yesterday.

Jim, we have the following cables for use in submarine applications (see attached ES53 standard)
- 1/0 AWG Cu,SOL,25kV SWA Full CN / OKONITE
- 1/0,Cu,CR,25kV,SWA Full CN250 / OKONITE
- 250 kcm Cu,CR,25kv,SWA Full CN / OKONITE

https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/distribution/standards/Primary-Service-Connections-Customer-Steps.pdf
https://app.bchydro.com/accounts-billing/electrical-connections/distribution-standards/LA-Primary-Guide-2017.html
https://app.bchydro.com/accounts-billing/electrical-connections/distribution-standards/LA-ES53-S3-Primary-Services.html

https://app.bchydro.com/accounts-billing/electrical-connections/distribution-standards/LA-RM-Complex-RM.html

Section 9.1, "Resale of Electricity" https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/tariff-filings/electric-tariff/bchydro-electric-tariff.pdf
British Columbia Utilities Commission https://www.bcuc.com/
Electric Tariff https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/tariff-filings/electric-tariff/bchydro-electric-tariff.pdf
For private property installations and permits please talk to TSBC https://www.technicalsafetybc.ca/

if you have any questions or comments please don't hesitate to contact me.
Best regards,

Deniz ANIL | **AScT**, Design Specialist
Distribution Engineering and Design

BC Hydro
South Interior, Design
1401 Kalamalka Lake Rd
Vernon, BC
V1T 8S4

T : 250 549-8625
M : 250 517-0787
E deniz.anil@bchydro.com

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, May 14 11:14 AM
To: Anil, Deniz
Cc: Serko, Larry; Samonchik, Daniel; Tarbit, Susan; David Ethier
Subject: RE: Cosens Bay Meeting

Hi Deniz,

This is helpful thanks. When we get to detailed design we can review BCH metering further.

Regards,

Jim

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Tuesday, May 14, 2019 10:14 AM
To: Jim Pinter <jim@pinterco.ca>
Cc: Serko, Larry <Larry.Serko@bchydro.com>; Samonchik, Daniel <Daniel.Samonchik@bchydro.com>; Tarbit, Susan <Susan.Tarbit@bchydro.com>; David Ethier <david.m.ethier2@gmail.com>
Subject: RE: Cosens Bay Meeting

Good morning Jim,
BCHydro will not be building or taking ownership of customer build lines for the proposed Cosens bay project however we may be able to secondary meter customers and bill them directly given that services are built to BCH standards (see our secondary metering guide). The CB powerline would receive a credit for owning and maintaining the infrastructure through our rate structure. You can find further info on our primary guides metering section 3.5 or in the tariff. You would probably be 1511 (35kw to 150kw) or 1611(150kw and above) rate depending on the demand.
If secondary metering on each house is the preferred way then once the project is in planning stage I can explore any SMI requirements through the Smart Meter Engineering folk. My opinion is our first requirement would be a good cell reception for smart metering communication.
Hope this helps,

2. GENERAL SERVICE

RATE SCHEDULES 1500, 1501, 1510, 1511 – MEDIUM GENERAL SERVICE (35 KW OR GREATER AND LESS THAN 150 KW)

Availability	For Customers who qualify for General Service and whose Billing Demand is equal to or greater than 35 kW but less than 150 kW, and whose Energy consumption in any 12-month period is equal to or less than 550,000 kWh. Supply is 60 hertz, single or three phase at Secondary or Primary Voltage. BC Hydro reserves the right to determine the voltage of the Service Connection.
Applicable in	Rate Zone I.
Rate	**Basic Charge:** 26.73 ¢ per day plus **Demand Charge:** $5.42 per kW of Billing Demand plus **Energy Charge:** 9.68 ¢ per kWh
Discounts	1. A discount of 1½% will be applied to the above charges if a Customer's supply of Electricity is metered at a Primary Voltage. 2. A discount of 25 ¢ per Billing Period per kW of Billing Demand will be applied to the above charges if a Customer supplies Transformation. 3. If a Customer is entitled to both of the above discounts, the discount for metering at a Primary Voltage will be applied first.

2. GENERAL SERVICE

RATE SCHEDULES 1600, 1601, 1610, 1611 – LARGE GENERAL SERVICE (150 KW AND OVER)

Availability	For Customers who qualify for General Service and whose Billing Demand is equal to or greater than 150 kW, or whose Energy consumption in any 12 month period is greater than 550,000 kWh. Supply is 60 hertz, single or three phase at Secondary or Primary Voltage. BC Hydro reserves the right to determine the voltage of the Service Connection.
Applicable in	Rate Zone I.
Rate	**Basic Charge:** 26.73 ¢ per day plus **Demand Charge:** $12.34 per kW of Billing Demand plus **Energy Charge:** 6.06 ¢ per kWh
Discounts	1. A discount of 1½% will be applied to the above charges if a Customer's supply of Electricity is metered at a Primary Voltage. 2. A discount of 25 ¢ per Billing Period per kW of Billing Demand will be applied to the above charges if a Customer supplies Transformation. 3. If a Customer is entitled to both of the above discounts, the discount for metering at a Primary Voltage will be applied first.

Deniz ANIL | **AScT**, Design Specialist
Distribution Engineering and Design

BC Hydro
South Interior, Design
1401 Kalamalka Lake Rd
Vernon, BC
V1T 8S4

T : 250 549-8625
M : 250 517-0787
E deniz.anil@bchydro.com

From: Jim Pinter [mailto:jim@pinterco.ca]
Sent: 2019, May 13 3:38 PM
To: Anil, Deniz
Cc: Serko, Larry; Samonchik, Daniel; Tarbit, Susan; David Ethier
Subject: RE: Cosens Bay Meeting

Hi Deniz,

We are working with BCUC regarding our project and would like confirmation from BC Hydro with respect to questions we posed at the meeting, specifically:

1. Will BC Hydro entertain a request from CB Powerline Ltd. to extend the BC Hydro distribution system to Cosens Bay and supply the residents directly with power?
2. Does BC Hydro have any interest in taking ownership and operation of CB Powerline Ltd.'s proposed electrical distribution system upon commercial operation?

If you could confirm your position on the above that would be greatly appreciated.

Best regards,

Jim

Jim Pinter, P.Eng.
Pinter Electrical Consulting Inc.
Pinterco.ca
403-701-1563

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Wednesday, April 03, 2019 8:52 AM
To: Jim Pinter <jim@pinterco.ca>; David Ethier <david.m.ethier2@gmail.com>
Cc: Serko, Larry <Larry.Serko@bchydro.com>; Samonchik, Daniel <Daniel.Samonchik@bchydro.com>; Tarbit, Susan <Susan.Tarbit@bchydro.com>
Subject: Cosens Bay Meeting

Dave/Jim,
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Jim, we have the following cables for use in submarine applications (see attached ES53 standard)

- 1/0 AWG Cu,SOL,25kV SWA Full CN / OKONITE
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- 250 kcm Cu,CR,25kv,SWA Full CN / OKONITE

https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/distribution/standards/Primary-Service-Connections-Customer-Steps.pdf
https://app.bchydro.com/accounts-billing/electrical-connections/distribution-standards/LA-Primary-Guide-2017.html
https://app.bchydro.com/accounts-billing/electrical-connections/distribution-standards/LA-ES53-S3-Primary-Services.html
https://app.bchydro.com/accounts-billing/electrical-connections/distribution-standards/LA-RM-Complex-RM.html

Section 9.1, "Resale of Electricity" https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/tariff-filings/electric-tariff/bchydro-electric-tariff.pdf
British Columbia Utilities Commission https://www.bcuc.com/
Electric Tariff https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/tariff-filings/electric-tariff/bchydro-electric-tariff.pdf
For private property installations and permits please talk to TSBC https://www.technicalsafetybc.ca/

if you have any questions or comments please don't hesitate to contact me.
Best regards,

Deniz ANIL | **AScT**, Design Specialist
Distribution Engineering and Design

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1401 Kalamalka Lake Rd
Vernon, BC
V1T 8S4

T : 250 549-8625
M : 250 517-0787
E deniz.anil@bchydro.com

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, July 05 2:16 PM
To: Anil, Deniz
Subject: CB Powerline Point of Connection
Attachments: CB Powerline POC Options.pdf

Hi Deniz,

Nice speaking on the phone today.

Attached is the sketch you provided that I marked up to show the two locations we are currently looking at for a connection to BC Hydro.

With respect to either location, can you provide comments on our selection and check if BC Hydro can supply a connection under the existing land easements you have in place now?

Below is the link to the CB Powerline BCUC exemption application.

CB Powerline Ltd. - Exemption Application

Regards,

Jim

Jim Pinter, P.Eng.
Pinter Electrical Consulting Inc.
Pinterco.ca
403-701-1563

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, July 10 10:02 AM
To: Anil, Deniz; Serko, Larry
Subject: RE: CB Powerline Point of Connection

Hi Deniz,

Thanks for the sketch.

We are now only focusing on the connection point on the 205 property. We will be submitting an application soon.

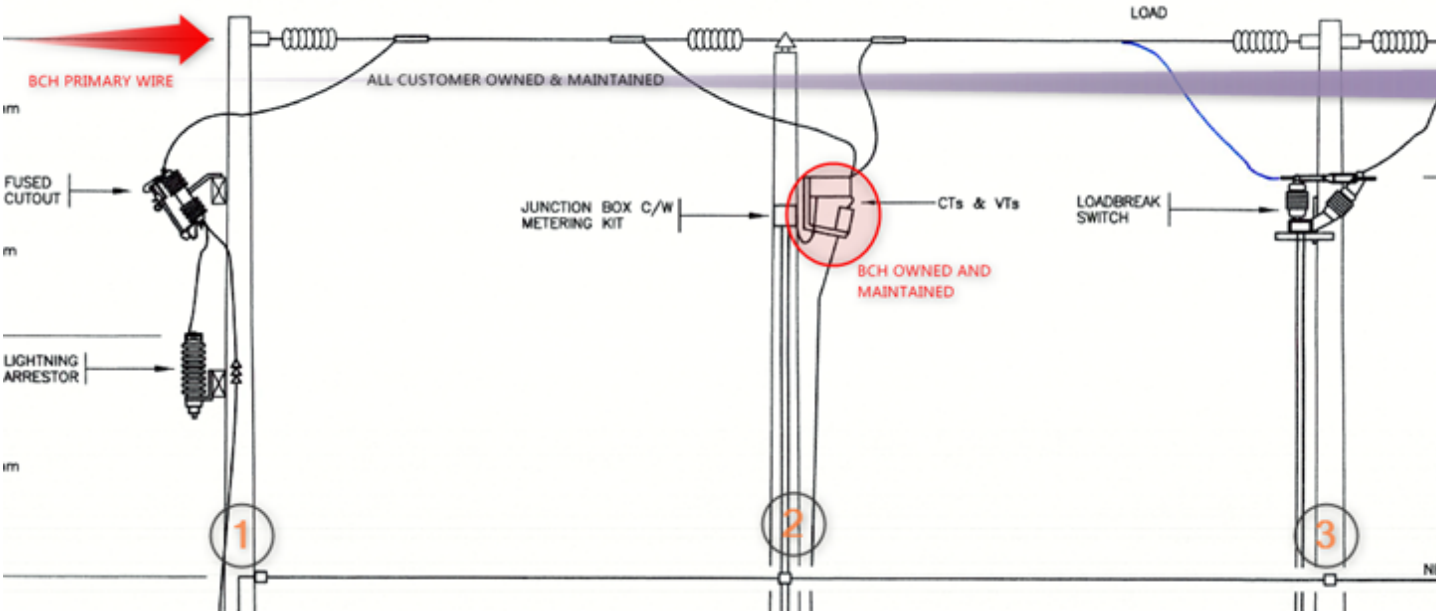
Thanks,

Jim

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Tuesday, July 09, 2019 10:35 AM
To: Serko, Larry <Larry.Serko@bchydro.com>
Cc: Jim Pinter <jim@pinterco.ca>
Subject: FW: CB Powerline Point of Connection

Hi Jim, Larry is on AV leave and will be back on the 15th.

To answer your question on number of poles, see below what typical setup is with primary metering on pole. So 3 poles needed.



Hi Larry,
Would you please have a look at the attached from Jim and advise if we have any rights in place on either property for termination?

Thank you,

Deniz ANIL | **AScT**, Design Specialist
Distribution Engineering and Design

BC Hydro
South Interior, Design
1401 Kalamalka Lake Rd
Vernon, BC
V1T 8S4

T : 250 549-8625
M : 250 517-0787
E deniz.anil@bchydro.com

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Sent: 2019, July 05 2:16 PM
To: Anil, Deniz
Subject: CB Powerline Point of Connection

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CB Powerline Ltd. - Exemption Application

Regards,

Jim

Jim Pinter, P.Eng.
Pinter Electrical Consulting Inc.
Pinterco.ca
403-701-1563

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, July 11 10:36 AM
To: Tarbit, Susan
Cc: Anil, Deniz; David Ethier
Subject: CB Powerline Ltd. - Notice of BCUC Application for Exemption
Attachments: G-151-19.pdf

Hi Susan,

On June 13, 2019 CB Powerline Ltd. filed an application with the British Columbia Utilities Commission (BCUC) for an exemption from all of Part 3 of the Utilities Commission Act. The BCUC has responded with the attached Order dated July 8, 2019 which outlines the process, who must be notified of our application and the associated timetable for the public hearing process.

We are reaching out to BC Hydro to provide notice of the application, a copy of which is attached to this email. If there is another contact in BC Hydro we should be using please advise, else if you could acknowledge by reply email that you have received the notice that would be appreciated.

If you have any questions or concerns please do not hesitate to reach out by email or phone.

Best regards,

Jim

Jim Pinter, P.Eng.
Pinter Electrical Consulting Inc.
Pinterco.ca
403-701-1563

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, July 22 5:18 PM
To: Anil, Deniz
Cc: Tarbit, Susan; David Ethier
Subject: CB Powerline - Cosens Bay Project - Primary Service Application
Attachments: 102 POWER LINE ROUTE OVERALL REVISION A.pdf

Hi Denis,

CB Powerline Ltd. is requesting a Primary Service connection for its Cosens Bay Community Power project.

Per section 5.1.1 of the BC Hydro Primary Guide, below is the required customer submission information.

Also, attached is a drawing showing the proposed point of connection and project power line route for your reference.

With respect to a deposit made by CB Powerline, I checked with Dave Ethier and we believe CB Powerline made a $5k deposit which Susan is apparently aware of? If you can double check on this that would be great.

Customer
CB Powerline Ltd.
576 Stonebridge Drive
Kamloops, BC V2H 0A7
Attn: Dave Ethier

Consultant / Engineer
Pinter Electrical Consulting Inc.
7229 Heritage Crt
Lake Country, BC V4V 2L3
Attn: Jim Pinter, P.Eng
403-701-1563

5.1.1 Customer Submissions

The customer must supply to BC Hydro the total connected load and nature of the load, including a list of:

1) Motors 50 HP and larger in 12.5 kV areas and motors 100 HP and larger in 25 kV areas, which may require inrush current mitigation; None
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7) Service address, and 205 Highway 97, Vernon BC, V1H 1G1
8) Planned in-service date. May 15, 2020

Regards,

Jim

Jim Pinter, P.Eng.
Pinter Electrical Consulting Inc.
Pinterco.ca
403-701-1563

From: Tarbit, Susan
Sent: 2019, August 21 2:59 PM
To: Anil, Deniz
Subject: Re: CB Powerline - Cosens Bay Project - Primary Service Application

Great job Deniz!! This has been 20 years in the making.

Sent from my iPhone

On Aug 21, 2019, at 3:50 PM, Anil, Deniz <Deniz.Anil@bchydro.com> wrote:

> Good afternoon Jim,
> I believe we have reached a major milestone for this project. I am looking forward to working with you in the next stage.
>
> As per Primary Guide section 5.1.2 following is BCH response to your service request.
>
> The Study conducted was to connect 300kW load to 14.4kV 2566VNT at Pole 0073157 near Hwy 97, Vernon, B.C.
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> <image005.png>
>
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>
> Please let me know if you have any questions,
>
> Sincerely,

Deniz ANIL | **AScT**, Design Specialist
Distribution Engineering and Design

BC Hydro
South Interior, Design
1401 Kalamalka Lake Rd
Vernon, BC
V1T 8S4
T : 250 549-8625
M : 250 517-0787

E deniz.anil@bchydro.com

From: Jim Pinter [mailto:jim@pinterco.ca]
Sent: 2019, August 20 2:12 PM
To: Anil, Deniz
Cc: Tarbit, Susan; David Ethier
Subject: RE: CB Powerline - Cosens Bay Project - Primary Service Application

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I received you voicemail, thanks.

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Jim

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<image004.jpg>

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<Primary Fault Level_Cosens Bay_21-08-2019.pdf>

<Design Deposit Receipt.pdf>

<bchydro-electric-tariff.pdf>

From: David Ethier <david.m.ethier2@gmail.com>
Sent: 2019, August 26 6:26 AM
To: Design, Okanagan
Cc: Anil, Deniz; Jim Pinter
Subject: [External] Re: NEP Authroization Form for Cosens Bay Private Line - Project # 0004138585

Good morning Helen
Thank you for the information. We have completed the form and plan to hand it to Deniz at our site meeting this morning.
Regards
Dave Ethier

On Thu, Aug 22, 2019 at 3:45 PM Design, Okanagan <design.ok@bchydro.com> wrote:

Good afternoon,

A BC Hydro payment account **must** be set up to enable invoicing and payment for all design and construction costs including deposits regardless of payment method.
Please complete the attached PDF form and email to Okanagan.DA@bchydro.com to provide us with the information required to set up this new Design and Construction Payment Account **as soon as possible.**

For your convenience we have attached the Authorization Form to this letter, and it is also available on BC Hydro's website http://bchydro.com/getconnected/ .

New Payment Options
We have now introduced new electronic banking payment options. You will benefit from a more convenient way to pay for the costs associated with the design, material and construction estimates through your banking institution – either online or in person at your bank.

If you have any other questions, please feel free to contact your designer SundryBilling@bchydro.com.

Thank you,

Helen Stasiuk | Design Assistant, Distribution Design

BC Hydro

1401 Kalamalka Lake Rd

Vernon, B.C. V1T 8S4

bchydro.com

Smart about power in all we do.

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, September 04 11:01 AM
To: Anil, Deniz
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

Thanks for that, I will update our info package and get back to you.

Regards,

Jim

Jim Pinter, P.Eng.
Pinterco.ca
403-701-1563

PINTERCO

From: Anil, Deniz <Deniz.Anil@bchydro.com>
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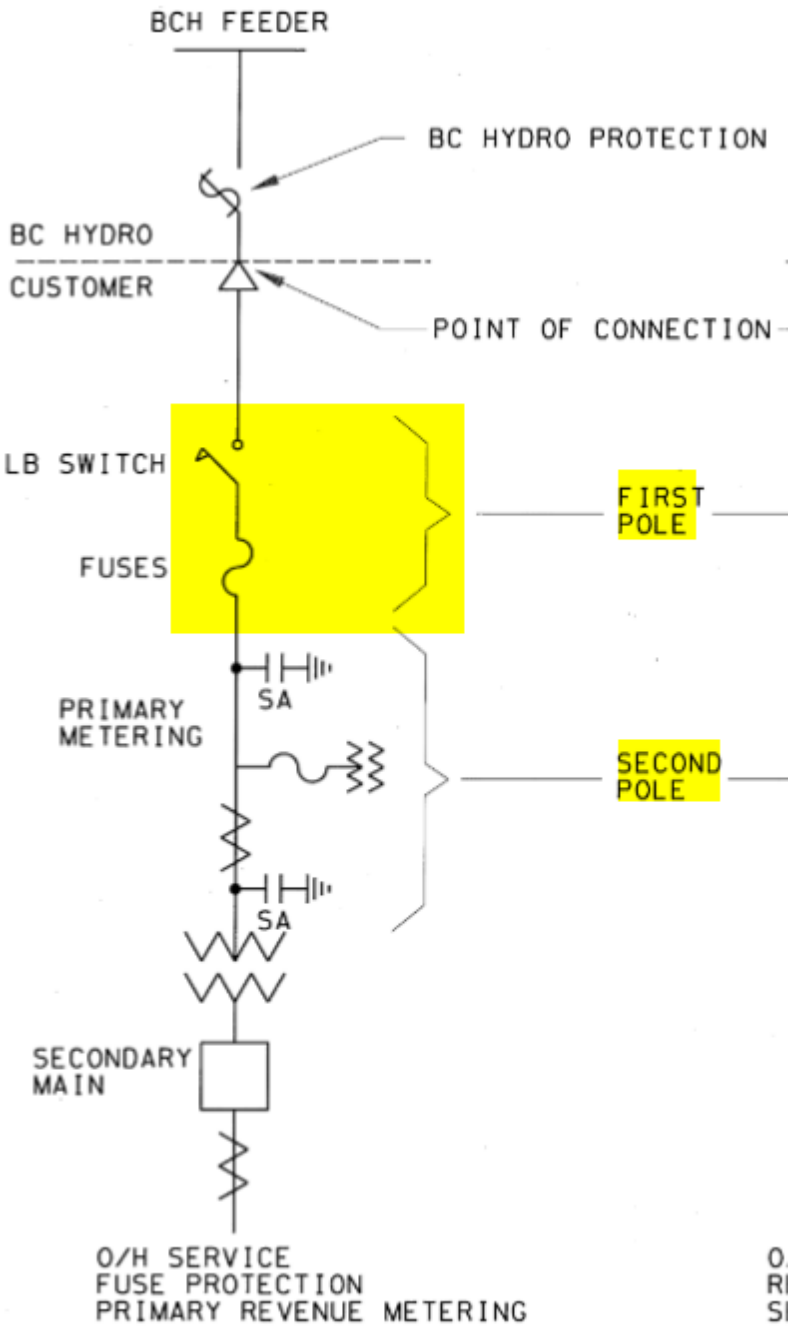

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Sent: 2019, August 26 8:42 AM
To: Anil, Deniz
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

See you at 11am.

Thx.

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Sent: 2019, September 11 9:06 AM
To: Anil, Deniz
Cc: David Ethier
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application
Attachments: 300-1 w ORTHO.pdf; 300-1.pdf

Hi Deniz,

Attached is a site layout drawing showing the proposed point of connection. A note on the drawing lists the expected maximum demand load to be 300 kVA, this is based on using a current demand per connected lot of 5 kVA. The ultimate maximum demand we are designing to is 700 kVA, this is based on a future demand per connected lot of 7 kVA.

If you are okay with this POC configuration, I will complete the Formal Application for submittal to BCH.

Also, when you get a chance can you send along the updated 3 phase fault level information.

Regards,

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PINTERCO

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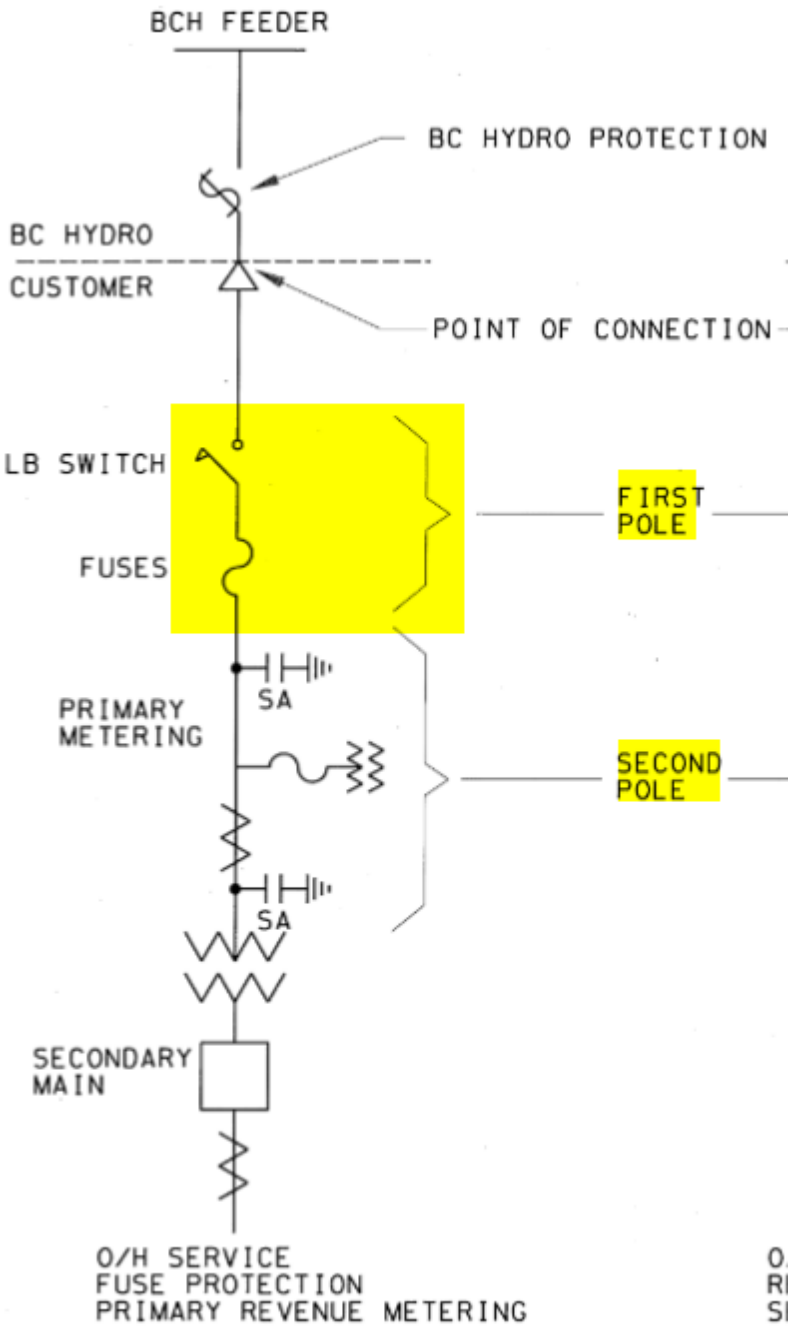

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2. PROPERTY LINES ARE APPROXIMATE AND SUBJECT TO CONFIRMATION AND LEGAL SURVEY
2. ESTIMATED MAXIMUM DEMAND LOAD FOR THE PROJECT CONNECTION IS 300 KVA.
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PINTERCO

PINTER ELECTRICAL CONSULTING INC.

REV	M	D	Y	REVISION DESCRIPTION	DES	DRW	APP
A	09	10	19	ISSUED FOR PERMITTING	JRP	JRP	---

NOT FOR CONSTRUCTION

PERMIT

DRAFT

ENGINEERS STAMP

CB POWERLINE LTD.
COSENS BAY POWER PROJECT

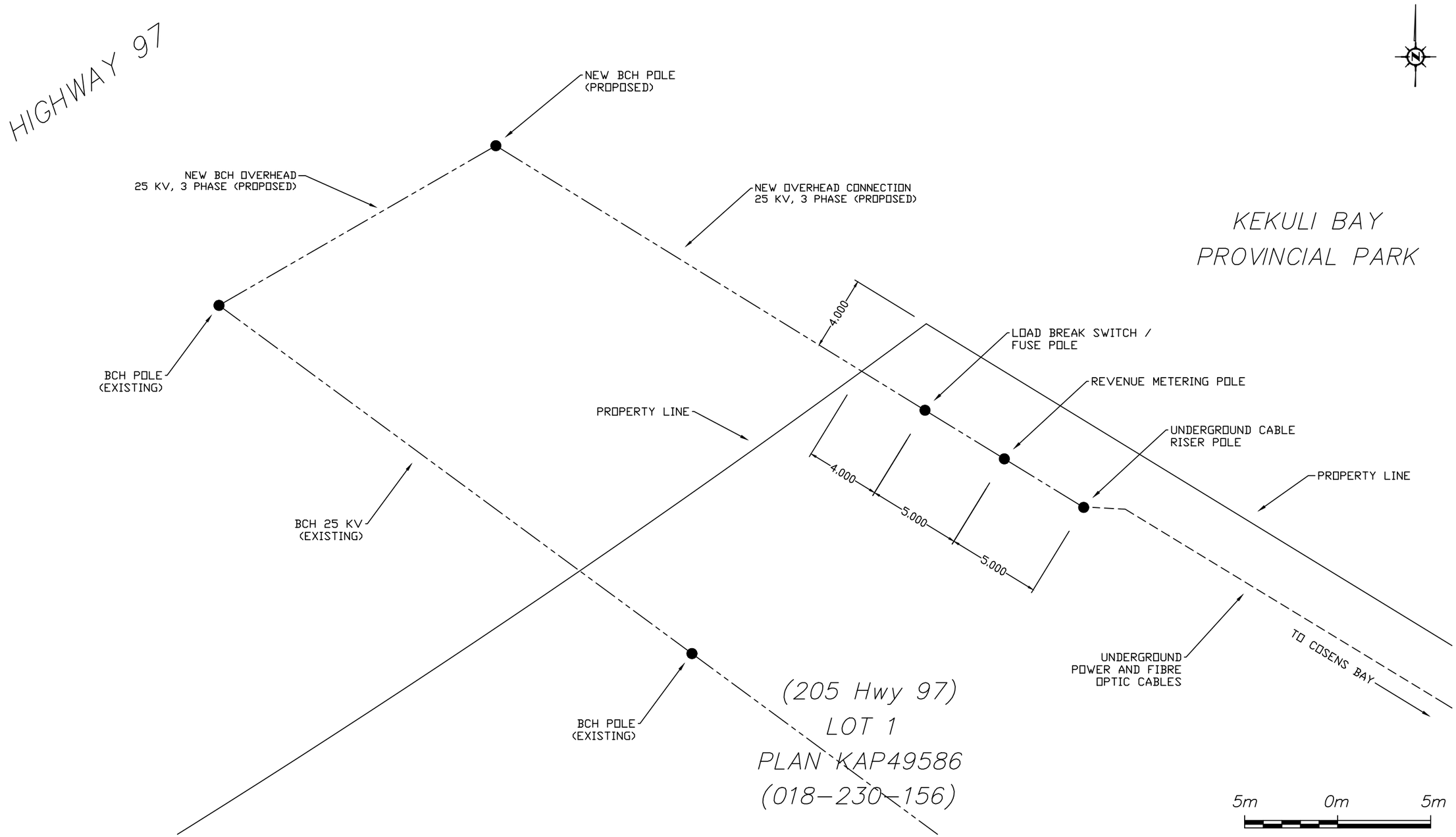
TITLE: WEST KALAMALKA LAKE POINT OF CONNECTION SITE LAYOUT

DATE: 9/10/19

SCALE: NTS

DWG. NO.: 300-1

REV.: A



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CB POWERLINE LTD.
COSENS BAY POWER PROJECT

TITLE: WEST KALAMALKA LAKE POINT OF CONNECTION SITE LAYOUT

DATE: 9/10/19

SCALE: NTS

DWG. NO.: 300-1

REV.: A

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, September 25 12:36 PM
To: Anil, Deniz
Subject: [External] FW: Power to Lot 165 Hwy 97

Caution: This is an **external** email. Do not open attachments or click on links from unknown senders.
FYI – I will call you to discuss.

Regards,

Jim

Jim Pinter, P.Eng.
Pinterco.ca
403-701-1563

From: Alan Woytuik <awoytuik@gmail.com>
Sent: Wednesday, September 25, 2019 12:29 PM
To: Serko, Larry <Larry.Serko@bchydro.com>
Cc: Jim Pinter <jim@pinterco.ca>
Subject: Power to Lot 165 Hwy 97

Hi Larry
I want to inform you of a development that is happening with our property and the requirement for power to it. We have been approached by Jim Pinter representing CB Powerline Ltd., requesting access across our property for a power line to connect BC Hydro to the community of Cosens Bay. The point of connection to BC Hydro is proposed to be at the north west corner of our property.
We will signing an agreement granting this access. As a result Jim will be contacting you regarding bringing 3 phase power from Bailey road to this proposed POC on our property.
This is a significant change to the scope and nature of the project to supply power to our site.
I wanted to let you know about this development as it might be best to talk to Jim before contacting Mr. Laszlo.

Thanks
Alan

From: Jim Pinter <jim@pinterco.ca>
Sent: 2019, October 04 3:07 PM
To: Anil, Deniz
Cc: David Ethier; Serko, Larry
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

Thanks for the update.

Our project is not without challenges and we are working to accommodate all parties involved.

We recognize the support BC Hydro has provided to move the project forward and would appreciate any expedited effort to verify constructability and cost of this new POC location.

Regards,

Jim

Jim Pinter, P.Eng.
Pinterco.ca
403-701-1563

PINTERCO

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Friday, October 04, 2019 1:44 PM
To: Jim Pinter <jim@pinterco.ca>
Cc: David Ethier <david.m.ethier2@gmail.com>; Serko, Larry <Larry.Serko@bchydro.com>
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Jim,
I am a bit surprised with this change, last time we met on site I was under the impression that legalities were sorted out going through Mr. Lazslo's property but perhaps I misunderstood.
We need to do some preliminary work with Crown and MOTI to be able to answer you whether new proposal is constructible or not. One thing I can say for sure is your cost will increase significantly along with a much longer design and construction timeline due to requirements of other parties. Larry, (cc'd) will be investigating property and legal side of things and he will be in touch with you when he has all the necessary information we need.
Best regards,

Deniz ANIL | **AScT**, Design Specialist
Distribution Engineering and Design

BC Hydro
South Interior, Design
1401 Kalamalka Lake Rd

Vernon, BC
V1T 8S4
T : 250 549-8625
M : 250 517-0787
E deniz.anil@bchydro.com

From: Jim Pinter [mailto:jim@pinterco.ca]
Sent: 2019, October 03 11:29 AM
To: Anil, Deniz
Cc: David Ethier
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

I am writing to advise BC Hydro that we are requesting a change to our point of connection for the Cosens Bay project.

Please find attached a new drawing which shows our proposed connection at 165 Highway 97 Vernon.

If you would like to have a site visit to scope the connection let me know and we can set a date and time.

Regards,

Jim

From: Jim Pinter
Sent: Wednesday, September 11, 2019 9:06 AM
To: Anil, Deniz <Deniz.Anil@bchydro.com>
Cc: David Ethier <david.m.ethier2@gmail.com>
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

Attached is a site layout drawing showing the proposed point of connection. A note on the drawing lists the expected maximum demand load to be 300 kVA, this is based on using a current demand per connected lot of 5 kVA. The ultimate maximum demand we are designing to is 700 kVA, this is based on a future demand per connected lot of 7 kVA.

If you are okay with this POC configuration, I will complete the Formal Application for submittal to BCH.

Also, when you get a chance can you send along the updated 3 phase fault level information.

Regards,

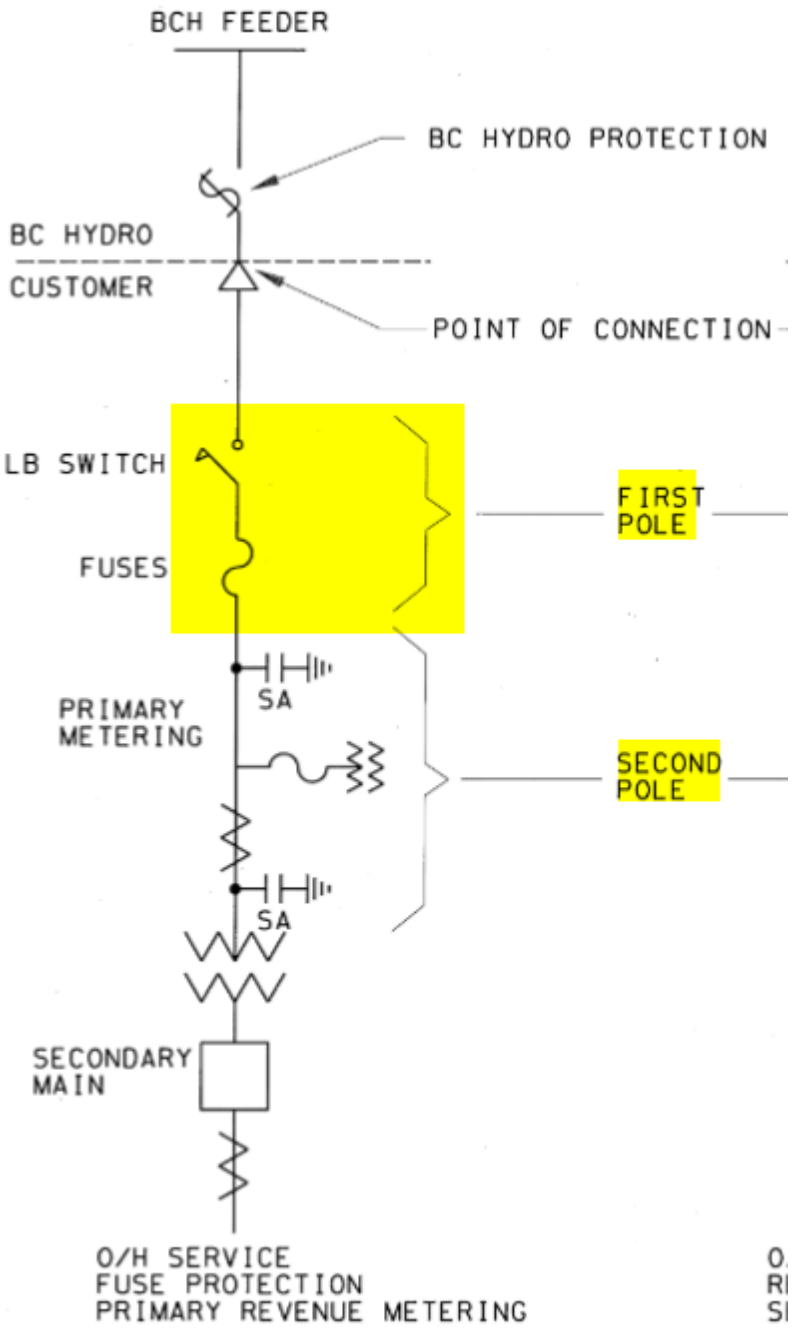
Jim

Jim Pinter, P.Eng.
Pinterco.ca
403-701-1563

PINTERCO

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Wednesday, September 04, 2019 10:08 AM
To: Jim Pinter <jim@pinterco.ca>
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Jim,
I checked the primary guide and shows you can have the switch and fuse on your first pole and meter on the second pole although it is not showing specifically in the guide, a third pole would be needed to be used as UG Dip. Would you please update your drawings, new load with 3phase as discussed?
Thanks,
Deniz



From: Jim Pinter [mailto:jim@pinterco.ca]
Sent: 2019, August 26 8:42 AM
To: Anil, Deniz
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

See you at 11am.

Thx.

Jim

From: Jim Pinter
Sent: Wednesday, August 21, 2019 3:37 PM
To: Anil, Deniz <Deniz.Anil@bchydro.com>
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Monday at 11am works, there is a new upper trail parking lot just off Bailey Rd, I will meet you there, also I will re-confirm Monday am we are both still good to meet.

Thx.

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Wednesday, August 21, 2019 3:34 PM
To: Jim Pinter <jim@pinterco.ca>
Subject: RE: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Certainly. My next availability is on Monday any time between 11:00 and 14:00.
Deniz

From: Jim Pinter [mailto:jim@pinterco.ca]
Sent: 2019, August 21 3:27 PM
To: Anil, Deniz
Cc: Tarbit, Susan; David Ethier
Subject: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

Thanks for the quick turn on that, yes we are excited to be moving forward!

With that information we will prepare the formal application for submission.

If you have time perhaps it may be beneficial to meet at the POC to scope the connection so we are all on the same page before I draft the site layout and SLD?

Regards,

Jim

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Wednesday, August 21, 2019 2:50 PM
To: Jim Pinter <jim@pinterco.ca>
Cc: Tarbit, Susan <Susan.Tarbit@bchydro.com>; David Ethier <david.m.ethier2@gmail.com>
Subject: RE: CB Powerline - Cosens Bay Project - Primary Service Application

Good afternoon Jim,
I believe we have reached a major milestone for this project. I am looking forward to working with you in the next stage.

As per Primary Guide section 5.1.2 following is BCH response to your service request.

The Study conducted was to connect 300kW load to 14.4kV 2566VNT at Pole 0073157 near Hwy 97, Vernon, B.C.

-BCH Protection- S&C 40T
-Conductors- will be upgraded to 1/0 ACSR
-Voltage profile- is acceptable
-Load Balance – Some minor load transfer will be required as a part of this connection
-Feeder Limits- Is acceptable
-Fault Levels- see attached pdf.
-Electric service agreement- I will prepare the documents to sign during design stage- ESA will be limiting to 300kW load and will be at LGS1610 rate (see attached)

With this step we have concluded our Preliminary Studies and will move forward to design stage. Please proceed to section 5.2 Formal Application and provide listed documents.

5.2 Formal Application

The formal application for a new primary service connection, or alteration of the existing primary se shall include the following documents and drawings certified by a professional engineer:

1) An electrical one-line diagram including calculated fault levels, interrupting rating of protective and emergency stand-by generation, per paragraph 5.2.1;

2) A protective device coordination graph showing coordination between the customer and BC Hy protective devices, per paragraph 5.2.2;

3) A site plan, with equipment and primary vault locations, statutory rights-of-way, minimum clear from the building and primary conduit run as applicable, per paragraph 5.2.3;

4) An overhead line design showing the first customer pole and pole class, service switch and sa mat, fused cutouts and conductor separation at the crossarm, phase conductors and neutral separation in compliance with the CSA22.3 No.1 standards, per paragraph 5.2.4;

5) A primary service equipment drawing, including the load-break switch or circuit breaker, contro diagram and key interlock scheme, if applicable. If such manufacturer drawings are not availab BC Hydro designer may complete the review of an incomplete application. However, BC Hydro not issue an authorization for connection of the customer primary service without acceptance o primary service equipment fabrication drawings as outlined in paragraph 5.3, and

6) A completed BC Hydro form entitled "Statement to BC Hydro Regarding Primary Voltage Serv Entrance Equipment", per paragraph 5.2.5 (see Appendix 2).

Note 10: An incomplete application, or the lack of formal declarations, may delay the date of service to the customer. In general, a BC Hydro designer will process the formal application and respond to the customer within four weeks after submission.

Note 11: All liability for design and installation of customer-owned primary service equipment and materials rests with the customer's Professional Engineer and Licensed Electrical Contractor.

We have located the Design Deposit that was paid under the old design (attached a copy) and will have it transferred over to the new file.

Please let me know if you have any questions,

Sincerely,

Deniz ANIL | **AScT**, Design Specialist
Distribution Engineering and Design

BC Hydro
South Interior, Design
1401 Kalamalka Lake Rd
Vernon, BC
V1T 8S4
T : 250 549-8625
M : 250 517-0787
E deniz.anil@bchydro.com

From: Jim Pinter [mailto:jim@pinterco.ca]
Sent: 2019, August 20 2:12 PM
To: Anil, Deniz
Cc: Tarbit, Susan; David Ethier
Subject: RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

I received you voicemail, thanks.

Per section 5 of the primary guide, after CB Powerline submitted the information below per section 5.1.1 then BCH is to provide the information as per section 5.1.2. Once you provide that information, we will make the formal application as required under section 5.2. If you need any clarifications of the supplied information below let me know.

Regards,

Jim

5.1.2 BC Hydro Response

The BC Hydro designer will, in return, supply the customer with the following information:

1) Primary supply voltage — all new primary service equipment shall be rated and certified for operation at 14.4 or 25 kV supply;
2) Service type overhead, underground, radial, or dual supply;
3) System impedance and available fault levels at the service point of connection;
4) BC Hydro terminal pole, switchgear kiosk, size of fuses or BC Hydro substation feeder relay settings;
5) Expected future supply changes for which the provision shall be included;
6) Details of the BC Hydro Electric Service Agreement;
7) Status of the available capacity to supply proposed new load from the existing distribution feeder, demand limits, rapid voltage change limits, flicker emission limits, harmonic current limits, etc., and
8) Designated space and registered statutory right of way on private property for installation of BC Hydro-owned equipment associated with the primary service.

From: Jim Pinter
Sent: Monday, July 22, 2019 5:18 PM
To: Anil, Deniz <Deniz.Anil@bchydro.com>
Cc: Tarbit, Susan <Susan.Tarbit@bchydro.com>; David Ethier <david.m.ethier2@gmail.com>
Subject: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Denis,

CB Powerline Ltd. is requesting a Primary Service connection for its Cosens Bay Community Power project.

Per section 5.1.1 of the BC Hydro Primary Guide, below is the required customer submission information.

Also, attached is a drawing showing the proposed point of connection and project power line route for your reference.

With respect to a deposit made by CB Powerline, I checked with Dave Ethier and we believe CB Powerline made a $5k deposit which Susan is apparently aware of? If you can double check on this that would be great.

Customer
CB Powerline Ltd.
576 Stonebridge Drive
Kamloops, BC V2H 0A7
Attn: Dave Ethier

Consultant / Engineer
Pinter Electrical Consulting Inc.
7229 Heritage Crt
Lake Country, BC V4V 2L3
Attn: Jim Pinter, P.Eng
403-701-1563

5.1.1 Customer Submissions

The customer must supply to BC Hydro the total connected load and nature of the load, including a list of:

1) Motors 50 HP and larger in 12.5 kV areas and motors 100 HP and larger in 25 kV areas, which may require inrush current mitigation; None
2) Harmonic current generating loads such as solid-state drives, rectifiers, uninterruptible power supply (UPS), high-efficiency lighting etc; None, typical residential load
3) Flicker generating loads such as arc furnaces, chippers, crushers, etc; None
4) Preferred service type, overhead or underground; Overhead
5) Estimated maximum demand; 300 kW (60 residential lots)
6) Emergency standby generators as applicable; Residential standby generators and Solar PV
7) Service address, and 205 Highway 97, Vernon BC, V1H 1G1
8) Planned in-service date. May 15, 2020

Regards,

Jim

Jim Pinter, P.Eng.
Pinter Electrical Consulting Inc.
Pinterco.ca
403-701-1563

From: Serko, Larry
Sent: 2019, October 29 2:56 PM
To: Sahai, Kirtimann
Cc: Anil, Deniz
Subject: FW: BC Hydro line

Follow Up Flag: Follow up
Flag Status: Completed

FYI

Larry Serko | Property Rep, Property Rights Services

BC Hydro
1401 Kalamalka Lake Road
Vernon, BC V1T 8S4

T 250-549-8561
M 250-308-9620
E larry.serko@bchydro.com

Smart about power in all we do.

From: Serko, Larry
Sent: 2019, October 29 11:48 AM
To: 'claszlo@telus.net'
Subject: BC Hydro line

Dear Mr. and Mrs. Laszlo:

Doreen, thank you for talking with me earlier this morning.

As per my discussion over the phone with Doreen; I am a Property Representative with BC Hydro and I will try to explain the reason I am contacting you.
The neighbour, adjoining your South property line, Lot A Plan 31173 (Highway 97 at Bailey Road) is requesting BC Hydro provide electrical service to his property. I have reviewed the file and emails from a few years ago when your neighbour originally contacted BC Hydro. It was noted that you suggested "BC Hydro should install our new works on the existing TELUS poles that are located along your westerly property line adjacent to highway 97". I agree with you; this is the best location for BC Hydro and not across your property or extend off the line which services your house. BC Hydro will replace the TELUS poles and install new poles where TELUS and BC Hydro would share the new poles. To install these new poles and lines, BC Hydro will require a Statutory Right of Way (SRW) from you. Currently there is an existing SRW for TELUS, BC Hydro would require your signed consent to register the new BC Hydro SRW.
I would like the opportunity to meet with you, where I could present photos, design and answer questions. I understand that you are busy and this isn't necessarily your highest priority, however I would appreciate it if you would reply.

Kind regards,
Larry

Larry Serko | Property Rep, Property Rights Services

BC Hydro
1401 Kalamalka Lake Road
Vernon, BC V1T 8S4

T 250-549-8561
M 250-308-9620
E larry.serko@bchydro.com

Smart about power in all we do.

From: Tarbit, Susan
Sent: 2019, December 12 11:16 AM
To: Tarbit, Susan
Subject: FW: IR 1.1.4 CB Powerline - Cosens Bay Project - Primary Service Application

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From: Jim Pinter [mailto:jim@pinterco.ca]
Sent: 2019, November 26 2:49 PM
To: Anil, Deniz
Cc: Tarbit, Susan; David Ethier
Subject: [External] RE: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Deniz,

I'm working on the formal application items listed below for our connection and would like confirmation on the following for our connection at 165 Highway 97 Vernon.

1. Fuse: The 40T appears to be 14.4 kV fuse, are you changing to a 25kV? rating?
2. Fault levels: Please confirm for this connection point so we can calculate our system fault levels.

Regards,

Jim

From: Anil, Deniz <Deniz.Anil@bchydro.com>
Sent: Wednesday, August 21, 2019 2:50 PM
To: Jim Pinter <jim@pinterco.ca>
Cc: Tarbit, Susan <Susan.Tarbit@bchydro.com>; David Ethier <david.m.ethier2@gmail.com>
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-BCH Protection- S&C 40T
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Sincerely,

Deniz ANIL | **AScT**, Design Specialist
Distribution Engineering and Design

BC Hydro
South Interior, Design
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T : 250 549-8625
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Cc: Tarbit, Susan <Susan.Tarbit@bchydro.com>; David Ethier <david.m.ethier2@gmail.com>
Subject: CB Powerline - Cosens Bay Project - Primary Service Application

Hi Denis,

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With respect to a deposit made by CB Powerline, I checked with Dave Ethier and we believe CB Powerline made a $5k deposit which Susan is apparently aware of? If you can double check on this that would be great.

Customer
CB Powerline Ltd.
576 Stonebridge Drive
Kamloops, BC V2H 0A7
Attn: Dave Ethier

Consultant / Engineer
Pinter Electrical Consulting Inc.
7229 Heritage Crt
Lake Country, BC V4V 2L3
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The customer must supply to BC Hydro the total connected load and nature of the load, including a list of:

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2) Harmonic current generating loads such as solid-state drives, rectifiers, uninterruptible power supply (UPS), high-efficiency lighting etc; None, typical residential load
3) Flicker generating loads such as arc furnaces, chippers, crushers, etc; None
4) Preferred service type, overhead or underground; Overhead
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6) Emergency standby generators as applicable; Residential standby generators and Solar PV
7) Service address, and 205 Highway 97, Vernon BC, V1H 1G1
8) Planned in-service date. May 15, 2020

Regards,

Jim

Jim Pinter, P.Eng.
Pinter Electrical Consulting Inc.
Pinterco.ca
403-701-1563

1.0 A. BC HYDRO SERVICE AREAS

Reference: ELECTRICAL SERVICE ALTERNATIVES
Exhibit B-1 (Application), Section 3.1, p. 7
Service Area Connection Policy

Page 7 of CB Powerline Ltd.'s (CBP) application for an exemption from Part 3 of the *Utilities Commission Act* (UCA) pursuant to section 88(3) (Application), states:

> Following the Fortis and [Ministry of Transportation and Infrastructure] discussions, CBP approached [BC Hydro] in 2017 and again 2019. These discussions focused upon two alternate supply approaches:
>
> 1. [BC Hydro] to undertake all aspects of service to the community
> 2. CBP to permit and construct service to the community, with the assets subsequently transferred to [BC Hydro] for operation and maintenance.
>
> Based upon these discussions, [BC Hydro] declined both alternatives, citing both small scale of the service area and that small size coupled with construction costs would not facilitate [BC Hydro] maintaining its standard rate base for the community members. Consequently, CBP was left to undertake the Project independently.

1.1.5 For each of the two alternate supply options explored with CBP, please provide further information on the discussions held. In your response please include a summary of the project, details of the point of connection and route to BC Hydro's infrastructure, estimated construction and operation costs and any relevant documents or communications explaining why the two options were not considered to be feasible by BC Hydro.

RESPONSE:

In response to inquiries for service made by residents of Cosens Bay community, including CBP, BC Hydro has evaluated options to serve the Cosens Bay community by extending its distribution system into the community. The options that BC Hydro has considered between 2017 and 2019 are discussed in BC Hydro's response to BCUC IR 1.1.4. As discussed in BC Hydro's response to BCUC IR 1.1.3, CBP and residents have not been able to meet the requirements of BC Hydro's Electric Tariff.

BC Hydro has been unable to undertake detailed design work for the extension to the Cosens Bay community, given the challenges for the two alternate supply options discussed below in Table 1. Therefore, BC Hydro can only provide a conceptual level estimate of the construction costs for the two alternate supply options, which can be found in BC Hydro's response to BCUC IR 1.1.8. Please see the attachment to BC Hydro's response to BCUC IR 1.1.4 for relevant communications explaining why the two options were not considered to be feasible by BC Hydro.

In Table 1 below, BC Hydro outlines the challenges for the two alternate supply options.

Table 1 – Challenges for the two alternate supply options

Option	Description	Challenges
1. BC Hydro to undertake all aspects of service to the community	**Two options were reviewed for feasibility:** • **25kV overhead build through Kalamalka Lake Provincial Park ("Park Option"); and** • **25kV overhead, underground, submarine cable across Kalamalka Lake ("Lake Option")**	**Challenges for both the Park Option and Lake Option:** • **Property rights, including on private, Regional District of North Okanagan, and provincial Crown lands, have not been obtained;** • **Parks Use Permit for the installation of utilities through Kalamalka Lake Provincial Park has not been obtained;** • **BC Hydro would have limited access to its assets as a result of difficult terrain; and** • **Risk of UXOs has not been fully assessed by Department of National Defense. Please see BC Hydro's response to BCUC IR 1.3.5.** **Specific Challenges for the Lake Option:** • **Request for property rights on the Regional District of North Okanagan's "Rail Trail" was declined;** • **No suitable egress location for submarine cable and overhead utilities has been presented; and** • **BC Hydro is unable to obtain permits for adding BC Hydro assets on Highway 97.**

Option	Description	Challenges
2. CBP to permit and construct service to community, with the assets subsequently transferred to BC Hydro for operation and maintenance	**BC Hydro to take over the ownership of the submarine cable constructed by CBP.**	**BC Hydro has declined to take over the ownership, maintenance and operation of the privately constructed submarine cable and utility system at Cosens Bay if constructed by CBP. Please see BC Hydro's response to BCUC IR 1.2.5.** **In addition there are challenges related to BC Hydro's extension to the proposed point of delivery:** • **BC Hydro would have limited access to its assets as a result of difficult terrain and the need for property rights on private lands;** • **BC Hydro is unable to obtain permits for adding BC Hydro assets on Highway 97; and** • **BC Hydro has been unable to secure property rights, including on private and provincial Crown lands, for placing BC Hydro assets.**

1.0 A. BC HYDRO SERVICE AREAS

Reference: ELECTRICAL SERVICE ALTERNATIVES
Exhibit B-1 (Application), Section 3.1, p. 7
Service Area Connection Policy

Page 7 of CB Powerline Ltd.'s (CBP) application for an exemption from Part 3 of the *Utilities Commission Act* (UCA) pursuant to section 88(3) (Application), states:

> Following the Fortis and [Ministry of Transportation and Infrastructure] discussions, CBP approached [BC Hydro] in 2017 and again 2019. These discussions focused upon two alternate supply approaches:
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> 1. [BC Hydro] to undertake all aspects of service to the community
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>
> Based upon these discussions, [BC Hydro] declined both alternatives, citing both small scale of the service area and that small size coupled with construction costs would not facilitate [BC Hydro] maintaining its standard rate base for the community members. Consequently, CBP was left to undertake the Project independently.

1.1.6 Please confirm, or otherwise explain, whether BC Hydro has considered or proposed any other alternative supply approaches.

RESPONSE:

In addition to the options described in BC Hydro's response in BCUC IRs 1.1.4 and 1.1.5, BC Hydro also recommended that CBP contact FortisBC to discuss transmission service options from nearby FortisBC owned transmission circuits. BC Hydro is not aware of the extent to which this option was pursued.

1.0 A. BC HYDRO SERVICE AREAS

Reference: ELECTRICAL SERVICE ALTERNATIVES
Exhibit B-1 (Application), Section 3.1, p. 7
Service Area Connection Policy

Page 7 of CB Powerline Ltd.'s (CBP) application for an exemption from Part 3 of the *Utilities Commission Act* (UCA) pursuant to section 88(3) (Application), states:

> Following the Fortis and [Ministry of Transportation and Infrastructure] discussions, CBP approached [BC Hydro] in 2017 and again 2019. These discussions focused upon two alternate supply approaches:
>
> 1. [BC Hydro] to undertake all aspects of service to the community
> 2. CBP to permit and construct service to the community, with the assets subsequently transferred to [BC Hydro] for operation and maintenance.
>
> Based upon these discussions, [BC Hydro] declined both alternatives, citing both small scale of the service area and that small size coupled with construction costs would not facilitate [BC Hydro] maintaining its standard rate base for the community members. Consequently, CBP was left to undertake the Project independently.

1.1.6 Please confirm, or otherwise explain, whether BC Hydro has considered or proposed any other alternative supply approaches.

1.1.6.1 If confirmed, please provide details of the alternative supply approaches explored and why they were not considered to be viable options.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.1.6.

1.0 A. BC HYDRO SERVICE AREAS

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1.1.7 Please confirm if BC Hydro has offered to provide any assistance to CBP for its Project. In your response please provide any correspondence between BC Hydro and CBP relating to any potential assistance, including any commitments made by BC Hydro.

RESPONSE:

BC Hydro continues to collaborate with CBP, as it has done since 2017, to explore potential options to provide service to the community of Cosens Bay. BC Hydro's assistance includes discussions and preliminary investigations on the following topics:

- **Identifying potential supply alternatives**
- **Identifying potential extension options including overhead, underground, and submarine cable egress routing**

- **Identifying ownership of private and Crown lands for the purpose of engaging the owners to negotiate statutory rights of way for the different routing options;**
- **Providing technical guidance on supply and connection options;**
- **Providing general information regarding requirements for permits and appropriate approvals for a submarine cable design and installation; and**
- **Providing guidance on BC Hydro policy, tariff, and rates.**

Please see BC Hydro's response to BCUC IR 1.1.4 for correspondence between BC Hydro and CBP.

Please also see BC Hydro's response to BCUC IR 1.1.8.1 for a discussion of a potential extension contribution.

As discussed in BC Hydro's responses to BCUC IR 1.1.3 and 1.1.5, BC Hydro has been unable to undertake detailed design work until CBP meets the requirements of BC Hydro's Electric Tariff.

1.0 A. BC HYDRO SERVICE AREAS

Reference: ELECTRICAL SERVICE ALTERNATIVES
Exhibit B-1 (Application), Section 3.1, p. 7
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> Based upon these discussions, [BC Hydro] declined both alternatives, citing both small scale of the service area and that small size coupled with construction costs would not facilitate [BC Hydro] maintaining its standard rate base for the community members. Consequently, CBP was left to undertake the Project independently.

1.1.8 If BC Hydro was to provide service to the Cosens Bay community, please provide the total cost to BC Hydro for providing the service. In your response please provide details of all assumptions made, including the proposed point of connection to BC Hydro's system and the proposed route for the distribution line.

RESPONSE:

BC Hydro has been unable to undertake detailed design work for an extension to the Cosens Bay community, given the challenges for the two alternate supply options discussed in BC Hydro's response to BCUC IR 1.1.5. Therefore, BC Hydro can only provide a conceptual level estimate of the construction costs for the two alternate supply options. Conceptual level estimates have a range of accuracy of - 50 per cent to +200 per cent. Detailed design work for the options is required to determine more defined cost estimates for BC Hydro to provide service to the Cosens Bay community.

BC Hydro estimates that the cost of providing service with an overhead extension from a three-phase source on Mackie Road to the edge of the Cosens Bay community (approximately 5 kilometers) through Kalamalka Lake Provincial Park (Park Option) would be $1.2 million.

BC Hydro estimates that the cost of providing service with a BC Hydro engineered submarine cable under Kalamalka Lake (Lake Option) would be $8.0 million based on the routing proposed by CBP.

Both the Park Option and the Lake Option would also include the construction of an underground residential distribution system at the request of the Cosens Bay community, which is estimated to cost $0.9 million.

The following table summarizes these conceptual level cost estimates for the Park Option, the Lake Option and the distribution system.

Option	Conceptual Level Cost Estimate ($)			Assumptions
	Expected	-50%	+200%	
Lake Option	8.0 M	4.0 M	24.0 M	Please refer to BC Hydro's response to BCUC's IR 1.3.7
Park Option	1.2 M	0.6 M	3.6 M	Based on conceptual design information from 2017 and refreshed for 2019 costs
Distribution System	0.9 M	0.45 M	2.7 M	Based on similar recently estimated construction cost for 33 lot subdivision with 3 phase backbone (extrapolated to 62 lots)

1.0 A. BC HYDRO SERVICE AREAS

Reference: ELECTRICAL SERVICE ALTERNATIVES
Exhibit B-1 (Application), Section 3.1, p. 7
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1.1.8 If BC Hydro was to provide service to the Cosens Bay community, please provide the total cost to BC Hydro for providing the service. In your response please provide details of all assumptions made, including the proposed point of connection to BC Hydro's system and the proposed route for the distribution line.

1.1.8.1 In this scenario please explain whether the Cosens Bay community would be required to pay an extension fee (or similar) in order to receive service from BC Hydro. If confirmed, please provide the cost of the extension fee and explain how it was calculated.

RESPONSE:

The allocation of costs for extending BC Hydro's distribution system to connect and serve new loads is set out under section 8.3 of BC Hydro's Electric Tariff. Generally, the cost of constructing the extension is allocated to the customer requesting connection and the extension fee would be the estimated cost of

constructing the extension less BC Hydro's maximum contribution towards the extension.

BC Hydro's maximum contribution would be based on the load being connected to the extension. Assuming all 62 land parcels registered to enter into CBP's Power Purchase Agreement were connected as part of an extension, BC Hydro's contribution to the extension would be $91,450 (62 x $1,475 = $91,450).

The estimated cost of the extension would be based on the detailed design of the extension. However, as discussed in BC Hydro's response to BCUC IR 1.1.8, BC Hydro has not been able to undertake detailed design work for an extension to the Cosens Bay community.

Based on the conceptual level cost estimates provided in BC Hydro's response to BCUC IR 1.1.8, the extension fee for the Lake Option and distribution system is estimated to be $8,808,550 ($8,000,000 + $900,000 – $91,450 = $8,808,550) and the extension fee for the Park Option and distribution system is estimated to be $2,008,550 ($1,200,000 + $900,000 – $91,450 = $2,008,550).

Additionally, pursuant to section 8.5.2 of BC Hydro's Electric Tariff, if a subsequent customer were to connect to the extension within five years of energization, CBP could apply for a refund of the extension fee for the difference between BC Hydro's maximum contribution for that subsequent customer and BC Hydro's actual contribution to that subsequent Customer, if any.

2.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-2, Attachment 4.10, p. 1
BC Hydro Secondary Meter

On page 1 of Attachment 4.10 to Exhibit B-2, CBP provides e-mail correspondence dated Tuesday, May 14, 2019, between BC Hydro and CBP, in which BC Hydro states:

> BC Hydro will not be building or taking ownership of customer build lines for the proposed Cosens bay project however we may be able to secondary meter customers and bill them directly given that services are built to [BC Hydro] standards (see our secondary metering guide).

1.2.1 Please provide BC Hydro's Secondary Metering Guide.

RESPONSE:

BC Hydro attaches its Requirements for Secondary Voltage Revenue Metering (750V and less) (Attachment 1).

This Legal Acknowledgement Form shall be governed by the laws of the Province of British Columbia and the applicable federal laws of Canada. In the event of conflicts or inconsistencies, if any, between or among this Legal Acknowledgement Form and the terms and conditions of the Standard, the provisions set out in this Legal Acknowledgement Form take precedence.

Disclaimer

The Standard, and all information and referenced standards therein, is provided as a public service by the British Columbia Hydro and Power Authority ("BC Hydro"). Material contained within it carries no guarantee of any kind, express or implied.

Neither BC Hydro nor the Standard designer, recommender, or acceptor, are accountable for the manner in which the Standard is used, or in the way its content is applied. Persons using the Standard, including retained engineers and contractors, are responsible and assume full responsibility and liability for its application, including but not limited to ensuring that the application of its content is appropriate, and that its application does not compromise operability, safety, reliability or maintainability.

The Standards have been prepared for or by BC Hydro to meet specific purposes of BC Hydro. No person shall use or rely upon the Standard, in whole or in part, in any manner, except:

a) for the purpose of providing services to BC Hydro;
b) for the purpose of connecting equipment to BC Hydro equipment;
c) with the prior written consent of BC Hydro, or
d) as required by law.

Limitation of Liability

BC Hydro, its servants or agents, shall not be liable to any person for injury, loss or damage arising out of the use of or reliance upon this Standard, in whole or in part, except for those situations where the person uses the Standards to provide services to BC Hydro to the extent damages are not due to the fault of the person using the Standard, including but not limited to that person's misapplication of the Standard, negligence, or misconduct.

Any person using these Standards hereby agrees to release and indemnify BC Hydro, its servants or agents, from any injury, loss, damage or claim arising or alleged to be arising from use of or reliance upon the Standards, in whole or in part, except for those situations where the person directly uses the Standards to provide services to BC Hydro to the extent damages are not due to the fault of the person using the Standard, including but not limited to that person's misapplication of the Standard, negligence, or misconduct.

Copyright

BC Hydro notes that the Standard may be revised from time to time and recommends that any person using the Standard in accordance with this Legal Acknowledgement Form confirm it is using the most recent version. BC Hydro is not liable for reliance on past versions of the Standard that may be stored electronically.

REVISIONS: UPDATED LEGAL ACKNOWLEDGEMENT FORM. FD MAR '16

DESIGNED	RECOMMENDED	ACCEPTED	ENGINEER OF RECORD	NOTICE FROM THE EXECUTIVE VICE PRESIDENT TRANSMISSION AND DISTRIBUTION AND CUSTOMER SERVICE	
J. AGNOLIN	F. DENNERT	G. REIMER	PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA F. U. DENNERT		
DISTRIBUTION STANDARDS BC Hydro	ISSUED:MAR 2016 REPLACES:MAY 2004 ORIGINALLY ISSUED: NOV 1980			PAGE 1 OF 2	ES43/53/54/55/65 A1-01.01 R 4

Scope

This manual is one of a series containing standards for construction of the BC Hydro electrical distribution plant within the service area of BC Hydro. A new distribution plant shall be designed, constructed, owned, operated, maintained and repaired to these standards.

Purpose of Standards

BC Hydro objectives require standardization to:

a) Ensure uniform safety requirements comply with BC statutes and regulations.
b) Provide uniform system reliability.
c) Provide uniform operating practices.
d) Permit economic bulk purchasing of materials.
e) Achieve optimum life cycle cost of plant construction.
f) Effect efficient quality assurance.

Responsibility

The Distribution Standards Department prepares these standards and verifies that specified plant and procedures will perform adequately under all normally expected conditions encountered throughout the province of British Columbia. These standards are approved by Professional Engineers. It is the responsibility of BC Hydro Managers to ensure that the standards are followed unless abnormal conditions are encountered that require variations. These variations should be kept to a minimum and their performance shall be the responsibility of the Professional of Record in charge of the project, who will record and seal the variation based on satisfactory qualifications and experience to do so. As per the latest revision of the BC Hydro Distribution Owner's Engineer Guide, these variations must be accepted by BC Hydro's Owner's Engineer.

Use of Stock Materials

The electrical distribution plant covered by these standards is built using stock materials approved by a Professional Engineer as required by law. The use of non-stock materials for special and unusual situations must be approved by Distribution Standards or the BC Hydro Engineer responsible for the project.

Revisions to Manual

These standards are revised from time to time to improve the safety, performance, workability, cost effectiveness or appearance of the plant. The existing plant built to previous standards need not be updated unless so specifically advised by BC Hydro. When maintenance or other work, such as voltage conversion or conductor change is being done, updating plant to current standards is encouraged.

Mailing Addresses

The manual has been issued to a corporation or firm rather than to an individual. The corporation or firm is responsible for the safekeeping of the manual, and for keeping it current. Changes of address or in number of copies required must be reported promptly.

Suggestions for changes in the manual, or required changes of address may be made on the pre-addressed comment sheet included in the Manual and with each issue of revision.

REVISIONS: UPDATED LEGAL ACKNOWLEDGEMENT FORM. FD MAR '16

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Requirements for Secondary Voltage Revenue Metering
(750 V and less)

October 2018

BC Hydro
Power smart

Copyright and Reprint Provision

Table of Contents

Contents

1. Overview

This document contains BC Hydro's requirements for revenue metering installations operating at 750 V and less. These requirements also apply to revenue metering installations in the City of New Westminster.

If needed, any BC Hydro related information and/or Standards referred to in this Requirement should be inquired upon from local BC Hydro Design.

Comments are written in italics.

New additions and changes from previous version are denoted with a vertical line preceding the sentence.

2. Disclaimer

This document is not intended as a design specification or as an instruction manual for the Customer and this document shall not be used by the Customer for those purposes. Persons using information included in this document do so at no risk to BC Hydro, and they rely solely upon themselves to ensure that their use of all or any part of this document is appropriate in the particular circumstances.

The Customer, its employees or agents must recognize that they are, at all times, solely responsible for the plant design, construction and operation. Neither BC Hydro nor any of their employees or agents shall be nor become the agents of the Customer in any manner howsoever arising.

BC Hydro's review of the specifications and detailed plans shall not be construed as confirming or endorsing the design or as warranting the safety, durability or reliability of the Customer's facilities. BC Hydro, by reason of such review or lack of review, shall be responsible for neither the strength, adequacy of design or capacity of equipment built pursuant to such specifications, nor shall BC Hydro, or any of their employees or agents, be responsible for any injury to the public or workers resulting from the failure of the Customer facilities.

In general, the advice by BC Hydro, any of its employees or agents, that the Customer's plant design or equipment meets certain limited requirements of BC Hydro does not mean, expressly or by implication, that all or any of the requirements of the law or other good engineering practices have been met by the Customer in its plant, and such judgement shall not be construed by the Customer or others as an endorsement of the design or as a warranty, by BC Hydro, or any of its employees.

The information contained in this document is subject to change and may be revised at any time. Any user of this document is advised to confirm the current version and consult with BC Hydro on the applicability of its provisions. Without limiting BC Hydro may refuse service, and energization of the metering installation, if in its view the Customer's facilities, including the service entrance and metering equipment, are unsafe, hazardous, or otherwise does not comply with the Requirements set out in this document.

3. General

3.1 Approval

a) The proposed metering equipment locations and voltage shall be approved by BC Hydro prior to installation. If the design is subsequently changed, re-approval is required prior to energization.

b) The metering equipment shall be certified and installed in accordance with the latest edition of the Canadian Electrical Code. If special permission for a deviation from the Canadian Electrical Code, that impacts metering, is requested from the provincial or municipal inspection authority, special written approval shall first be obtained from BC Hydro.

3.2 Location

3.2.1 General

1. Shall be installed in a clean readily accessible location free from severe or continual vibration;

For rural applications, meter location shall be readily accessible by vehicles at all times;

2. Shall not be installed in locations which may be hazardous to persons installing, testing, reading or maintaining the equipment;
3. Shall be protected from damage due to vandalism, vehicles etc.;
4. Shall not be installed in garages or carports;
5. Shall not be installed in a location which requires ladder or manhole access;
6. Grouped Sub Service Metering and multiple meters shall be installed inside a designated electrical/meter room, and at least one meter socket shall be mounted as per section 6.16.
7. Exterior meter(s), not mounted inside a metal enclosure, no conduit arrangement is required for the purpose of meter communication;
8. Meter(s) inside wood frame construction above grade, no conduit arrangement is required for the purpose of meter communication;
9. Per CEC, part I and local Building Codes, termination boxes shall be suitable for the environment in which they are placed.
10. There has to be min 0.3 m separation distance between the meter base and closest obstruction/equipment.
11. Each termination/pull box located inside the building shall be securely fastened to the wall with sufficient room for an additional termination box.
12. A minimum of 1 m working space by 2.2 m headroom shall be provided and maintained in front of all metering equipment, and to the sides and back, where access is required.

13. If an existing metering location going through a service upgrade and/or meter alteration does not meet the above criteria, the Customer shall relocate the metering equipment to a location that meets the above criteria.
14. Single phase detached single family residential metering equipment shall not be located indoors except in the case of power shed or service closet as approved in advance by BC Hydro.
15. Buildings requiring conduit(s) and termination box(es) for Meter Communications shall be defined as per Section 3.2.2.

See section 5.1.1.1 and section 5.1.1.2 for 1 phase services over 200 A and section 5.1.2.1 for a possible exception for 3 phase services over 200 A.

3.2.2 Meter Communications

BC Hydro revenue meters must be able to transmit data to and from the BC Hydro IT network. The data is transmitted by radio frequency (similar to cell phones). Radio frequency waves cannot transmit through concrete, metal, or earth; therefore some buildings will require electrical conduit(s) and termination box(es) to enable meter communication through wires.

Soft copy, dimensioned PDF drawing(s) shall be provided by the customer to BC Hydro prior to construction showing conduit configurations, and physical locations of terminations and pull boxes. BC Hydro conduits for the use of BC Hydro Meter Communications shall be clearly labelled on the drawing(s).

A. Conduit and Termination Box Applications for Meter Communications:

- Meter(s) below grade (parkade) require conduit(s) and termination box(es);
- Concrete and/or metal clad buildings require conduit(s) and termination box(es);
- Mixed wood/concrete and any other structure not covered above, requires consultation with BC Hydro Design prior to any design work;

B. Conduit and Termination Box Requirements:

1. For structures having less than 4 floors:

    a) Buildings having a single meter room at or below grade (parkade);

the conduits and termination boxes shall be run from the meter room to an exterior wall as per section 6.17.

b) For a building with an underground parkade, the exterior termination box shall be mounted under the parkade entrance overhang:
   i. within two metres of the parkade entrance opening; and
   ii. outside of the parkade entrance gate; and
   iii. a minimum of two metres from any planned parkade entrance gate controller or sensor.

c) If the building contains more than one meter room at or below grade (parkade), conduits and termination boxes shall be run to connect each at or below grade meter room in a star configuration to a single meter room. This single meter room shall also include the conduit and termination box to the exterior of the building as per section 6.17.

2. For concrete structures having 4 or more floors:

   a) In addition to the requirements in above section, an additional conduit and termination box shall be run from the top-most meter room/closet to an external face of a rooftop mechanical room or equivalent as per section 6.17; and
   b) Where no rooftop mechanical room exists above the roof line, each meter room/closet shall be interconnected with the main meter room via conduit similar to what is shown in section 6.18.

3. Concrete buildings having a single meter room at or below grade (parkade) or wood frame buildings having a single meter room below grade (parkade); the conduit and termination boxes shall be run from the meter room to an exterior wall as per section 6.17. The determination of which exterior wall the conduit and termination box are mounted on shall be as follows;

   For a building with an underground parkade, under the parkade entrance overhang as per installation requirements below.

   - within two metres of the parkade entrance opening; and
   - outside of the parkade entrance gate; and
   - a minimum of two metres from any planned parkade entrance gate

controller or sensor.

For a building with no underground parkade, on the exterior wall which has line of sight to the neighbouring buildings across the street or alley. If no neighbour across the street or alley, then it is up to the customer's preference whether to face the street or alley.

4. If the building contains more than one meter room on the same level, or below grade (parkade), conduits and termination boxes shall be run to connect each meter room in a star or daisy chain configuration to the main meter room as per section 6.18. The main meter room shall also include the conduit and termination box to the exterior of the building as per section 6.17.

5. The main meter room would be the meter room closest to ground level containing one or more transformer-type meters and/or house meter.

6. In addition to the requirements above, Indoor Meter Closets on multiple levels shall be interconnected via a daisy chain of conduits run vertically from one Indoor Meter Closet on one level to one Indoor Meter Closet on the next level with the conduit terminating in each Indoor Meter Closet as per section 6.19.

    - If any floor above grade has more than one Indoor Meter Closet on that floor, conduit shall be run horizontally from the additional Indoor Meter Closet(s) to the Indoor Meter Closet containing the vertical daisy chained conduits as per section 6.19.

    - Conduits are not required beyond the 7th floor Indoor Meter Closet(s) unless there is a vertical gap of 4 or more floors in between the Indoor Meter Closets. If there is no Indoor Meter Closet on and beyond the 7th floor the conduits shall be run to the 6th floor Indoor Meter Closet(s).

    - If there is a vertical gap of 4 or more floors in between Indoor Meter Closets, provide conduit to bridge the gap between these Indoor Meter Closets i.e. provide conduit from the topmost Indoor Meter Closet in the lower floor, to the bottommost Indoor Meter Closet in the next-higher floor. Provide conduit in this manner for every gap of 4 or more floors.

7. Conduits entering each Indoor Meter Closet and meter room shall be terminated in a termination box and multiple conduits into the room or

closet can be terminated in the same box (maximum 4 conduits per box) as per section 6.17.

C. Conduit and Termination Box Specifications:

1. All material requirements for installation of conduits and termination boxes are the responsibility of the customer. Each termination box and conduit shall be permanently marked/labelled for exclusive use of BC Hydro Meter Communications.

2. All material and connections from termination box to the meter is the responsibility of BCH per section 6.17.

3. Conduit(s) shall be metallic or rigid PVC, with an inside diameter not less than 35.00 mm (or 1¼ inch trade size) installed per CEC and local Building Code. If the conduits(s) will be run within a concrete slab, it may be non-metallic Coreline (ENT) or rigid PVC.

4. The conduit from the meter room shall be run from a location within 0.3 - 2 m of the **Transformer-Type Meter Socket** used as house meter. If no such meter socket is present in the meter room, the conduit shall be run from a location within 0.3 - 2 m of another meter socket present at that location in the following order of preference:

    i. Any Transformer-Type Meter Socket
    ii. Meter Socket used as house meter
    iii. Any Meter Socket

    The above meter socket shall be mounted on a 19 mm (¾") plywood backing as per section 6.17.

    The plywood backing shall be securely fastened to the wall. Shooting, or otherwise mounting this meter socket, directly to the wall is not permitted.

5. The conduit termination on the exterior of the building shall be no less than 2.75 m or more than 4 m above finished grade unless mounted under the parkade entrance overhang, with a minimum amount of bends. The maximum degree of bends between termination/pull boxes shall not exceed 270°, and if the maximum length between termination boxes exceeds 100 m, an additional pullbox is required. Each end of the

conduit shall terminate in a 150x150x150 mm (minimum) metallic or PVC enclosure with a cover for future use by BC Hydro to install signaling cables. All metallic enclosures shall be bonded and all PVC enclosures shall come with bonding conductor (with min #10 Cu). A maximum of 4 conduits can terminate in one termination box. Each conduit shall come with a permanent label attached to both ends of the conduit. Both labels will be marked with the same unique identifier to distinguish that conduit from all others.

6. Each conduit shall be equipped with a continuous length of poly pull string and every termination/pull box shall be identified as for use by "BC Hydro Meter Communications". The pull string shall be minimum #8, polypropylene, and installed in each conduit.

3.3 Access

a) BC Hydro shall have reasonable access to the metering equipment to permit its reading, testing and maintenance.

b) Where the meter socket is not accessible due to locked doors or alarm systems, keys shall be provided to BC Hydro.

c) Where it is proposed to locate metering equipment indoors, or within other secure areas, the accessibility arrangements, systems, equipment etc. shall be agreed upon by BC Hydro prior to approval of the proposed location.

Equipment and systems may include keys, lock boxes, key fobs, smart cards etc.

d) Electrical rooms on ground floor or parkade level containing metering equipment shall be accessible by a vertically hinged, lockable door leading directly to the exterior or the parkade level of the building (roll-up or overhead garage doors are not acceptable as access doors);

e) Where building does not come with parkade, meters shall be located in the main electrical room where the supply service is terminated. The main electrical room shall be at ground level and come with a door leading directly to the exterior of the building as per 6.16.

f) Indoor Meter Closet(s) are only allowed in MURBs and/or CRUs where building comes with a main electrical room. The house meter or meters shall be located inside this electrical room per d) and e) above.

g) Where a Premises come with multiple buildings with main and sub-electrical rooms, meters are allowed to be installed in each of the electrical rooms.

3.4 Illumination

When metering equipment are installed indoors, i.e. meter room, power shed, service closet, Indoor Meter Closet, etc., lighting fixture(s) shall be installed:

a) in the same space containing the metering equipment and shall be controlled by a wall switch at the room entrance; and

b) with a minimum illumination of:

- 100 to 200 lux horizontal at 750 mm above grade; and
- 100 lux vertical at the front face of the meter.

Hallway lighting, motion sensor controlled light, and pull chains on light is not acceptable.

3.5 Existing Installations

a) Any existing installations undergoing service upgrade or meter related work as a result of an alteration shall comply with the latest version of this requirement.
b) Alterations shall not be made to existing metering installations without the prior written approval of BC Hydro.
c) Load increases shall be per BC Hydro Electric Tariff section 7.1. Any load increases greater than what is allowed shall not be made without prior written approval of BC Hydro.

This is to ensure the supply service and metering equipment has adequate capacity for the new load.

d) Any civil work and/or electrical changes affecting metering and billing, e.g. one meter per unit, on a Premises shall not take place without BC Hydro's approval. Any alteration work is the responsibility of the customer.
e) Procedures are available from BC Hydro for the temporary and emergency disconnection of Self-Contained meters. This may only be carried out by qualified electrical contractors to permit alterations or repairs. Approval from BC Hydro shall be obtained in advance on an individual job-by-job basis.

3.6 Drawings

When drawings, specifications and site plans are submitted to BC Hydro, details of the proposed metering equipment and locations shall be included.

Electrical room layout drawings, specifications and site plans shall be submitted to BC Hydro for approval. The electrical room layout drawing shall include the location, dimension, plan and front elevation for the following equipment:

- Main service box, wireway, pullbox, and sub-service disconnect devices
- Meter sockets and/or Transformer-Type Meter Sockets
- Instrument transformer enclosures and/or switchgear instrument transformer compartment, including CT and VT locations
- Meter centres
- Conduit(s) and termination box(es) for meter communication

3.7 Definitions

Except where noted below, definitions shall be in accordance with section 2 of the Canadian Electrical Code.

Instrument Transformer means a high accuracy **Voltage Transformer (VT)** or **Current Transformer (CT)** that transforms the circuit voltage and current to lower levels for connection to an instrument transformer type meter.

Instrument Transformer Metering means a metering installation where the meter is connected to the metered circuit conductors via instrument transformers.

Meter Cabinet means the previously BC Hydro supplied cabinet for mounting a 3 phase instrument transformer meter. **Meter cabinet is currently no longer supplied by BC Hydro.**

Meter Socket means the Customer supplied device for mounting a Self-Contained meter. The meter socket is referred to as the meter mounting device in the Canadian Electrical Code.

Indoor Meter Closet means a small electrical room with one or more meter centre(s) and may consist of a dry-type transformer.

Network Service means a service consisting of two phase conductors plus a neutral conductor supplied from a 3 phase, 4 wire power system.

Premises means a building, a separate unit of a building, a dwelling or machinery, together with the surrounding land.

Self-Contained Metering means a metering installation where the meter is installed directly in series with the circuit conductors.

Transformer-Type Meter Socket means the Customer supplied meter socket c/w test switch compartment in various jaw configurations required to install BC Hydro supplied test switch and meter for Instrument Transformer Metering. The meter socket is referred to as the meter mounting device in the Canadian Electrical Code.

3.8 Underground Main Service

Underground main service meter sockets shall be in accordance with section 6.1. Contact BC Hydro and refer to the ES53 Series Underground Electrical standards and the ES54 Underground Civil standards for underground main service conduit,

wireway and pull box requirements.

Overhead service meter socket dimensions are not specified since BC Hydro does not install or terminate the service conductors at the meter socket.

3.9 Net Metering

For net metering applications, refer to the BC Hydro requirements at https://www.bchydro.com/work-with-us/selling-clean-energy/net-metering.html.

3.10 Metering Type and Sequence

a) **Self-Contained Metering**, in accordance with section 4 and the following table, is required for all loads of **200 A or less**. Except that, Instrument Transformer Metering is required for 480V and 600 V, 3 Phase, 3 Wire, Delta services of 200 A or less.

b) **Instrument Transformer Metering**, in accordance with section 5 and the following table, is required for:

- All loads **over 200 A**; and
- Any 600 V and 480V, 3 Phase, 3 Wire, Delta services.

Metering Type and Location Summary Table

Current	Metering Type	Voltage	Service	Fault Current	Metering Location *See Note 1*	Neutral *See Note 2*
200 A or less	Self-Contained	300 V or less	Main	10,000 A or less	Line (Hot)	Bonded
				Over 10,000 A	Load (Cold)	Isolated
			Sub	Any Level	Load (Cold)	Isolated
		277/480Y V 3 Phase 4 Wire	Main or Sub	Any Level	Load (Cold)	Isolated
		347/600Y V 3 Phase 4 Wire	Main or Sub	Any Level	Load (Cold)	Isolated
	Instrument Transformer	480 V 3 Phase 3 Wire Delta	Main or Sub	Any Level	Load (Cold)	NA
	Instrument Transformer	600 V 3 Phase 3 Wire Delta	Main or Sub	Any Level	Load (Cold)	NA
Over 200 A	Instrument Transformer	See Schematic Drawings, section 4.7 and 5.2.				

1. The metering location is relative to the main service box or sub service disconnect device. Line side metering is referred to as “hot” metering. Load side metering is referred to as “cold” metering.

2. In accordance with section 10-624 of the Canadian Electrical Code, where a meter socket is located on the line side of the main service box, the neutral shall be bonded to the meter socket. In accordance with sections 10-204 and 10-624 of the Canadian Electrical Code, where a Self-Contained meter socket is located on the load side of the main service box, the neutral shall be isolated from the meter socket.

3. Where a 3 phase, 4 wire supply, serves a 3 phase, 3 wire load, the neutral shall be part of the metering circuit and shall be extended to the point-of-metering.

4. Where metering is cold style, line side disconnect shall be located adjacent to the meter base. Adjacent is side-by-side in the same physical location.

4. Self-Contained Metering

Self-Contained Metering is required for all loads of 200 A or less. Except that, instrument transformer type metering is required for 480V and 600 V, 3 Phase, 3 Wire, Delta services of 200 A or less.

4.1 General

a) The Customer shall supply the meter socket and sealing ring. They shall be certified in accordance with CSA Standard C22.2 No. 115, *Meter Mounting Devices* and they shall be approved by BC Hydro.

b) The sealing ring shall be a screw type in accordance with section 6.2.

Ringless meter sockets are not permitted.

c) The neutral terminal on 5 jaw meter sockets shall be in the 9 o'clock position.

Prior to 2005 the neutral terminal on some 5 jaw meter sockets was required to be in the 6 o'clock position. When adding a new 5 jaw sub service meter socket to an existing installation, the new meter socket neutral terminal shall be in the 9 o'clock position, even if the existing neutral terminals are in the 6 o'clock position.

d) The meter tilt shall not exceed 3° from vertical.

e) Metered and unmetered conductors shall not be installed in the same raceway, pull box or distribution gutter box.

f) The supply service conductor conduit shall be continuous and without access fittings or junction boxes on the line side of a meter socket, except where a sealable LB fitting is used beside the Meter Socket;

g) Line and load side conductors shall not be crossed in the meter socket.

h) Where a 3 phase, 4 wire supply, serves a 3 phase, 3 wire load, a 7 jaw, 3 phase, 4 wire meter socket shall be installed and the neutral shall be extended to the meter socket.

The neutral conductor:

- Shall be white and insulated; and
- Shall carry the same ampacity of the line and load conductor; and
- Shall not be smaller than No. 6 AWG and meet the minimum conductor size rating of the meter socket neutral terminal;

i) Other devices, including surge arrestors, generator transfer switches, etc. shall not be installed within the meter socket or between the meter socket and the BC Hydro meter.

j) Power quality and load management devices including power factor correction capacitors, surge protective devices, etc. shall not be installed on the line side of the BC Hydro billing meters.

k) Prior to the installation of the meter, the Customer shall provide a durable temporary weather resistant cover over the meter socket opening.

l) When the service is to be temporarily energized prior to the installation of the meter, CSA approved jumper bars shall be installed in the meter socket. Proper electrical and mechanical contact must be maintained between the meter socket jaws and the meter terminals after the removal of the jumpers.

m) Underground service meter sockets shall be in accordance with section 6.1. *Overhead service meter socket dimensions are not specified since BC Hydro does not install the conductors.*

4.2 Individual Meter Sockets

4.2.1 Meter Socket Cover Removal

Removal of the meter socket cover shall not be possible unless the following sequence is followed:

- Removal of the sealing ring;
- Removal of the meter;
- Operation of the meter socket cover latch;
- Removal of the meter socket cover.

Configurations that rely on seals, in addition to the BC Hydro sealing ring seal, or padlocks to prevent removal of the meter socket cover are not permitted.

4.2.2 Mounting Height

a) The meter's centre line shall be 1500 mm to 1800 mm above finished grade in accordance with section 6.3 and 6.4.

   Municipal kiosks, Meter Centres, Grouped Sub Service Metering, Service Pedestals mounting heights are per section 4.2.3, 6.6, 6.7 and 4.6 respectively.

b) If the Customer intends to build up the grade after the meter has been installed, a platform or ramp shall be provided during the interim period. The platform shall not be less than 900 mm by 900 mm.

4.2.3 Enclosures for Permanent Meter Sockets (Kiosk)

a) Permanent meter sockets shall not be installed within a steel or aluminum enclosure. By special written approval from BC Hydro, the meter socket may be installed within an steel or aluminum enclosure provided if:

   - Special written approval is obtained from BC Hydro; and
   - The enclosure has a hinged door; and,
   - The enclosure and door do not interfere with the installation, reading or removal of the meter; and
   - The enclosure and door do not interfere with the installation or removal of the meter socket cover; and,
   - The clearance of 254-305 mm (10-12 inch) is provided between the inside of the closed enclosure door and the meter socket cover; and,
   - The enclosure has a 152-178 mm (6-7 inch) round or square

Lexan or equivalent Polycarbonate viewing window installed on the enclosure door directly in-line with the front of the meter; and,

- The enclosure shall have a 16 mm (5/8 inch) hole which is,
  - complete with tamperproof and weatherproof knockout plug on the enclosure roof; and,
  - located as close as possible to the front of the enclosure and within 24 inch radius of the meter; and,
  - at least 6 inch away from all edges;

b) If it is proposed to lock the enclosure, the details of the locking should include double padlocking provision as approved by local BC Hydro design.

c) Municipal kiosk meter's centre line is allowed to be 915 mm to 1800 mm above finished grade.

Approval for the installation of permanent meter socket within enclosure is typically only given where the meter may be subject to vandalism and accidental damage where it reasonably cannot be alleviated.

Temporary construction power meter sockets may be installed within enclosures.

4.2.4 Recessed Mounting

Meter sockets may be recessed within exterior walls provided:

- The associated underground supply service conductors are permitted to be installed within the exterior wall per BC Hydro Distribution Standards drawings;
  - The recess depth is less than the depth of the meter socket, i.e. the meter socket cover shall project a minimum of 25 mm beyond the finished exterior wall surface; or
  - A minimum of 25 mm wide by 25 mm depth spacing shall be provided between the finished exterior wall surface and on two sides and bottom side of the meter socket;
- Recessing does not interfere with the installation, reading or removal of the meter; and
- Recessing does not interfere with the installation or removal of the meter socket cover.

The overhead service mast and conductors are consumer service conductors. Section 6-208 of the Canadian Electrical Code restricts the installation of consumer service conductors within an exterior wall. The meter shall be installed on the outside of the finished exterior wall for detached single family residential services.

4.2.5 Ground Connections

Where permitted by the Canadian Electrical Code, grounding and its connections for other systems, such as telephone, cable TV, or etc., shall:

- Not terminate within the meter socket; and
- Not terminate or routed through BC Hydro's wireway/pullbox; and
- Not interfere with the installation, reading or removal of the meter; and
- Not interfere with the installation or removal of the meter socket cover.

4.2.6 Meters Mounted on Poles

Meter sockets shall be located on the side of the pole that is not subject to vehicle damage. If this is not practicable, protection posts shall be installed 600 mm in front of the meter socket in accordance with section 6.3

4.2.7 Gas Meters and Propane Meters

Meter sockets shall not be installed within 1000 mm of gas meters or within 3000 mm of propane meters, regulators, tanks, or relief devices. See section 6.4.

4.3 Multiple Main Meter Sockets

When, in accordance with section 6-104 of the Canadian Electrical Code multiple meter sockets connected to one supply service are installed on the exterior of a building; BC Hydro only permits a maximum of FOUR, 1 phase meter sockets. The multiple main meter sockets:

a) Shall be part of a certified manufactured assembly; and

Site fabricated assemblies are not permitted.

b) Shall be installed in accordance with section 6.5; and

c) Shall meet the requirements of individual meter sockets in section 4.2; and

d) Shall not have spare meter sockets except the spare meter socket is assigned to a unit that is in construction and to be completed within 6 – 12 months; A clear polycarbonate cover plate (e.g. Lexan) with tabs that plugs into meter socket jaws and a meter sealing ring shall be supplied and installed; and

e) If they have a separate supply service compartment, removal of the supply service compartment cover, shall require operation of a latch that can only

be accessed by the removal of the adjacent meter.

Assemblies that require the installation of a padlock or non-meter ring seal to secure the supply service compartment cover are not permitted.

f) Prior to the installation of the meters by BC Hydro:

- Each Customer suite address or suite number shall be permanently and legibly marked on the interior of each meter socket and the exterior of each meter socket cover; and
- All suite doors, complete with their permanent address or suite numbers, shall be installed.

Multiple main meter sockets are "hot style" and are located on the line side of their respective main service boxes. "Hot style" metering may only be used where the fault current is less than 10,000 A. Where fault current levels are over 10,000 A; use "cold style" metering.

4.4 Meter Centres

a) Meter centres shall be installed in accordance with section 6.6; and

b) Meter centres shall be certified in accordance with CSA Standard C22.2 No. 229 *Switching and Metering Centres* and shall be approved by BC Hydro; and

c) Meter centres shall be cold style with the meter socket located on the load side of the associated circuit breaker; and

d) The circuit breaker shall have provision for locking in the open position; and

e) The centre-to-centre dimension of adjacent meter sockets shall not be less than 220 mm and the centre to any adjacent equipment, structure or obstruction shall be not less than 220 mm and;

f) Prior to the installation of the meters by BC Hydro:

- Each Customer suite address or suite number shall be permanently and legibly marked on the interior of each meter socket and the exterior of each meter socket cover; and
- All suite doors, complete with their permanent address or suite numbers, shall be installed.

g) Meter centres may be located behind a hallway door provided the door frame does not restrict the required 1 m clearance, or access to any of the meter sockets. The following clearance shall be provided between the closed door and each meter socket cover:

- 250 mm for all meter types.

4.4.1 Surplus Meter Positions

Meter positions that exceed the required number for the completed project are defined as surplus meter positions, (i.e. 47 total units but 48 meter positions supplied because meter centres/stacks come in fixed numbers). Contractors installing new meter centre(s) must remove/disable the surplus meter with the following option:

- Remove surplus socket components and install manufacturer supplied metal blanking plate to cover socket opening and breaker section.

BC Hydro will not allow more than one surplus in the above circumstances.

4.4.2 Spare Meter Positions

Meter positions that are required for future additional loads, where areas already assigned, to complete a project are defined as spare meter positions. Meter Centres shall not have spare meter sockets except the spare meter socket is assigned to a unit that is in construction and to be completed within 6 – 12 months;

Contractors are required to supply and install the following:

- A clear polycarbonate cover plate (e.g. Lexan) with tabs that plug into meter socket jaws and a meter sealing ring.

4.5 Grouped Sub Service Metering

a) Grouped, field constructed sub service meter assemblies shall be in accordance with section 6.7; and

b) The individual meter sockets shall be in accordance with section 4.2. Except that the meter sockets may be from 700 mm to 1800 mm above finished grade; and

c) Instrument Transformer Metering shall be in accordance with section 5; and

d) The grouped sub service metering shall be cold style with each meter socket located on the load side of a sub service disconnect device; and

The main service box is not an acceptable means for isolating a sub service meter socket. Each sub service meter socket therefore requires its own disconnect device.

Additions to existing non-conforming installations shall be in accordance with this requirement.

d) The sub service disconnect device shall have provision for locking in the open position; and

e) In accordance with section 4.1, metered and unmetered conductors shall not be installed in the same raceway or distribution gutter box; and

f) The distribution gutter box shall have provision for the installation of BC Hydro seals; and

g) The centre-to-centre dimension of adjacent meter sockets shall not be less

than 220 mm and the centre to any adjacent equipment, structure or obstruction dimension, shall be not less than 220 mm and;

h) Each meter socket shall be:
- Adjacent to, and as close as practicable to, the controlling sub service disconnect device; and
- In the same room as the controlling sub service disconnect device; and

It shall be immediately obvious from the conduit configuration which sub service disconnect device is controlling each meter socket. It is unacceptable to supply the meter sockets from circuit breakers located in a panelboard.

i) Each sub service disconnect device shall be:

- Adjacent to, and as close as practicable to, the distribution gutter box; and
- In the same room as the distribution gutter box; and

j) Prior the installation of the meters by BC Hydro:

- Each Customer suite address or suite number shall be permanently and legibly marked on the interior of each meter socket, the exterior of each meter socket cover, and the sub service disconnect device; and
- All suite doors, complete with their permanent address or suite numbers, shall be installed; and

k) Where a 3 phase, 4 wire supply, serves a 3 phase, 3 wire load, a 7 jaw, 3 phase, 4 wire meter socket shall be installed and the neutral shall be extended from the distribution gutter box to the meter socket.

The neutral conductor:

- Shall be white and insulated; and
- Shall carry the same ampacity of the line and load conductor; and
- Shall not be smaller than No. 6 AWG and meet the minimum conductor size rating of the meter socket neutral terminal;

4.6 Service Pedestals

Service Pedestal is a free standing meter socket permanently mounted on a concrete platform, rated for outdoor use, and come with separate line and load side wireways per BC Hydro Distribution Standards drawings and the followings:

a) Service Pedestals shall not be subject to vehicle or vandalism damage; and

b) Meter socket shall be in accordance with section 4.2 and section 6.8; and
c) Shall have a continuous barrier between the unmetered supply conductors and the metered load conductors; and
d) Shall permit access to the unmetered supply conductors only after performing the following removal sequence:

- Meter sealing ring; then
- Meter; then
- Meter socket cover; then
- Unmetered supply conductor cover.

Pedestals that require the installation of a padlock or non-meter ring seal to secure the unmetered conductor cover are not permitted.

e) The Service Pedestal unmetered supply conductors shall be installed in a continuous conduit between the BC Hydro point of supply and the service pedestals. Intermediate underground enclosures, or other potential points of access, are not permitted.

f) Service Pedestal meter's centre line shall be between 1500 mm and 1800 mm above finished grade.

g) Service Pedestal with meter's centre line at minimum 915 mm are only allowed for mobile home parks and subdivisions, and municipal street lights and/or traffic lights per section 6.8.

h) Customer service grounding requirements in the main breaker section shall comply with the latest section 6.0 of the BC Electrical Code.

4.7 Schematic Drawings

Self-Contained meter sockets shall be in accordance with the schematic drawings in this section.

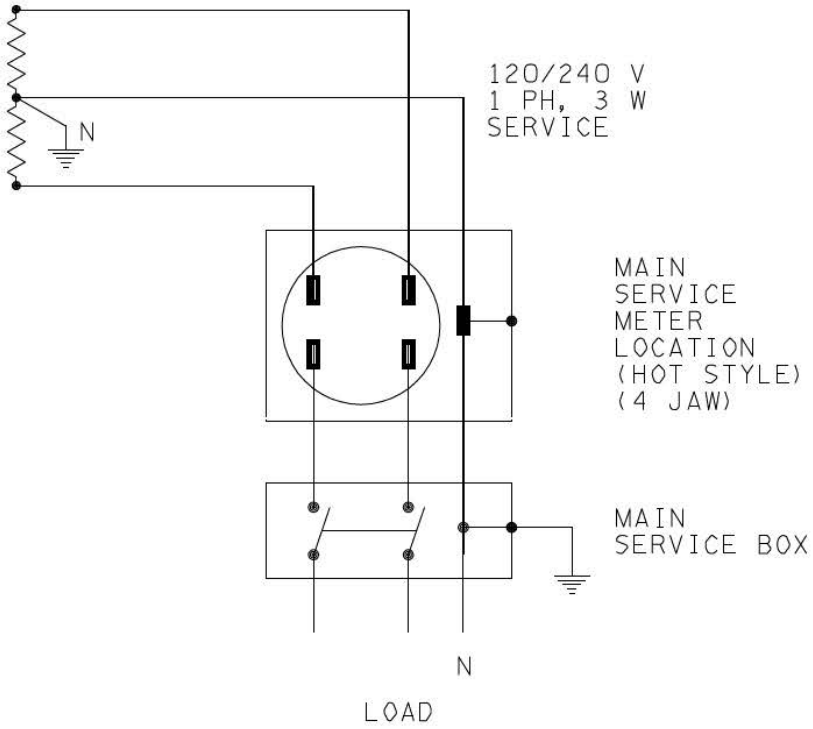
*In accordance with section 3.10, "hot" metering, with the meter socket on the line side of the service box, is only required for the following **main services** where the fault current is 10,000 A or less:*

- *120/240 V, 1 phase, 3 wire; or*
- *120/208 V, Network (very limited application); or*
- *120/208Y V, 3 phase, 4 wire; or*
- *240 V, 3 phase, 3 wire delta.*

*All other **main services** require "cold" metering, with the meter socket on the load side of the service box.*
*All **sub services** require "cold" metering, with the meter socket on the load side of the sub service disconnect device.*

For "hot" metering, the neutral shall be bonded to the meter socket.
For "cold" metering, the neutral shall be isolated from the meter socket.
In accordance with section 4.1, where a 3 phase, 4 wire supply, serves a 3 phase, 3 wire load, a 7 jaw, 3 phase, 4 wire meter socket shall be installed and the neutral shall be extended to the meter socket.

4.7.1 120/240 V, 1 Phase, 3 Wire, Main Service



Notes:

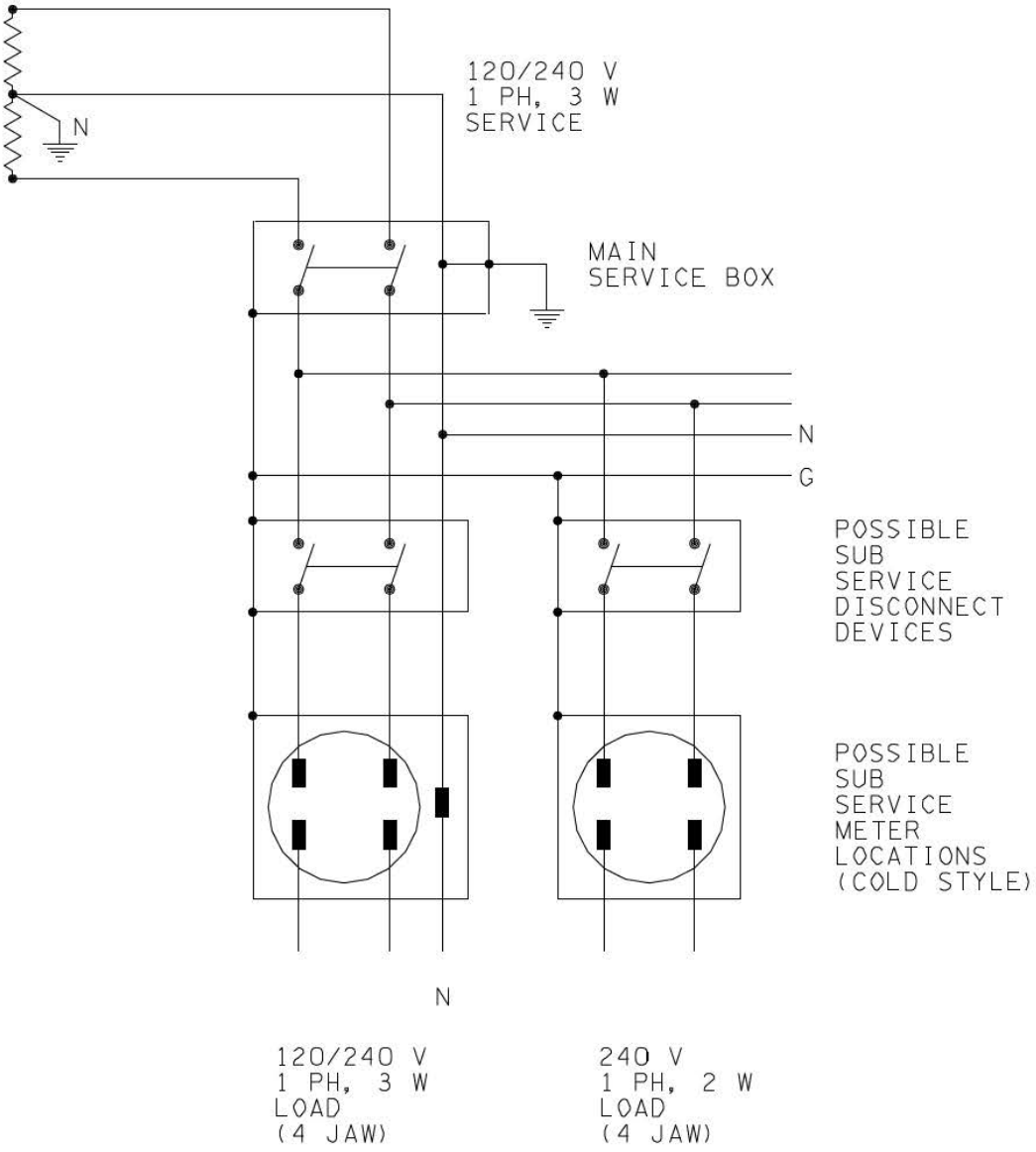
1. This is a typical residential service. In accordance with section 3.2, for detached single family residential services, the meter socket shall not be located indoors.

2. 120 V, 1 phase, 2 wire services are no longer provided.

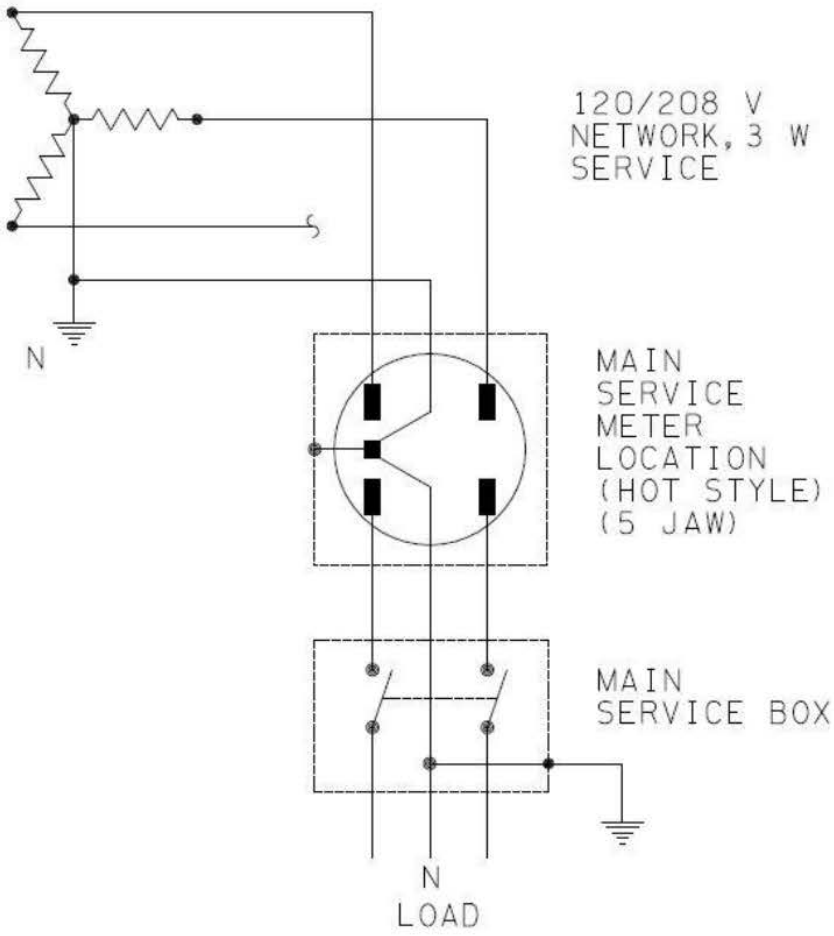
3. The above hot style configuration is applicable if the service fault current is 10,000 A or less. **If the service fault current is greater than 10,000 A**:

   - The meter shall be on the load side of the main service box (cold style); and
   - The neutral shall not be bonded at the meter.

4.7.2 120/240 V, 1 Phase, 3 Wire, Sub Services



4.7.3 120/208 V, Network, Main Service



Notes:

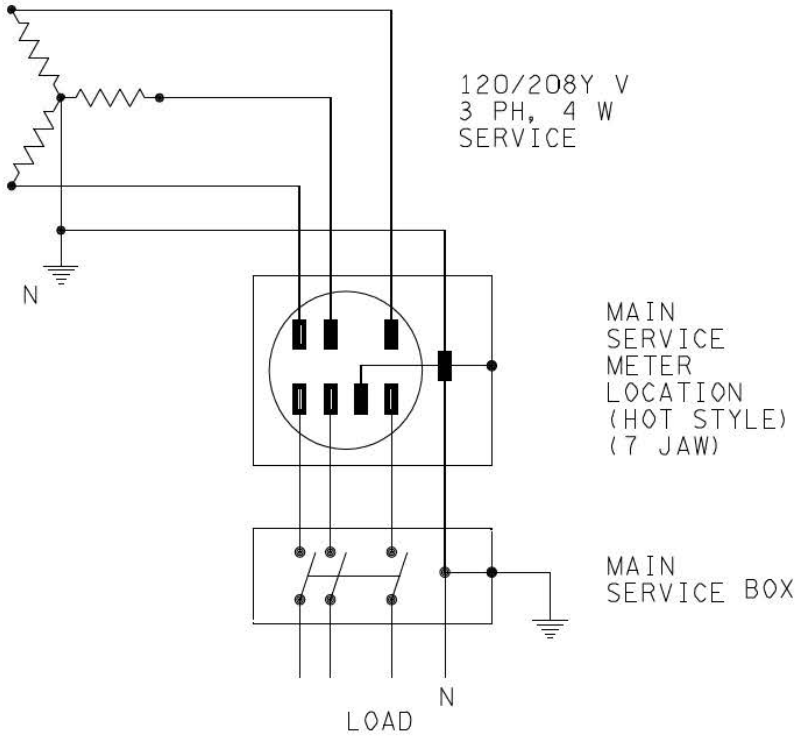
1. A 120/208 V, network service consists of two phase conductors plus a neutral conductor supplied from a 120/208Y V, 3 phase, 4 wire power system.

2. 120/208 V network main services are restricted to downtown Victoria and a very limited number of other locations.

3. The above hot style configuration is applicable if the service fault current is 10,000 A or less. **If the service fault current is greater than 10,000 A**:

   - The meter shall be on the load side of the main service box (cold style); and
   - The neutral shall not be bonded at the meter.

4.7.4 120/208Y V, 3 Phase, 4 Wire, Main Service

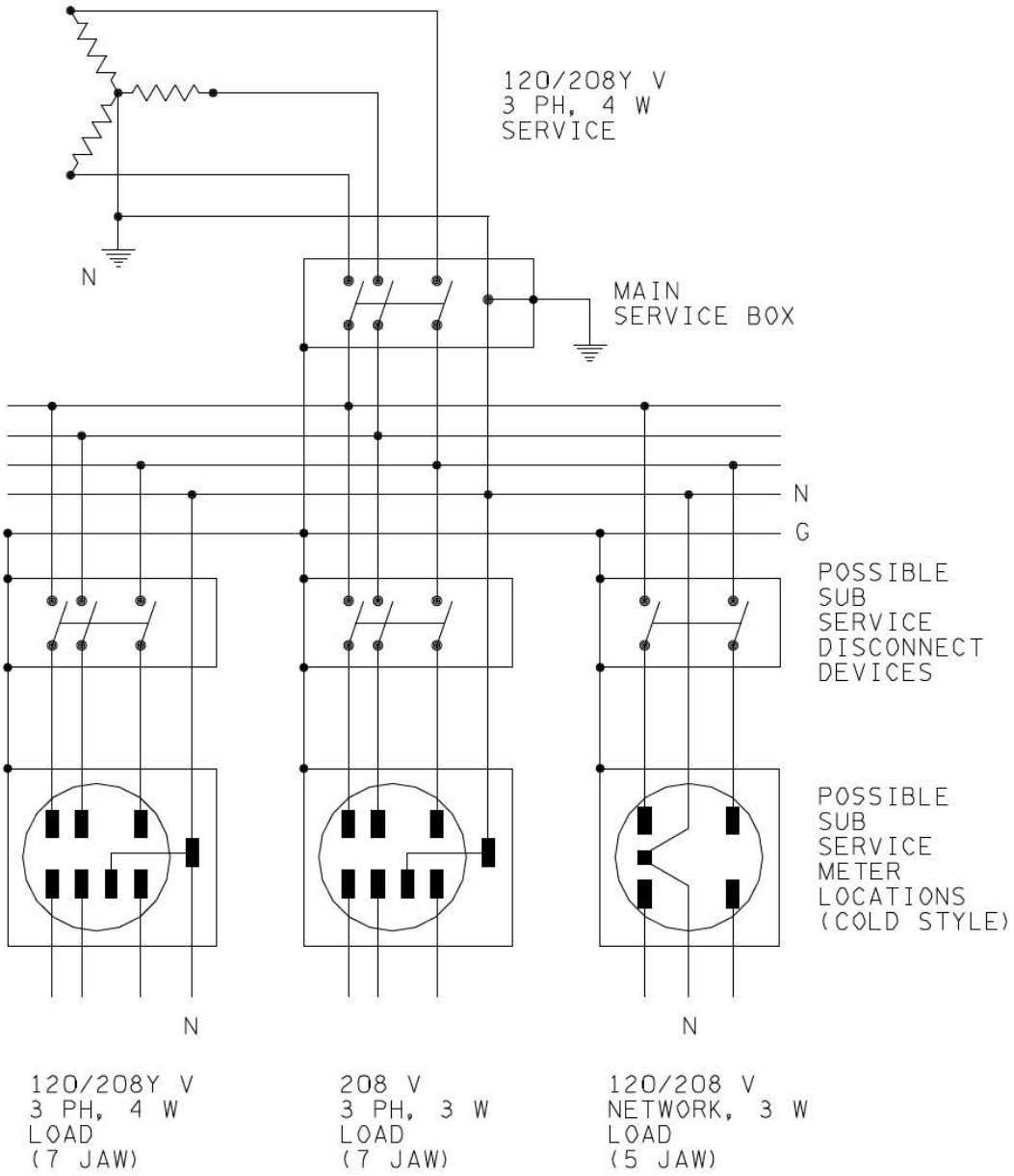


Notes:

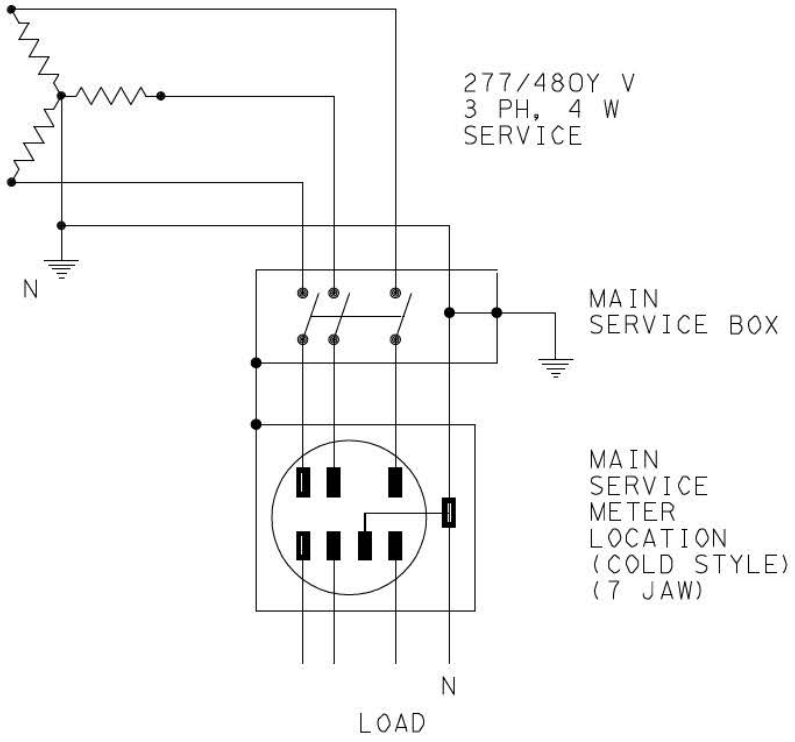
1. The above hot style configuration is applicable if the service fault current is 10,000 A or less. **If the service fault current is greater than 10,000 A**:

   - The meter shall be on the load side of the main service box (cold style); and
   - The neutral shall not be bonded at the meter.

4.7.5 120/208Y V, 3 Phase, 4 Wire, Sub Services



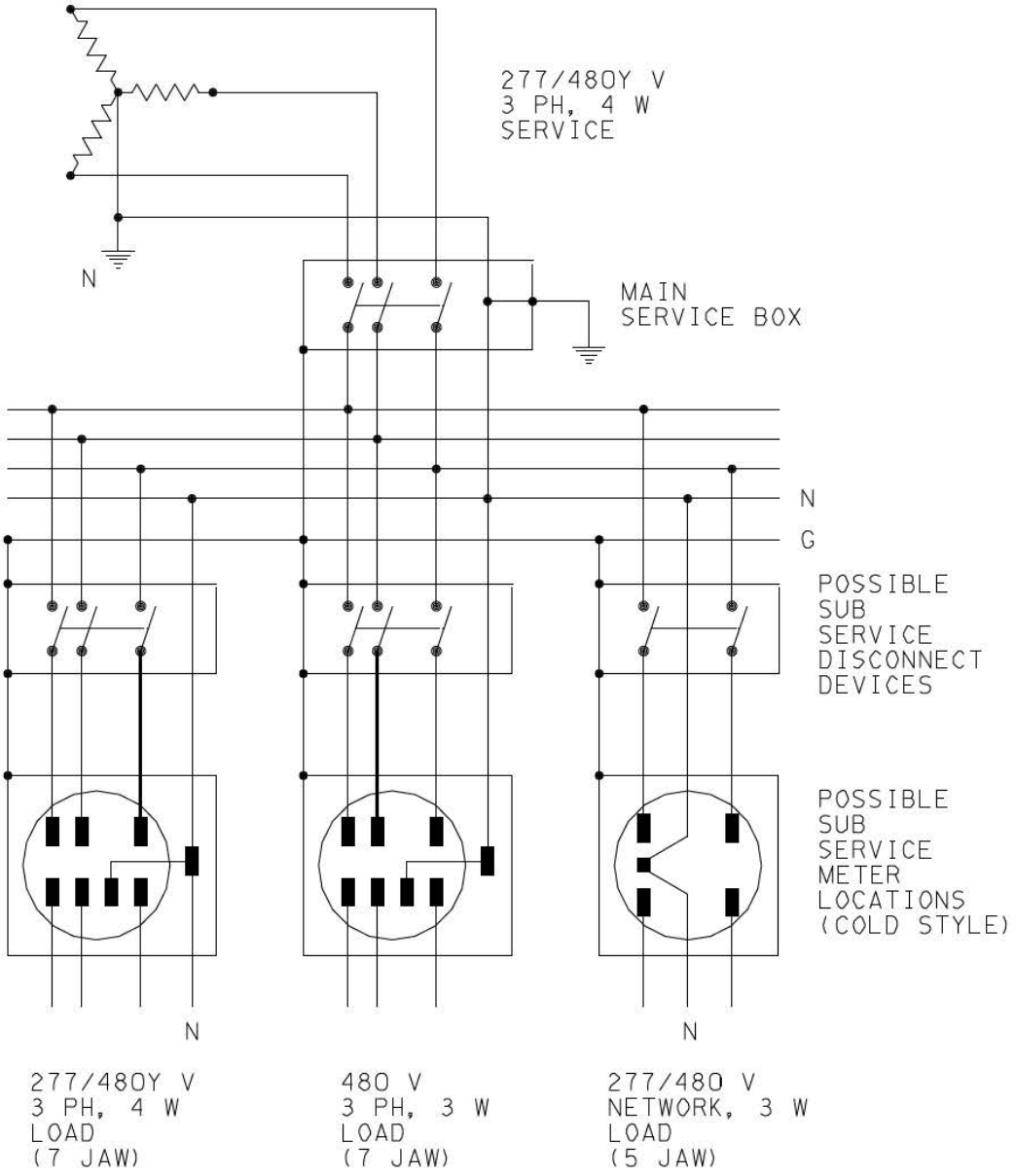
4.7.6 277/480Y V, 3 Phase, 4 Wire, Main Service



Notes:

1. This is not a standard BC Hydro service voltage. However, if the Customer provides the power transformers, BC Hydro will provide the meter.

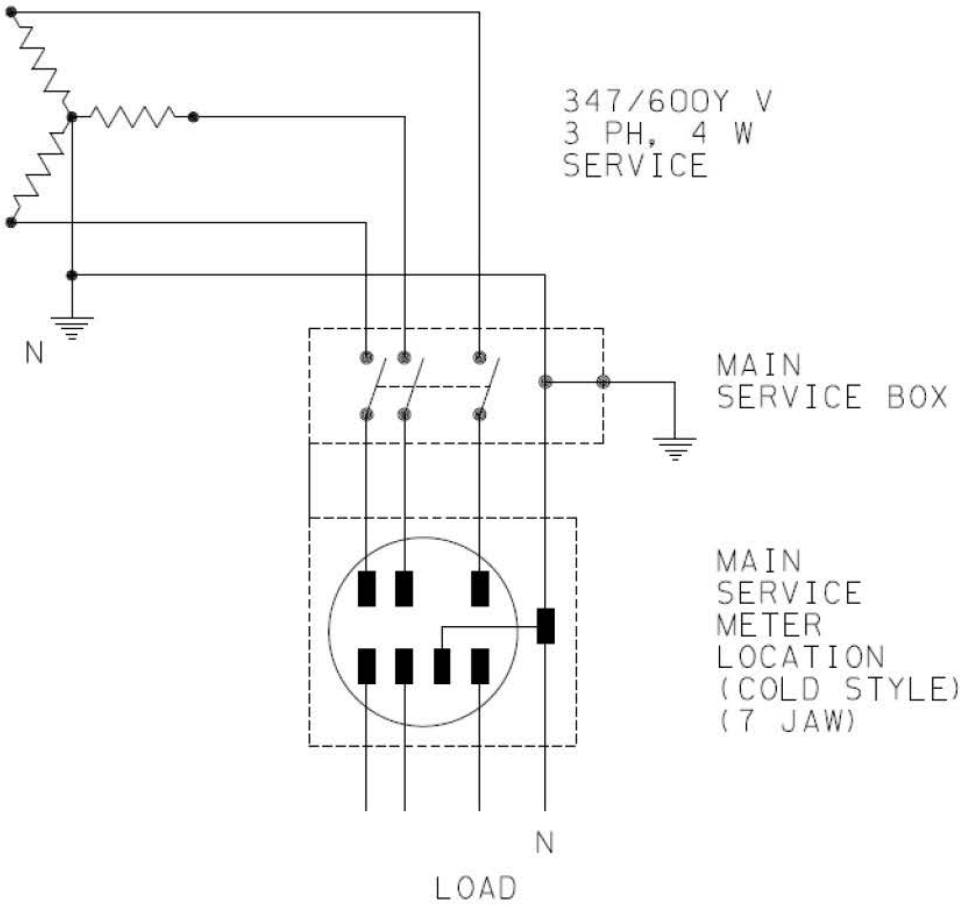
4.7.7 277/480Y V, 3 Phase, 4 Wire, Sub Services



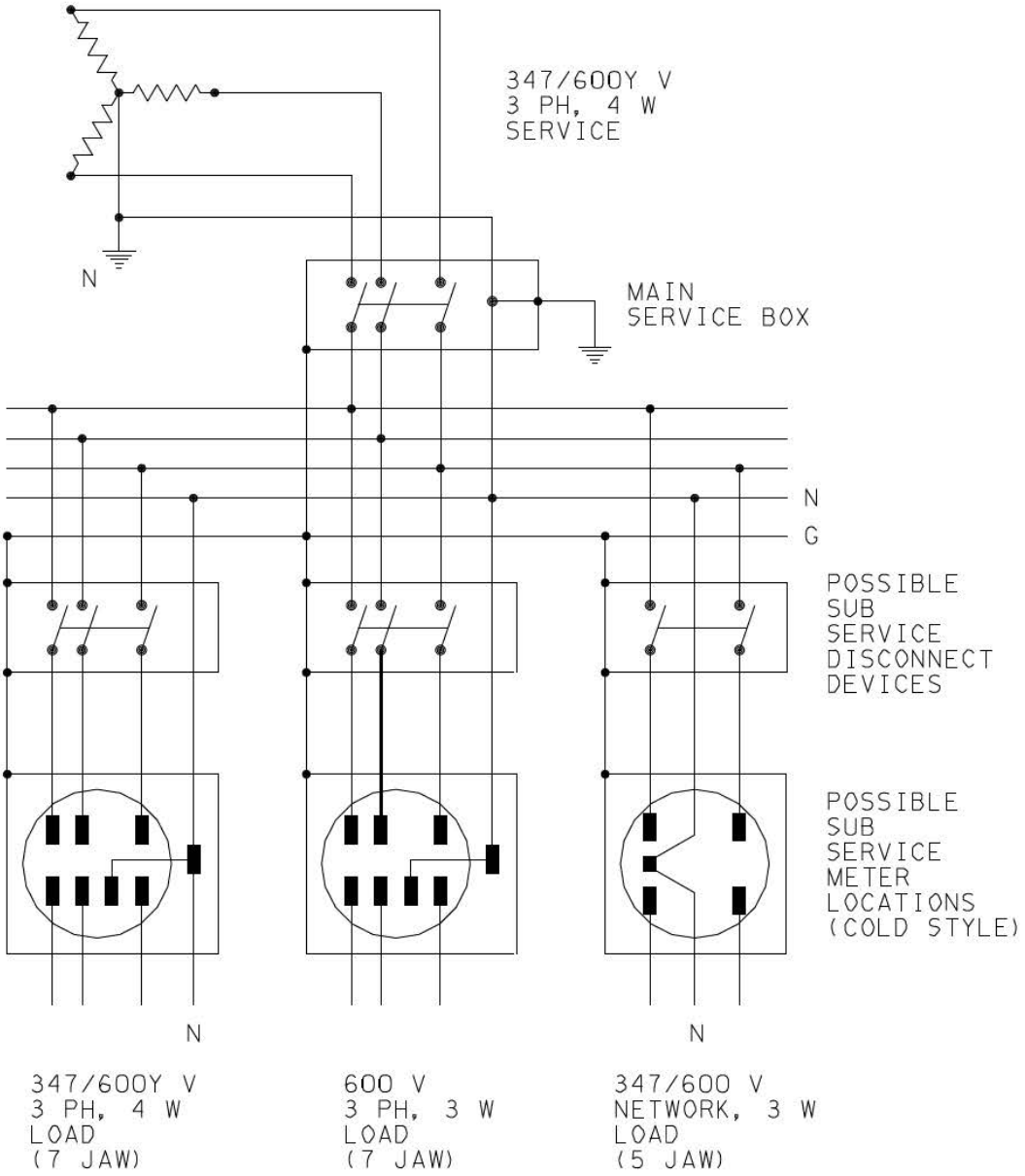
Notes:

This is not a standard BC Hydro service voltage. However, if the Customer provides the power transformers, BC Hydro will provide the meter.

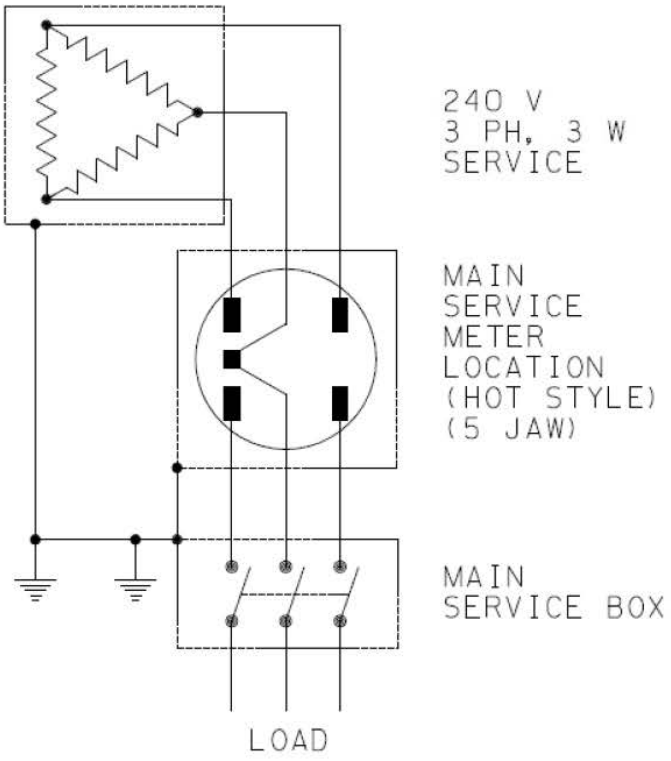
4.7.8 347/600Y V, 3 Phase, 4 Wire, Main Service



4.7.9 347/600Y V, 3 Phase, 4 Wire, Sub Services



4.7.10 240 V, 3 Phase, 3 Wire Delta, Main Service



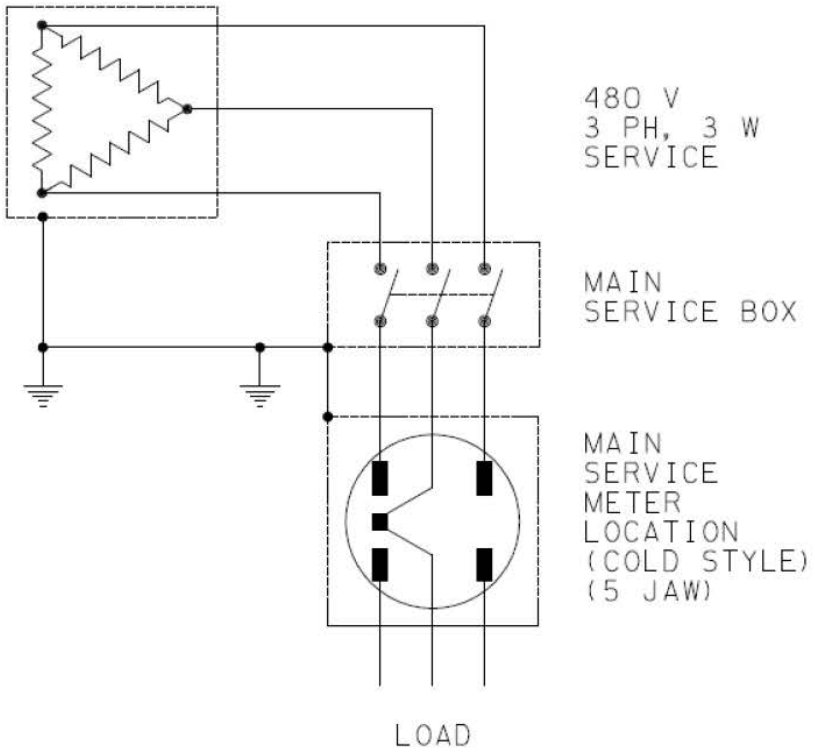
Notes:

1. This is not a standard BC Hydro service voltage. However, if the Customer provides the power transformers, BC Hydro will provide the meter.

2. Since there is no neutral (grounded service conductor), alternative methods shall be used to insure that the meter socket is bonded to ground. See section 10-604, 10-606 and 10-624 of the Canadian Electrical Code.

3. The above hot style configuration is applicable if the service fault current is 10,000 A or less. **If the service fault current is greater than 10,000 A**, the meter shall be on the load side of the main service box (cold style).

4.7.11 480 V, 3 Phase, 3 Wire Delta, Main Service



Notes:

480 V, 3 Phase, 3 Wire Delta is not a standard BC Hydro service voltage. However, if the Customer provides the power transformers, BC Hydro will provide a 480 V, 3 Phase, 3 Wire Delta Instrument Transformer Metering. See section 5.2.6.

4.7.12 600 V, 3 Phase, 3 Wire Delta, Main Service

600 V, 3 Phase, 3 Wire Delta is not a standard BC Hydro service voltage and BC Hydro does not provide Self-Contained 600 V, 3 Phase, 3 Wire Delta meters for new services. However, if the Customer provides the power transformers, BC Hydro will supply 600 V, 3 Phase, 3 Wire Delta Instrument Transformer Metering. See section 5.2.6.

5. Instrument Transformer Metering

Instrument Transformer Metering is required for:

- All loads over 200 A; and
- 600 V, 3 Phase, 3 Wire, Delta services 200 A or less,
- 480 V, 3 Phase, 3 Wire, Delta services 200 A or less,
- Fire pump services >67h.p. (50 kW) – use 'donut' or 'window' type CTs only (See drawings 6.14 and 6.15)

5.1 General

a) Metered and unmetered conductors shall not be installed in the same raceway, pull box or distribution gutter box.

b) The unmetered service conductor after main switch shall be continuous and without access fittings or junction boxes up to the point of metering. This precludes distribution gutter box as depicted in section 6.7.

c) Customer devices shall not be connected to BC Hydro VT and CT secondary winding circuits and installed in designated BC Hydro compartment.

d) Power quality and load management devices including power factor correction capacitors, surge protective devices, etc. shall not be installed on the line side of BC Hydro billing meters.

e) The switchgear panel shall not have spare breakers except designated for future metering of an area under construction and to be completed within 6 – 12 months.

For any spare breaker not meeting above, it shall be removed and covered by manufacturer supplied metal blanking plate.

5.1.1 1 Phase

5.1.1.1 Residential 1 Phase Services – Over 200A

Detached single family residential 1 phase services, over 200 A, shall only be metered in an outdoor location using the following options:

- 120/240V 1 phase 400A meter socket assembly with an integral CT in accordance with section 5.5; or
- Instrument transformer enclosure and **Transformer-Type Meter Socket** in accordance with section 5.3 and 5.7; or
- Switchgear instrument transformer compartment and **Transformer-Type**

Meter Socket in accordance with section 5.4.

The above are preferred point of metering arrangements. However, other arrangements such as, located inside power shed or service closet on customer's property may be acceptable subject to approval from BC Hydro.

The above installations must be installed on the load side of customer owned service equipment and as such must meet the latest requirements of BC Hydro, the local electrical inspection authority and the BC Electrical Code Regulation. Get approval from BC Hydro and the local inspection authority prior to finalizing plans for these services.

5.1.1.2 Other 1 Phase Services Over 200A

1 phase services, other than detached single family residential, shall be metered in an indoor or outdoor location using the following options:

- Instrument transformer enclosure and **Transformer-Type Meter Socket** in accordance with section 5.3 and 5.7; or
- Switchgear instrument transformer compartment and **Transformer-Type Meter Socket** in accordance with section 5.4; or
- 120/240V 1 phase 400A meter socket assembly with an integral CT in accordance with section 5.5.

Other arrangements such as, located inside a power shed or service closet on customer's property may be acceptable subject to approval from BC Hydro.

The above installations must be installed on the load side of customer owned service equipment and as such must meet the latest requirements of BC Hydro, the local electrical inspection authority and the BC Electrical Code Regulation. Get approval from BC Hydro and the local inspection authority prior to finalizing plans for these services.

In accordance with section 5.8, where the instrument transformer enclosure/compartment is located indoors, the Transformer-Type Meter Socket or the meter cabinet shall be located indoors in the same electrical/meter room as the instrument transformer enclosure/compartment.

The instrument transformer enclosure/compartment and Transformer-Type Meter Socket may be located indoors provided:

- They are located in an electrical/meter room with a vertically hinged, lockable door leading directly to the exterior of the building (roll-up or overhead garage doors are not acceptable as access doors);

- The accessibility arrangements for the exterior hinged door are agreed upon by BC Hydro prior to approval.

5.1.2 3 Phase

5.1.2.1 Residential 3 Phase Services Over 200A

Detached single family residential 3 phase services shall be metered in an indoor or outdoor location using the following options:

- Instrument transformer enclosure and **Transformer-Type Meter Socket** in accordance with section 5.3.1; or
- Switchgear instrument transformer compartment and meter **Transformer-Type Meter Socket** in accordance with section 5.4;

Indoor detached single family residential metering is not preferred, however if agreed to be inside an electrical/meter room, direct access shall be arranged with BC Hydro prior to approving proposed location. Other arrangements such as, located inside a power shed or service closet on customer's property may be acceptable subject to approval from BC Hydro.

The above installations must be installed on the load side of customer owned service equipment and as such must meet the latest requirements of BC Hydro, the local electrical inspection authority and the BC Electrical Code Regulation. Get approval from BC Hydro and the local inspection authority prior to finalizing plans for these services.

The instrument transformer enclosure/compartment and Transformer-Type Meter Socket may be located indoors provided:

- They are located in an electrical/meter room with a vertically hinged, lockable door leading directly to the exterior of the building (roll-up or overhead garage doors are not acceptable as access doors);
- The accessibility arrangements for the exterior hinged door are agreed upon by BC Hydro prior to approval.

In accordance with section 5.8, where the instrument transformer enclosure/compartment is located indoors, the Transformer-Type Meter Socket shall be located indoors in the same electrical/meter room and within 3m of the instrument transformer enclosure/compartment.

5.1.2.2 Other 3 Phase Services Over 200A

3 phase services, other than detached single family residential, shall be metered in an indoor or outdoor location using the following options:

- Instrument transformer enclosure and **Transformer-Type Meter Socket** in accordance with section 5.3 and 5.7; or
- Switchgear instrument transformer compartment and **Transformer-Type Meter Socket** in accordance with section 5.4; or

Other arrangements such as, located inside a power shed or service closet on customer's property may be acceptable subject to approval from BC Hydro.

The above installations must be installed on the load side of customer owned service equipment and as such must meet the latest requirements of BC Hydro, the local electrical inspection authority and the BC Electrical Code Regulation. Get approval from BC Hydro and the local inspection authority prior to finalizing plans for these services.

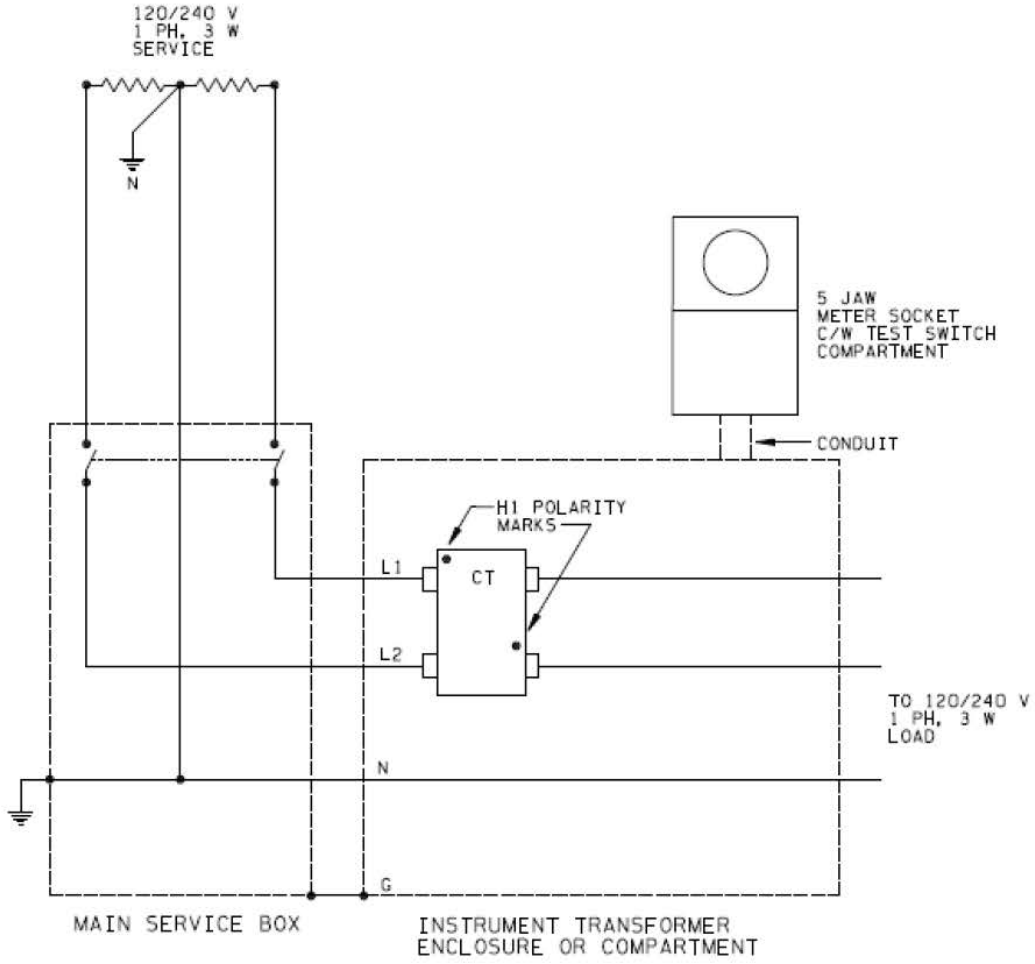
The instrument transformer enclosure/compartment and Transformer-Type Meter Socket may be located indoors provided:

- They are located in an electrical/meter room with a vertically hinged, lockable door leading directly to the exterior of the building (roll-up or overhead garage doors are not acceptable as access doors);
- The accessibility arrangements for the exterior hinged door are agreed upon by BC Hydro prior to approval.

5.2 Schematic Drawings

Instrument Transformer Metering shall be installed in accordance with the schematic drawings in this section. The drawings illustrate a "main service box". For sub service applications, substitute a "sub service disconnect device" for the "main service box" and remove the neutral ground at the "sub service disconnect device".

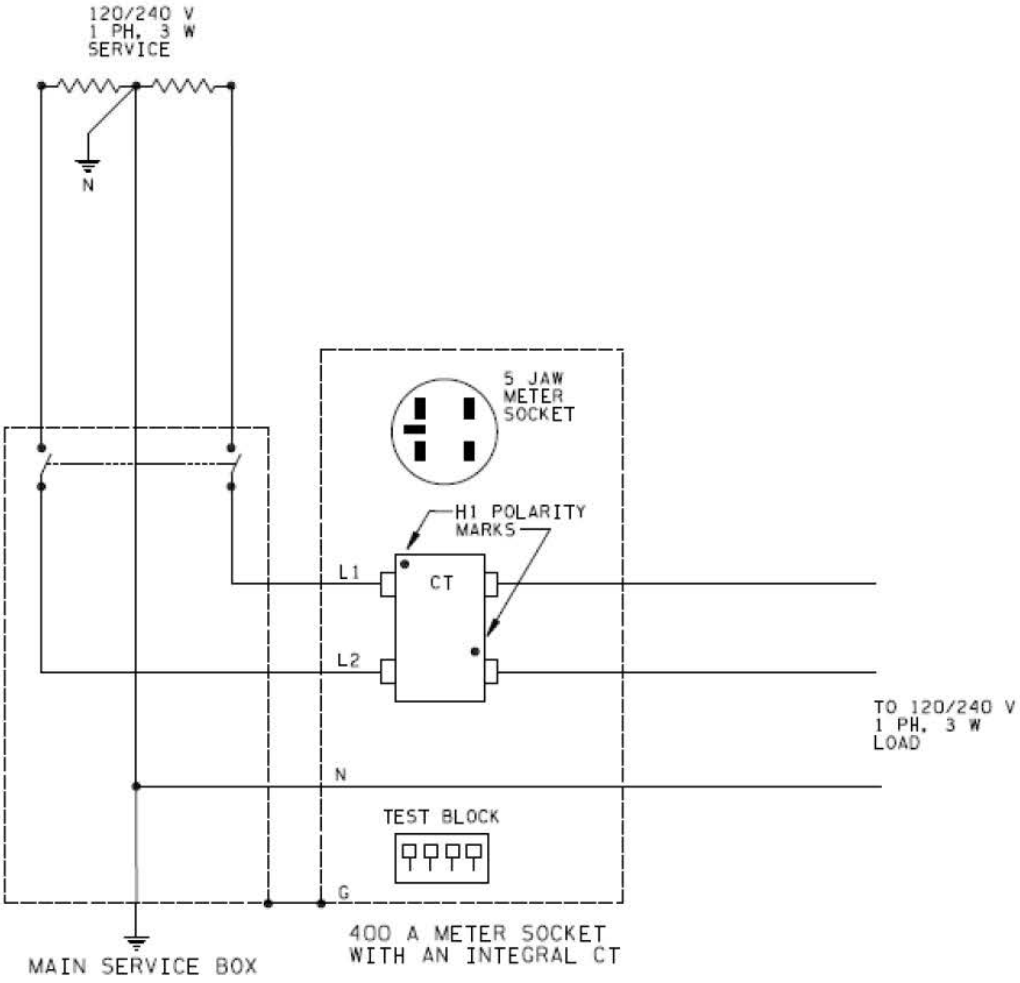
5.2.1 120/240 V, 1 Phase, 3 Wire Service – Instrument Transformer Enclosure or Compartment



Notes:

1. See section 5.3.1.1 and 5.3.2.1.
2. Approved sockets, CTS405PW-BC or CT105-L.

5.2.2 120/240 V, 1 Phase, 3 Wire Service – 400 A Meter Socket Assembly with an Integral CT



Notes:

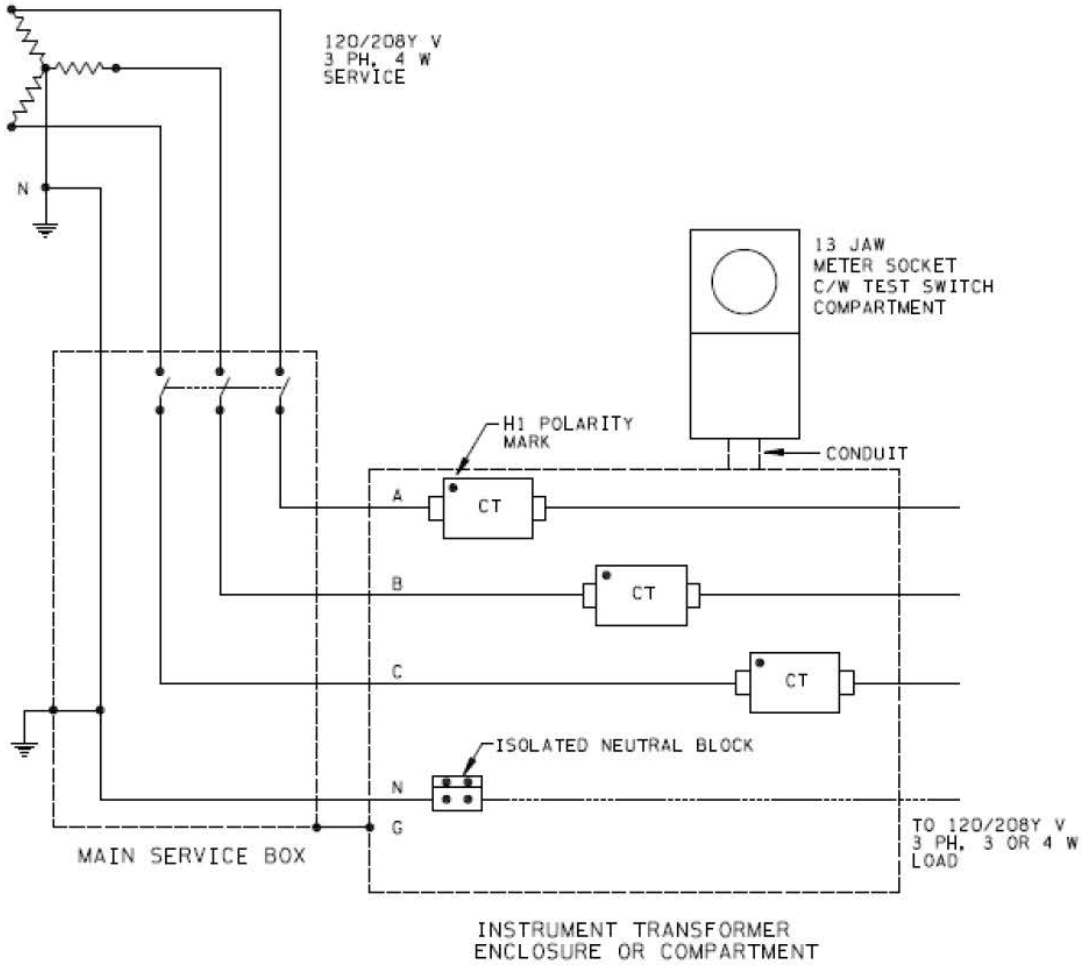
1. See section 5.5 and 5.3.2.1.
2. Approved sockets, CT4-BC-INK or JS4B-STW and JS4B-4STW

New approved meter socket assembly with integral CT c/w Circuit Breaker are;

- Hydel CT4-WS0H-BC
- Hydel CT4-WS-BC

The above shall be per BC Hydro Distribution Standards Equipment Advisory dated January 30, 2015. Inquire from Local BCH design regarding this advisory.

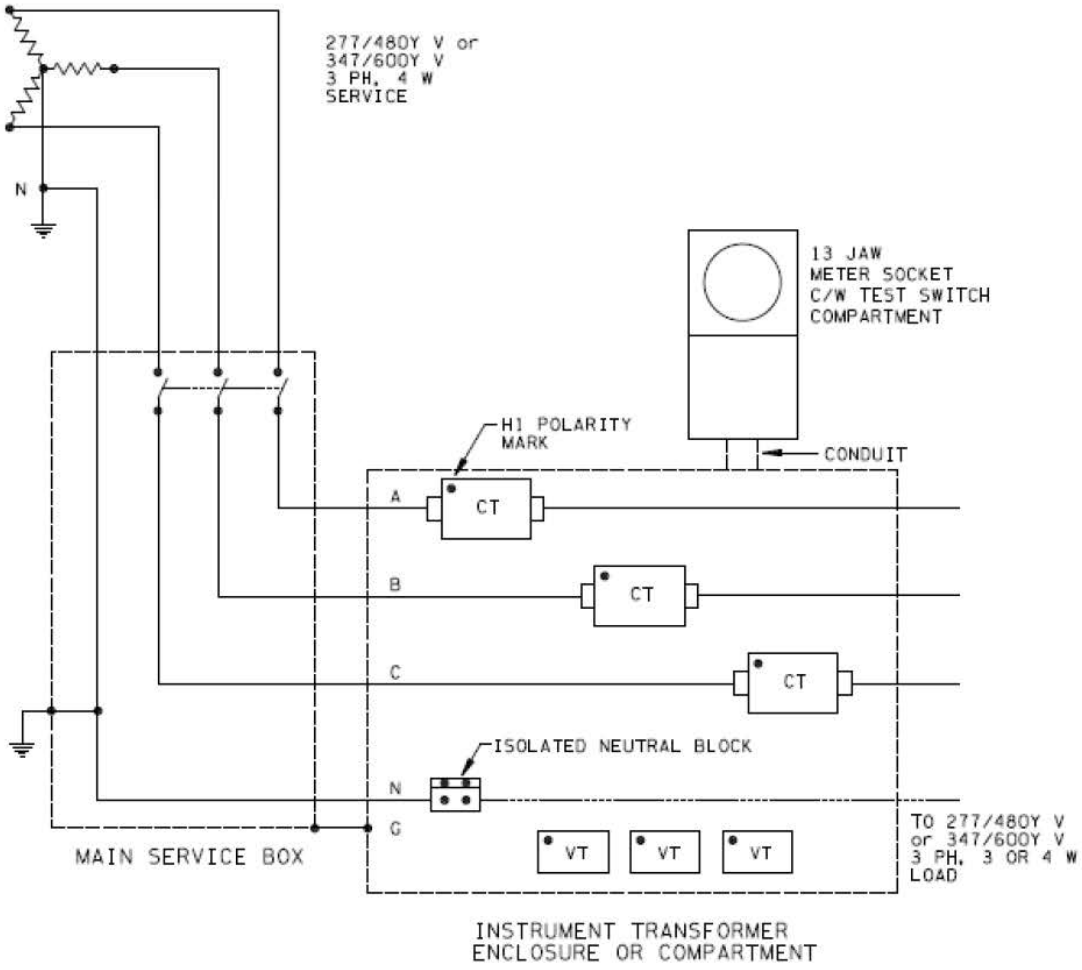
5.2.3 120/208Y V, 3 Phase, 4 Wire Service



Notes:

1. See section See section 5.3.1.2, 5.3.2.2., 5.4.1.2, or 5.4.2.2.
2. Approved sockets, CTS130PW-BC or CT113-L.

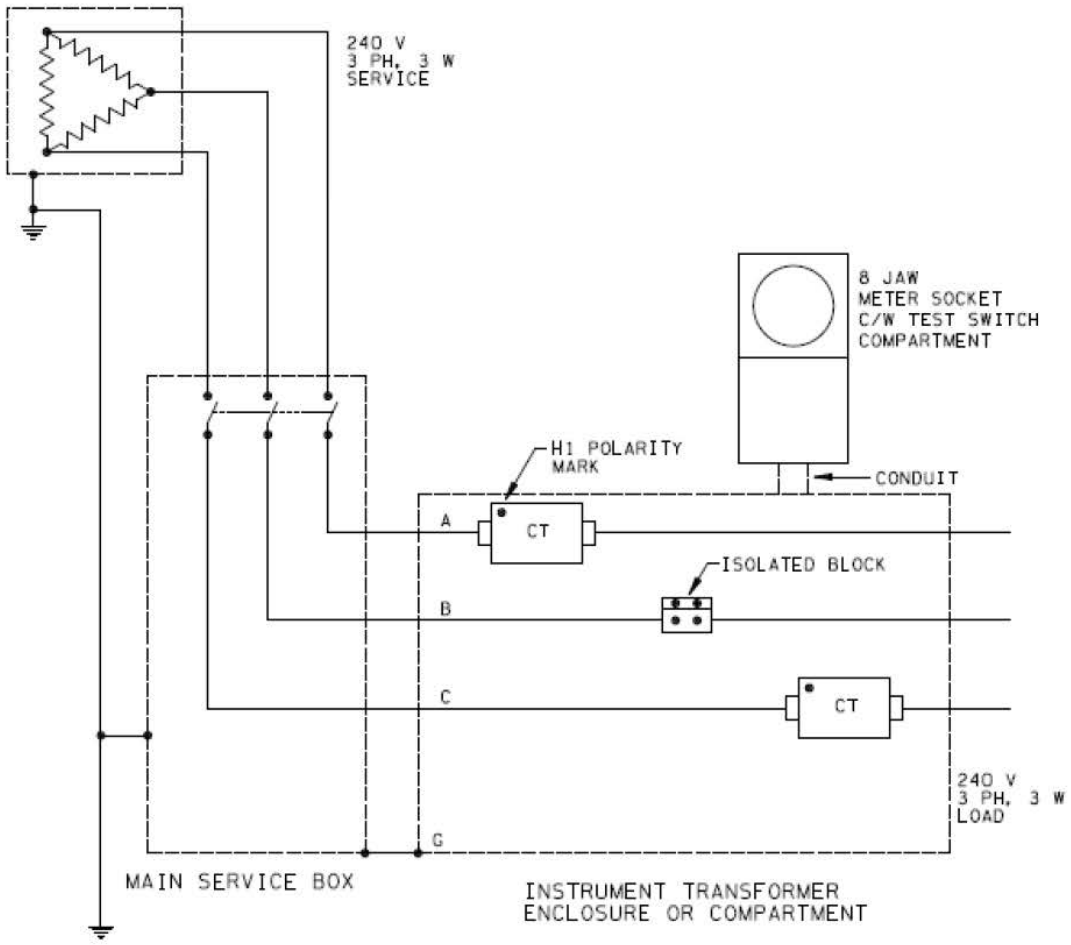
5.2.4 277/480Y V or 347/600Y V, 3 Phase, 4 Wire Service



Notes:

1. See section 5.3.1.2, 5.3.2.2., 5.4.1.2, or 5.4.2.2.
2. Approved sockets, CTS130PW-BC or CT113-L.
3. BC Hydro will supply the VTs, CTs, and test switch for either a 277/480Y V or a 347/600Y V 3 phase, 4 wire service. However, BC Hydro does not supply the power transformer for a 277/480Y V, 3 phase, 4 wire service.

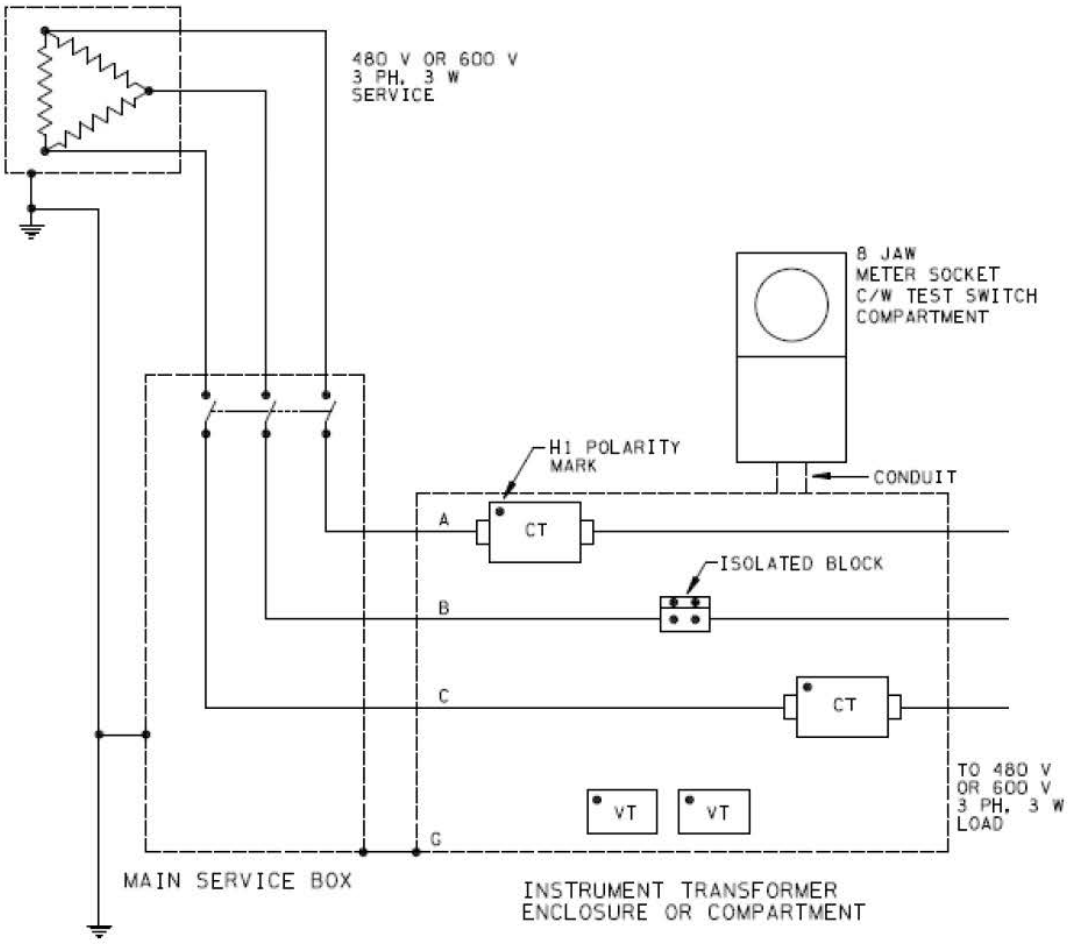
5.2.5 240 V, 3 Phase, 3 Wire Delta Service



Notes:

1. See section 5.3.2.3, 5.3.2.4, 5.4.2.3, or 5.4.2.4.
2. Approved sockets, CTS800PW-BC or CT108-L.
3. BC Hydro does not supply the power transformers for this service. However, if the Customer provides the power transformers, BC Hydro will supply the CTs and meter.

5.2.6 480 V or 600 V, 3 Phase, 3 Wire Delta Service



Notes:

1. See section 5.3.2.3, 5.3.2.4, 5.4.2.3, or 5.4.2.4.
2. Approved sockets, CTS800PW-BC or CT108-L.
3. BC Hydro does not supply the power transformers for either of these services. However, if the Customer provides the power transformers, BC Hydro will supply the VTs, CTs and meter.

The above drawing applies to 200A and less services as well. Self-Contained metering is not provided regardless of size of service.

5.3 Instrument Transformer Enclosure

5.3.1 Responsibility

5.3.1.1 1 Phase

a) The **customer** shall:

- Supply an instrument transformer enclosure
- Instrument transformer enclosure shall be installed in horizontal position in accordance with section 5.1.1.1, 5.1.1.2, and 6.9; and
- Supply and install a Hydel model CTS405PW-BC or a Microlectric model CT105-L, 5 jaw Transformer-Type Meter Socket in accordance with section 5.7.1; and
- Supply and install a conduit between the instrument transformer enclosure and the meter socket in accordance with section 5.8; and
- Supply and install communication conduit and termination boxes as required in section 3.2; and
- Install the CT(s) in accordance with section 5.6; and
- Make the CT primary connections in accordance with section 5.6

b) The **BC Hydro** will:

- Supply the CT(s); and BC Hydro standard mechanical connectors; and
- Supply and install the test block, meter, and metering wiring.

5.3.1.2 3 Phase

a) The **customer** shall:

- Supply an instrument transformer enclosure and an isolated neutral block
- Instrument transformer enclosure shall be installed in horizontal position in accordance with section 5.1.2.1, 5.1.2.2, and 6.10.
- Supply and install a Hydel model CTS800PW-BC (8 jaw), CTS130PW-BC (13 jaw) or a Microlectric model CT108-L (8 jaw), CT113-L (13 jaw), Transformer-Type Meter Socket in accordance with section 5.7.1; and
- Supply and install a conduit between the instrument transformer enclosure and the meter socket in accordance with section 5.8; and
- Supply and install communication conduit and termination boxes as required in section 3.2 and 6.17; and
- Install the CTs and VTs in accordance with section 5.6; and
- Make the CT primary connections in accordance with section 5.6

b) The **BC Hydro** will:

- Supply the CTs; and BC Hydro standard mechanical connectors; and
- Where the phase-to-phase voltage is over 300 V:
  - Supply the VTs; and
  - Make the VT primary connections; and
- Supply and install the test switch, meter, and metering wiring.

5.3.2 Equipment

a) The instrument transformer enclosure shall:

- Not be used as a splitter; and
- Shall be installed in horizontal position in accordance with section 6.9 and 6.10 with line entering and load exiting from the opposite ends. Where the enclosure has to be installed in vertical position due to space constraint in an existing installation, written approval shall be obtained from BC Hydro prior to installation.
- Not contain devices or connections other than the BC Hydro metering equipment; and
- Be on the load side of the main service box or sub service disconnect device; and
- Be adjacent to the main service box or sub service disconnect device; and
- CTs and VTs are to be arranged and installed such that most efficient use of space inside the enclosure is accomplished; and
- Where located indoors, be in the same room as the main service box or sub service disconnect device; and
- Where located outdoors, be weatherproof, padlockable, adjacent to the meter socket, and at least 900 mm from finished grade; and
- Be as close as practicable to the meter socket/cabinet *(See section 5.8 for the maximum separation distance)*; and
- Where located indoors, be in the same room as the meter socket/cabinet; and
- For 1 phase installations, be in accordance with the dimensional and other requirements of section 6.9; and
- For 3 phase installations, be in accordance with the dimensional and other requirements of section 6.10; and
- Have flanged sides or hinged cover with provision for installation of BC Hydro wire seals; and
- Be permanently labelled as “BC Hydro Metering”; and
- Have provision for terminating a bonding conductor, within the enclosure, with either;
  - A 10-32 bonding screw and washer; or
  - A mechanical connector suitable for a No.12 to No. 8 AWG conductor.

The location of an instrument transformer enclosure for detached single family

residential services is restricted, See section 5.1.

b) The main service box or sub service disconnect device shall have provision for being locked open with 8 mm (5/16") shank padlock.
c) For each point-of-metering, the same unique identifier shall be permanently and legibly marked on each of the following:

- Main service box or sub service disconnect; and
- Instrument transformer enclosure; and
- Meter socket/cabinet.

In accordance with WorkSafe BC regulations, it is essential that each instrument transformer enclosure point-of-isolation and meter socket/cabinet is explicitly and unambiguously identified to insure that it can be safely disconnected and locked out.

d) Where there is a potential for back energization from the load side of the instrument transformer enclosure:

- Written approval shall be obtained from BC Hydro; and
- A CSA approved lockable disconnect device supplied by the switchgear manufacturer shall be provided on the load side of the instrument transformer enclosure; and
- The load side disconnect device shall meet the same requirements as the line side main service box or the line side sub service disconnect device; and
- A warning notice shall be installed in a conspicuous place near the instrument transformer enclosure; and
- A permanent, legible single-line diagram shall be installed in a conspicuous place near the instrument transformer enclosure.

Examples of the potential for back energization include:

- *Where, by special permission from BC Hydro, there are multiple services and/or points of metering and there is the potential for switching loads between them;*
- *Where, by special permission from BC Hydro, the Customer has power generation that may be synchronized and/or closed transition momentarily connected to BC Hydro.*

However, where the Customer has generation connected via a CSA approved transfer switch, no potential for back energization is deemed to exist and only a line side disconnect device is required.

5.3.2.1 120/240 V, 1 Phase, 3 Wire

a) For 120/240 V, 1 phase, 3 wire installations, the neutral is not part of the metering circuit.

b) Where a single 3 wire bar type CT is supplied, it shall be installed in accordance with section 6.11. Where two 2 wire bar type CTs are supplied, they shall be installed in accordance with section 6.12.

See also the table in section 5.6.

5.3.2.2 3 Phase, 4 Wire Supply – 3 Phase 4 Wire Load

a) Where a 3 phase, 4 wire supply serves a 3 phase, 4 wire load, all neutral conductor(s) shall be routed through (i.e. in and out) the instrument transformer enclosure. A neutral tap is not acceptable.

b) An isolated neutral block shall be supplied. Where multiple neutral cables are used, only one of the cables is required to be connected to the isolated neutral block. The isolated neutral block shall have either a 10-32 screw and washer or it shall have a mechanical connector suitable for terminating three No. 12 AWG conductors. See section 6.13.

5.3.2.3 3 Phase, 4 Wire Supply – 3 Phase 3 Wire Load

a) Where a 3 phase, 4 wire supply serves a 3 phase, 3 wire load, the neutral shall be extended to the instrument transformer enclosure. The minimum size of the neutral extension shall be No. 2/0 AWG copper.

b) The neutral extension shall terminate at an isolated neutral block. The isolated neutral block shall have either a 10-32 screw and washer or it shall have a mechanical connector suitable for terminating three No. 12 AWG conductors. See section 6.13.

5.3.2.4 3 Phase, 3 Wire Supply and Load

An isolated block shall be supplied for B phase. Where multiple cables are used, only one of the B phase cables is required to be connected to the isolated block. The isolated block shall have either a 10-32 screw and washer or a mechanical connector suitable for terminating two No. 12 AWG conductors.

5.4 Switchgear Instrument Transformer Compartment

5.4.1 Responsibility

5.4.1.1 1 Phase

a) The **customer** shall:

- Supply and install an instrument transformer enclosure in accordance with section 5.1.1.1 and 5.1.1.2; and
- Supply and install a Hydel model CTS405PW-BC or a Microlectric model CT105-L, 5 jaw Transformer-Type Meter Socket in accordance with section 5.7.1; and
- Supply and install a conduit between the instrument transformer enclosure and the Transformer-Type Meter Socket in accordance with section 5.8; and
- Install the CT(s) in accordance with section 5.6; and
- Make the CT primary connections in accordance with section 5.6

b) The **BC Hydro** will:

- Supply the CTs; and
- Supply and install the test block, meter, and metering wiring.

5.4.1.2 3 Phase

a) The **customer** shall:

- Supply and install an instrument transformer enclosure in accordance with section 5.1.2.1 and 5.1.2.2; and
- Supply and install a Hydel model CTS800PW-BC (8 jaw), CTS130PW-BC (13 jaw) or a Microlectric model CT108-L (8 jaw), CT113-L (13 jaw) Transformer-Type Meter Socket in accordance with section 5.7.1; and
- Supply and install a conduit between the instrument transformer enclosure and the Transformer-Type Meter Socket in accordance with section 5.8; and
- Install the CTs in accordance with section 5.6; and
- Make the CT primary connections in accordance with section 5.6

b) **BC Hydro** will:

- Supply the CTs; and
- Where the phase-to-phase voltage is over 300 V:
  - Supply the VTs; and
  - Make the VT primary connections; and
- Supply and install the test switch, meter, and metering wiring.

5.4.2 Equipment

a) The switchgear instrument transformer compartment shall:

- Be barriered off from other compartments; and
- Not be used as a splitter; and
- Not contain devices or connections other than the BC Hydro metering equipment; and
- Be on the load side of the main service box or sub service disconnect device; and
- Be as close as practicable to the main service box or sub service disconnect device; and
- Where located indoors, be in the same room as the main service box or sub service disconnect device; and
- Be as close as practicable to the meter socket/cabinet *(See section 5.8 for the maximum separation distance)*; and
- Where located indoors, be in the same room as the meter socket/cabinet; and
- Be of sufficient size to provide acceptable access for the installation, wiring, and removal of the instrument transformers; and
- Minimum height of VT shall be 250mm; and
- Provide a minimum of 155 mm clearance between the top of the VTs and any barrier or obstruction, and 50 mm from any side of VT to any part of the enclosure or live conductors; and
- Not have a depth greater than 610 mm; and
- Not required access through other compartments; and
- Have a hinged cover with provision for the installation of a BC Hydro wire seal; and
- Be permanently labelled as “BC Hydro Metering”; and
- Have a provision for terminating a bonding conductor, within the compartment, with either:
  - A 10-32 bonding screw and washer; or
  - A mechanical connector suitable for a No. 12 to No. 18 AWG conductor

Where the BC Hydro service is at a primary voltage level (4kV – 35kV), the main service box or sub service disconnect device may be on the primary of the Customer power transformer.
The overall dimension of the instrument transformer compartment is not specified.

The use and location of an instrument transformer compartment for detached single family residential services is restricted, See section 5.1.

b) The CTs shall be 600 to 1800 mm above the floor level.

This only applies to the mounting height of the CTs within the switchgear instrument transformer compartment. The bottom and top of the switchgear instrument transformer compartment may be lower or higher.

c) The main service box or sub service disconnect device shall have provision for being locked open with an 8 mm (5/16") shank padlock.

d) For each point-of-metering, the same unique identifier shall be permanently and legibly marked on each of the following:

- Main service box or sub service disconnect; and
- Instrument transformer compartment; and
- Meter socket.

In accordance with WorkSafe BC regulations, it is essential that each instrument transformer compartment point-of-isolation and meter socket/cabinet is explicitly and unambiguously identified to insure that it can be safely disconnected and locked out.

e) Where there is a potential for back energization from the load side of the instrument transformer compartment:

- Written approval shall be obtained from BC Hydro; and
- A CSA approved lockable disconnect device supplied by the switchgear manufacturer shall be provided on the load side of the instrument transformer compartment; and
- The load side disconnect device shall meet the same requirements as the line side main service box or the line side sub service disconnect device; and
- A warning label shall be installed in a conspicuous place near the instrument transformer compartment; and
- A permanent, legible single-line diagram shall be installed in a conspicuous place near the instrument transformer compartment; and

Examples of the potential for back energization include:

- *where, by special permission from BC Hydro, there are multiple services and/or points of metering and there is the potential for switching loads between them;*
- *Where, by special permission from BC Hydro, the Customer has power generation that may be synchronized and/or closed transition momentarily connected to BC Hydro.*

However, where the Customer has generation connected via a CSA approved transfer switch, no potential for back energization is deemed to exist and only a line side disconnect device is required.

5.4.2.1 120/240 V, 1 Phase, 3 Wire

a) For 120/240 V, 1 phase, 3 wire installations, the neutral is not part of the metering circuit.

b) Where a single 3 wire bar type CT is supplied, it shall be installed in accordance with section 6.11. Where two 2 wire bar type CTs are supplied, they shall be installed in accordance with section 6.12.

See also the table in section 5.6.

5.4.2.2 3 Phase, 4 Wire Supply – 3 Phase 4 Wire Load

a) Where a 3 phase, 4 wire supply serves a 3 phase, 4 wire load;

- The neutral bus shall be routed through (i.e. in and out) the instrument transformer compartment; or
- A rigid neutral bus tap shall be provided from the neutral bus to the instrument transformer compartment. The rigid neutral bus tap shall not be less than 25 mm x 6 mm (1" x 1/4").

b) A 10-32 screw and washer shall be supplied at the following points:

- Line side of the A phase CT; and
- Line side of the B phase CT; and
- Line side of the C phase CT; and
- Neutral bus or neutral tap.

5.4.2.3 3 Phase, 4 Wire Supply – 3 Phase 3 Wire Load

a) Where a 3 phase, 4 wire supply serves a 3 phase, 3 wire load, the neutral bus shall be extended to the instrument transformer compartment. The rigid neutral bus extension shall not be less than 25 mm x 6 mm (1" x 1/4").

b) A 10-32 screw and washer shall be supplied at the following points:

- Line side of the A phase CT; and
- Line side of the B phase CT; and
- Line side of the C phase CT; and
- Neutral bus extension.

5.4.2.4 3 Phase, 3 Wire Supply and Load

A 10-32 screw and washer shall be supplied at the following points:

- Line side of the A phase CT; and
- B phase (2 x 10-32 screws); and
- Line side of the C phase CT.

5.5 120/240 V, 1 Phase, 400 A Meter Socket Assembly with an Integral CT

BC Hydro will allow the use of;

- 400A meter socket assembly with integral CT provided there is customer service equipment with the means of disconnect installed on the line side of metering; and
- 400A meter socket assembly with an integral CT c/w main disconnect.

5.5.1 Responsibility

a) The **Customer** shall:

- Supply and install a 120/240V, 1 Phase, 5 jaw, outdoor meter socket assembly with an integral CT in a location acceptable to the BC Hydro's Designer and the local electrical inspection authority; or

Model #s are; Hydel CT4-BC-INK and Microlectric JS4B-STW

- Supply and install a 120/240V,1 phase, 5 jaw outdoor rated meter socket assembly with an integral CT come with main min 22kA circuit breaker; and

Model #s are: Hydel CT4-WSOH-BC and CT4-WS-BC

- Install the CT and primary connections in accordance with section 5.6.

b) The **BC Hydro** will:

- Supply the CT; and
- Supply and install the meter, test block and metering wiring.

5.5.2 Equipment

a) The 400 A meter socket shall be installed outdoors for residential services as permitted on the load side of the service box with the neutral insulated.

- If the 400 A meter socket is wall mounted, it shall be one of the following approved models:

Hydel CT4-BC-INK (5 jaw) c/w lexan barrier; or
T&B Microlectric JS4B-STW (5 jaw) c/w lexan barrier.

- If the 400 A meter socket is pole mounted, it shall be one of the following approved models complete with the manufacturer supplied pole mounting kit:

Hydel CT4-BC (5 jaw) c/w lexan barrier plus CT4PMK36 pole mounting kit;
Hydel CT4-WSOH-BC or CT4-WS-BC (5 jaw) plus CT4PMK36 pole mounting kit or
T&B Microlectric JS4B-STW (5 jaw) c/w lexan barrier plus PMB-JS4 pole mounting kit.

Any unused mounting holes shall be closed to prevent moisture or insect ingress.

The manufacturer supplied pole mounting kit insures that the 400 A meter socket is securely attached to the pole. Attaching "wall mount" 400 A meter sockets directly to a pole with lag bolts or using a site fabricated bracket is prohibited.

b) The 400 A meter socket shall be mounted with the centre of the meter between 1500 mm and 1800 mm above finished grade.

c) The 400 A meter socket bottom panel shall be secured with screws that require a tool for removal.

Access to energized conductors, in the bottom panel, shall not rely only on the presence of the BC Hydro seal and/or padlock.
Contact BC Hydro local design to get information on Distribution Standards Equipment Advisory for more information.

5.6 Instrument Transformers

a) At 300 V phase-to-phase and less, current transformers (CTs) are only required. At greater than 300 V phase-to-phase, CTs and voltage transformers (VTs) are required.
b) 600V and 480V 200A 3 phase 3 wire delta services will be metered using two VTs and two bar type CTs.

BC Hydro typically supplies the following CTs for permanent installations.

Location	*Supply System*	*Min Current*	*Max Current*	*Qty*	*Type*	*Section*
Indoor	*120/240 V 1 Phase 3 Wire*	*300 A*	*600 A*	*1*	*3 Wire Bar*	6.11
		800 A	*1200 A*	*2*	*2 Wire Bar*	6.12
	3 Phase 3 Wire	*300 A*	*1200 A*	*2*	*2 Wire Bar*	-
		1000 A	*6000 A*	*2*	*Window*	6.14
	3 Phase 4 Wire	*300 A*	*1200 A*	*3*	*2 Wire Bar*	6.13
		1000 A	*6000 A*	*3*	*Window*	6.14
Outdoor	*120/240 V 1 Phase 3 Wire*	*300 A*	*800 A*	*2*	*Donut*	6.15 6.16
	3 Phase 3 Wire	*300 A*	*800 A*	*2*	*Donut*	6.15 6.16
	3 Phase 4 Wire	*300 A*	*800 A*	*3*	*Donut*	6.15 6.16

Donut or Window CTs may be available for Temporary Construction indoor installations (see drawings 6.14 and 6.15)
Normally these Temporary Construction CTs are removed when permanent revenue meters are installed.
Window CTs are only allowed in switchgear instrument transformer compartment, with the exception of fire pump service.

However, the Customer should check with BC Hydro to determine exactly which CTs will be supplied for their installation.

When BC Hydro supplies bar-type CTs for instrument transformer enclosures, they typically also supply the primary conductor connectors. However for muti-service line and load conductors where BC Hydro supplied mechanical connectors are not sufficient, a splitter box is required per BC Electrical Code.

A 3 Wire Bar CT has 4 primary connections. (see section 6.11)

c) The CT H1 primary terminal polarity marks shall be on the line side (towards BC Hydro) in accordance with the schematic drawings in section 6.11.

d) The CT shall be mounted against the rear panel of the instrument transformer enclosure/compartment using the provided CT base holes.

"Hanging" window style CTs from the conductor, or using the primary terminals to support bar style CTs, is not permitted. Mounting CTs to the side, top or bottom walls of the instrument transformer enclosure/compartment is not permitted.

e) The conductors shall be shaped and supported in such a way to minimize the mechanical stress applied to the CTs.

f) The VT and CT primary winding terminals and secondary winding terminals shall remain accessible and the nameplates shall remain visible. The installation shall facilitate the easy replacement of the VTs and CTs.

While nameplates must remain visible, terminal accessibility and polarity orientation may position the nameplate upside-down or sideways. This is acceptable.

5.6.1 Metered fire pump service Loads >67h.p. (50kW)

Services for fire pumps over 67 h.p.(50 kW) shall be metered with transformer type metering using 'donut' or window style CTs only. (see sections 6.14 and 6.15)

(Fire pumps rated 66 h.p. (49 kW) or less will be unmetered and billed on a flat rated monthly consumption charge.)

5.7 Transformer-Type Meter Socket

5.7.1 Indoor/Outdoor Installations

a) The customer supplied Transformer-Type Meter Socket and the sealing ring shall be certified in accordance with CSA Standard C22.2 No. 115, *Meter Mounting Devices* and they shall be approved by BC Hydro.

b) The Transformer-Type Meter Socket shall be installed, in a readily accessible location approved by BC Hydro, in accordance with sections 3 and 5.1.

The sealing ring shall be a screw type in accordance with section 6.2.

The Transformer-Type Meter Socket shall be as close as practicable to the instrument transformer enclosure/compartment and in the same room as the instrument transformer enclosure/compartment, see section 5.8 for the maximum separation distance. For detached single family residential 1 phase services, section 5.1.1.1, requires that both the instrument transformer enclosure/compartment and the Transformer-Type Meter Socket be located outdoors.

c) One Transformer-Type Meter Socket is required for each 3 phase instrument transformer point-of-metering.

d) The Transformer-Type Meter Socket tilt shall not exceed 3° from vertical.

e) All Transformer-Type Meter Socket in indoor location shall be mounted, using all four predrilled holes meeting CEC, Part 1, Rule 6-408, on a 19 mm (¾") plywood backing.

   All Transformer-Type Meter Sockets in outdoor location shall be wall mounted on metal support channels.

The plywood or metal support channels shall be securely fastened to the wall. Shooting, or otherwise mounting the meter socket, directly to the wall is not permitted. Plywood backing for outdoor application will not be accepted.

f) The centre of the meter shall be mounted between 1,500 mm to 1,800 mm above the finished grade.

A mounting height of 1,650 mm above finished grade is preferred.

g) Grounding lug(s) to be provided inside the Transformer-Type meter socket.

h) For pole mounted applications:

- The Transformer-Type Meter Socket shall be secured to the pole using the manufacturer's purpose built pole mounting bracket (e.g. Microlectric PMB200) with lag screws; and
- The Transformer-Type Meter Socket shall be located on the side of the pole that is not subject to vehicle damage. If this is not practicable, protection posts shall be installed 600 mm in front of the Transformer-Type Meter Socket similar to those required under section 6.3.

i) The conduit shall enter the Transformer-Type Meter Socket from the bottom or side where knockouts provided.
j) The conduit shall not be entered from the back of the Transformer-Type Meter Socket.
k) Transformer-Type Meter Socket shall not be installed within 1000 mm of gas meters or within 3000 mm of propane meters, tanks, regulators or relief devices.

5.7.2 Grounding

a) In accordance with section 36 of the Canadian Electrical Code, an external ground conductor shall be provided for the Transformer-Type Meter Socket if:

- The associated instrument transformer compartment is within a unit substation with a high voltage (greater than 750 V) section; or
- The Transformer-Type Meter Socket is within the same room as high voltage equipment.

b) Where required, the external Transformer-Type Meter Socket ground conductor shall not be less than No. 2/0 AWG copper and shall be connected to the station ground grid electrode.

A No. 2/0 AWG copper conductor is required since, due to skin effect, its large surface area provides a low impedance path for high frequency electrical noise.

5.7.3 Optional Meter Compartment

The optional meter compartment shall use the Transformer-Type Meter Socket in accordance with the following:

a) Be completely separate from the instrument transformer enclosure;
b) The meter socket is permitted to be installed within the exterior side of switchgear;
c) The recessed depth is less than the depth of the Transformer-Type Meter Socket, i.e. the cover shall project beyond the finished exterior wall surface; and
d) Recessing does not interfere with the installation, reading or removal of the meter; and
e) Recessing does not interfere with the installation or removal of the Transformer-Type Meter Socket cover.
f) The Transformer-Type Meter Socket may be installed on the exterior of the switchgear provided there are adequate measures taken to protect against damages.
g) The Customer shall provide a continuous Metal or Rigid PVC conduit, without

access fittings, between the optional meter compartment and the instrument transformer compartment as per section 5.8.

h) The conduit shall enter from the bottom of the meter socket.

Seek prior approval from BC Hydro designer prior to considering this option.

5.8 Conduit

a) The Customer shall supply and install a conduit between the Transformer-Type meter socket and the instrument transformer enclosure/compartment.

The Transformer-Type meter socket shall be as close as practicable to the instrument transformer enclosure/compartment and in the same room as the instrument transformer enclosure/compartment.

Where the instrument transformer enclosure is located outdoor, conduit shall exit from the bottom of the instrument transformer enclosure to the Transformer- Type meter socket.

b) The conduit shall be either rigid metal, EMT or rigid PVC.

ENT (electrical non-metallic tubing) is not permitted.

c) The conduit shall have not more than the equivalent of three 90° bends.

d) For 1 phase installations, the conduit length shall not exceed 3 m (10') and the minimum trade size shall be 21 (3/4").

e) For 3 phase installations, the conduit length shall not exceed 10 m (33') and the minimum trade size shall be 35 (1 ¼"). Except that, where special written approval is first obtained from BC Hydro, a 41 (1 ½") conduit with a length of between 10 m (33') and 25 m (82') may be installed.

f) The conduit shall be continuous and without access fittings. Except that, an "(LB, LL, and LR) style" fitting may be installed immediately adjacent to the meter socket providing the fitting's cover:

- Remains clearly visible; and
- Has provision for the installation of a BC Hydro wire seal.

Or as an alternative,

- Elbow 90 with minimum trade size 41 (1 ½") shall be installed immediately adjacent to the meter socket.

g) The conduit shall remain visible for its entire length except where it is embedded in a concrete floor or ceiling within the same room.

Conduits shall not be installed through walls or underground.

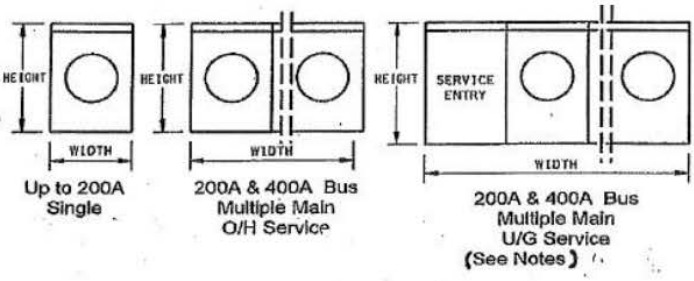
h) For switchgear applications, where it is necessary to route the conduit through other switchgear compartments, Customer shall provide a continuous metal or rigid PVC conduit, without access fittings, within the switchgear. Given this, if it is necessary to route through the service entry (wireway) compartment, the conduit shall enter and exit from either sides all the way towards the back of the compartment in order not to obstruct any cable pulling and/or termination.

i) The Customer shall leave a pull string in the conduit.

6. Reference Drawings

6.1 Underground Main Service Meter Sockets

Mandatory for new 200 & 400A multiple underground services.

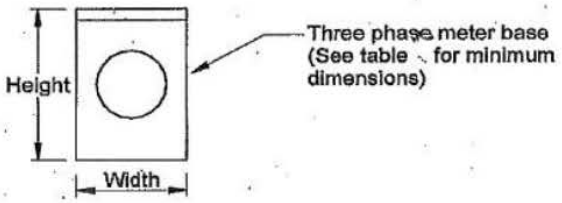


MINIMUM REQUIREMENT OF ENCLOSURES FOR METER SOCKETS

Enclosure	Sockets	Minimum Outside Dimensions			K.O. for Duct min.	Minimum Line Connector Range
		Height	Width	Depth		
Up to 200A Single	1	430	240	130	3"	#2 - 3/0 Cu #2 - 250 kcm Al
200A Main Bus	2	380	435	130	3"	#2 - 3/0 Cu #2 - 250 kcm Al
	3	380	650	130		
	4	380	870	130		
400A Main Bus (See Note 1)	2	508	665	140	3"	#1/0 - 500 kcm Cu / Al
	3	508	880	140		
	4	508	1110	140		

SIZES OF THREE PHASE METER BASES FOR SERVICES UP TO 200A

Type of Meter Enclosure	Minimum Outside Dimensions (mm)			Knockout Size	Minimum Line Connector Range
	Height (H)	Width (W)	Depth (D)		
Three Phase up to 200 Amps	480	295	135	To Accept 3" Conduit	#2-3/0 Cu #2-250 kcm Al

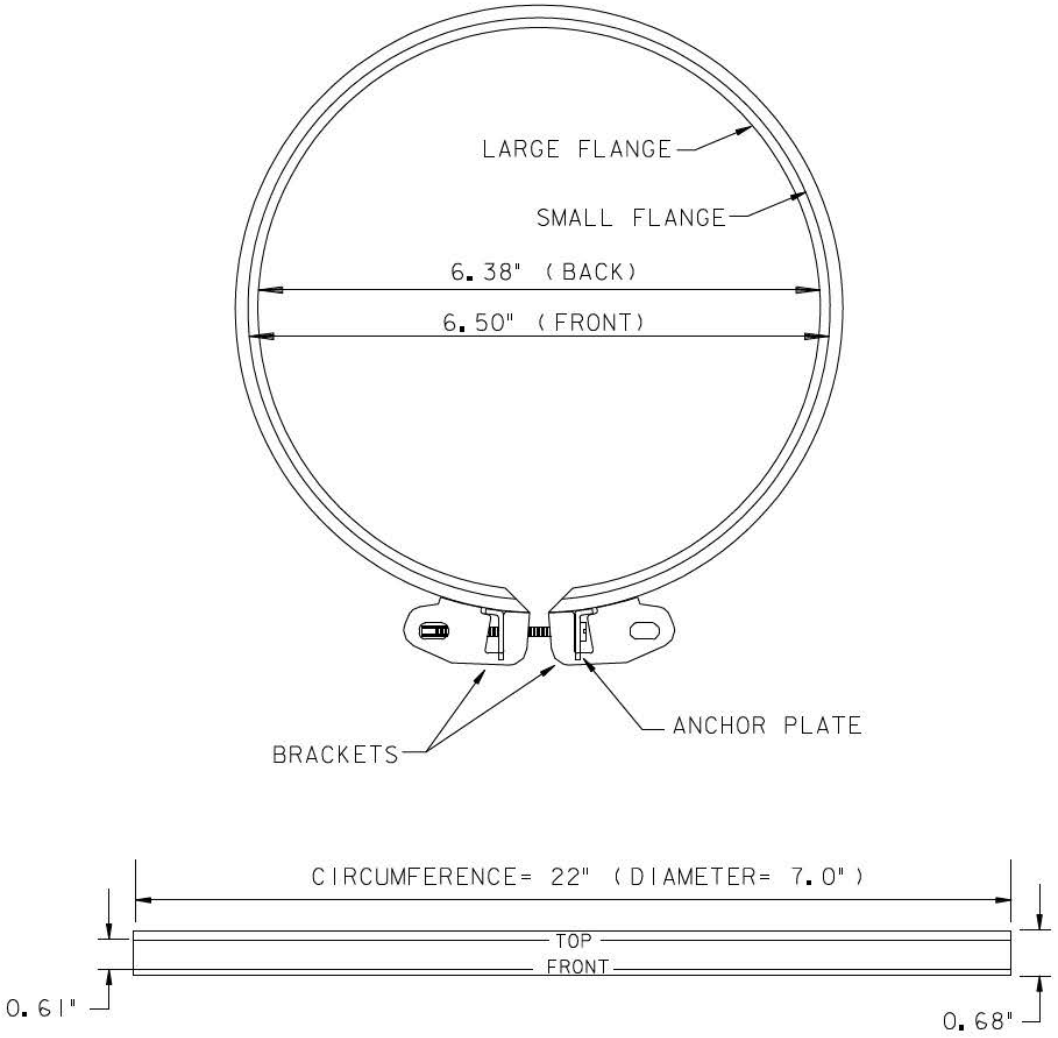


Notes:

For U/G services the following apply:

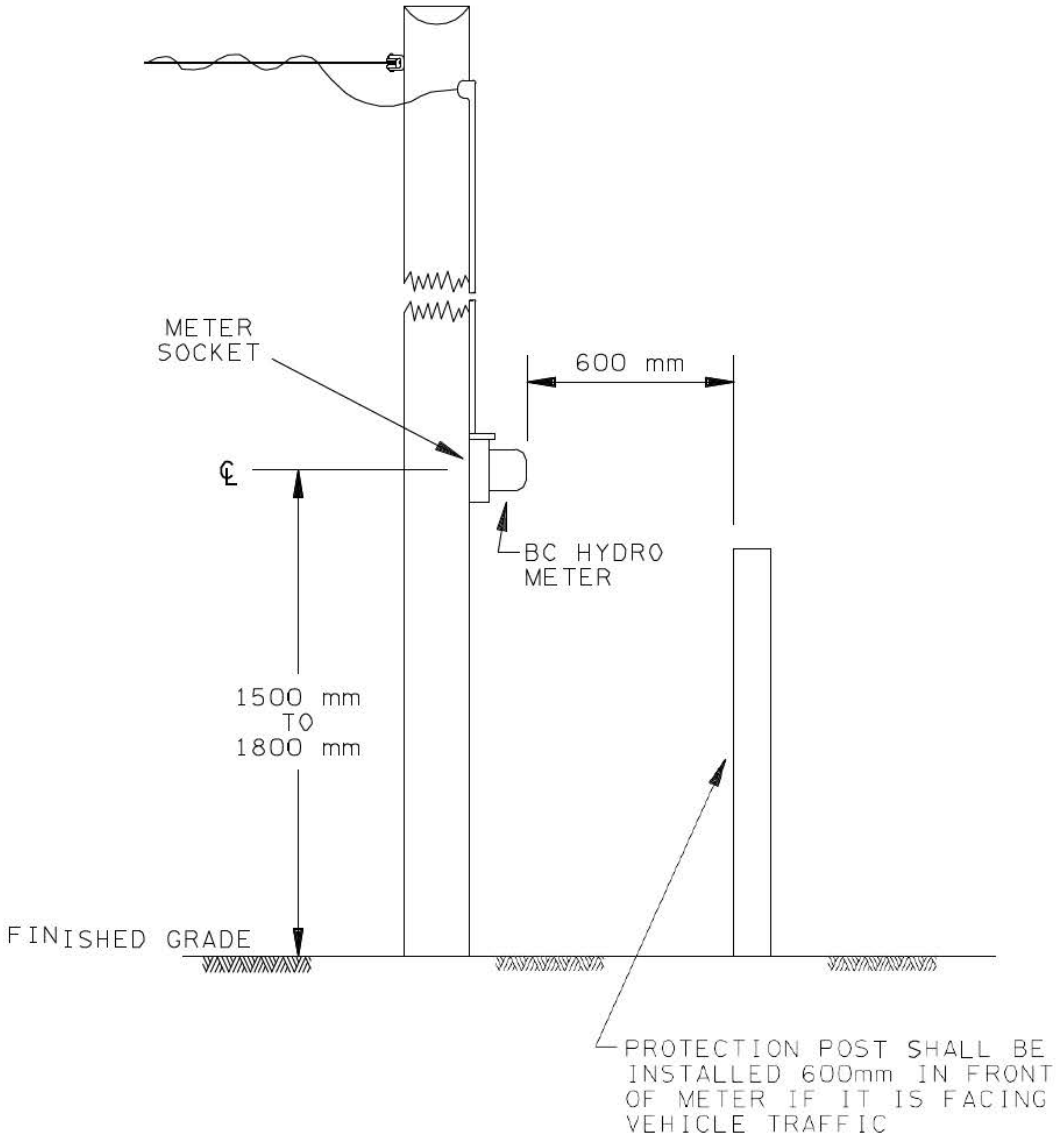
1. 200A & 400A,1 phase, multiple main enclosures shall have one extra compartment for service entry supply conductors.
2. See section 3.8.
3. They are not applicable to single overhead, main service meter sockets or to sub service meter sockets.
4. Metered and unmetered conductors shall not be crossed per Distribution Standards.
5. Dimensions are in mm.

6.2 Sealing Ring



Notes:
See section 4.1.

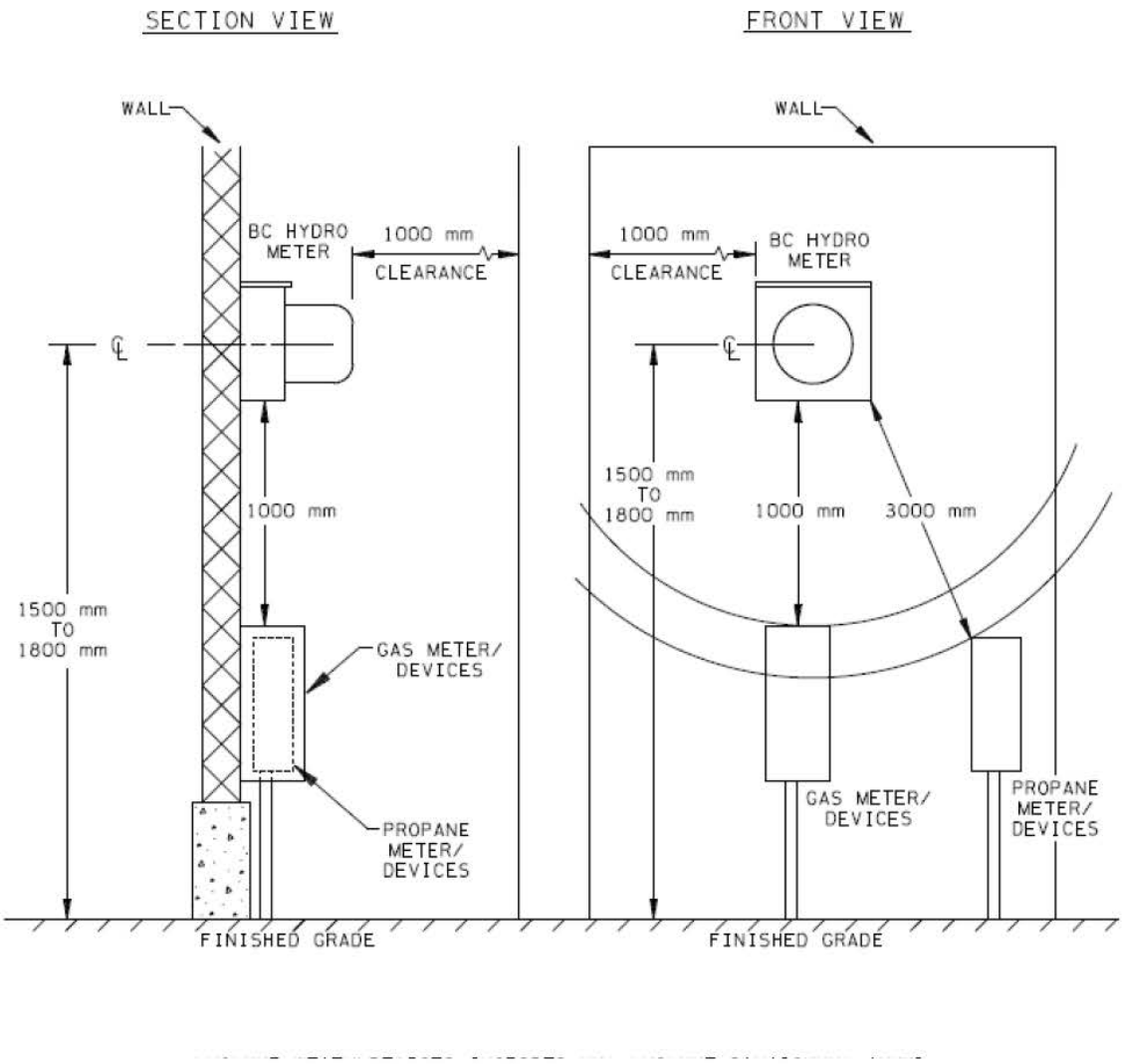
6.3 Individual Pole Mounted Meter Socket



Notes:

1. See section 4.2.6.
2. Mast shall remain visible throughout its entire length.

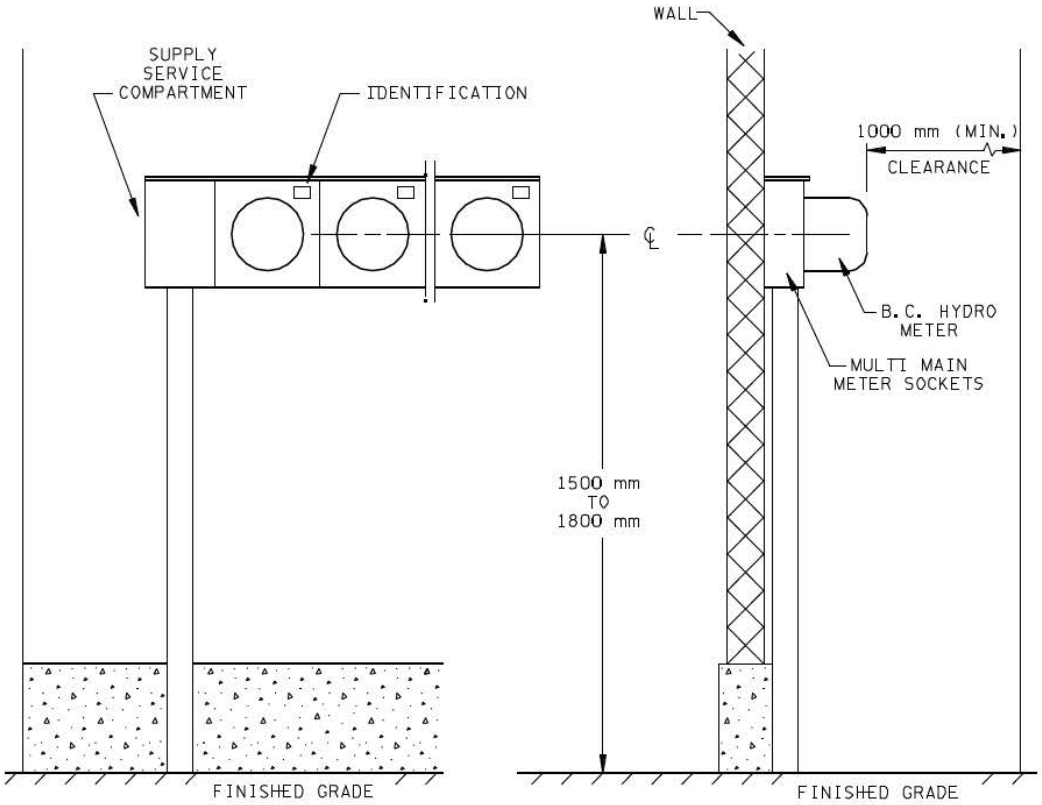
6.4 Individual Wall Mounted Meter Socket Near a Gas or Propane Meter



Notes:

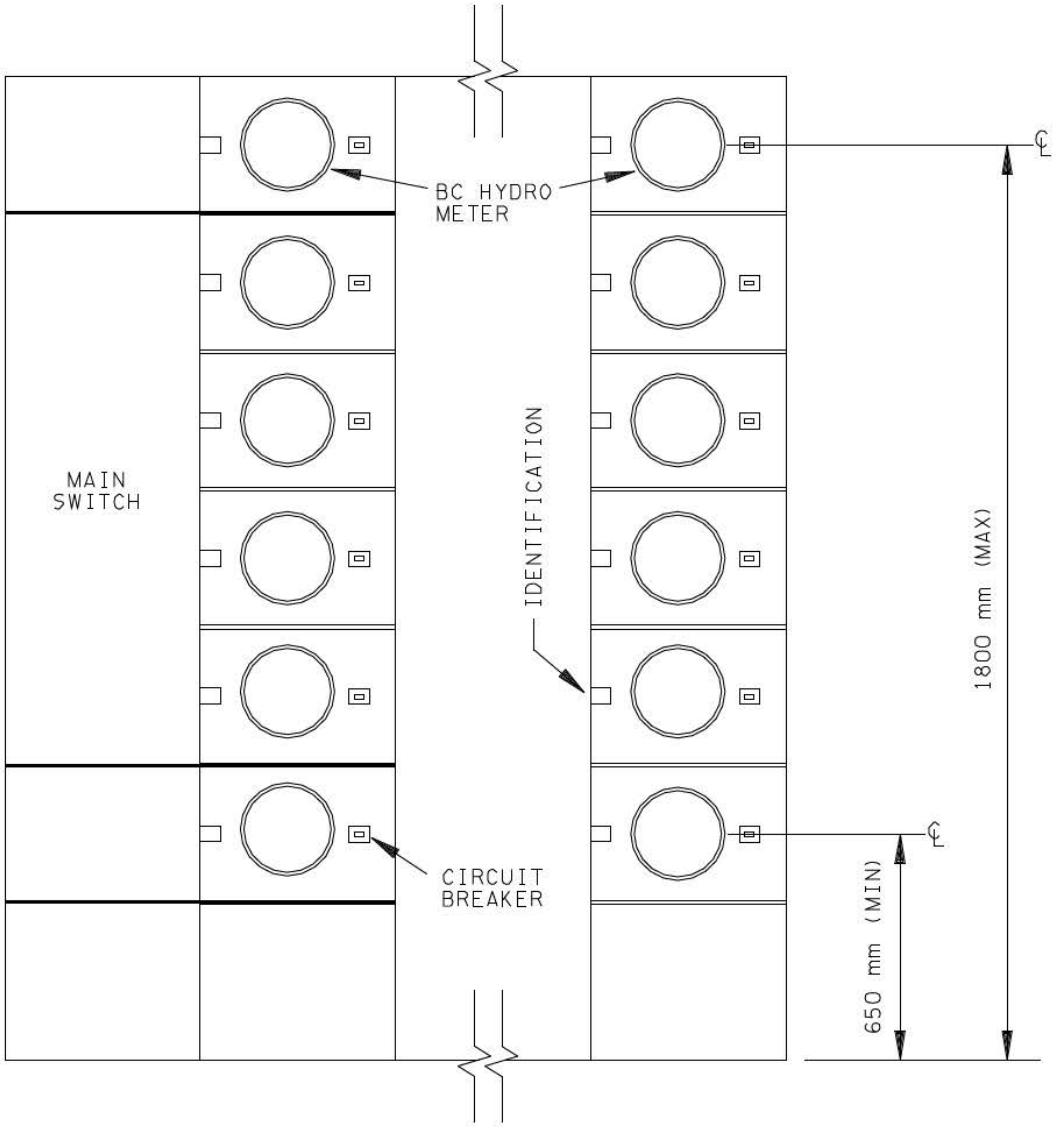
1. See section 4.2.7.
2. Propane meter/devices includes any propane stationary tank.
3. Not to scale drawings.

6.5 Multiple Main Meter Socket



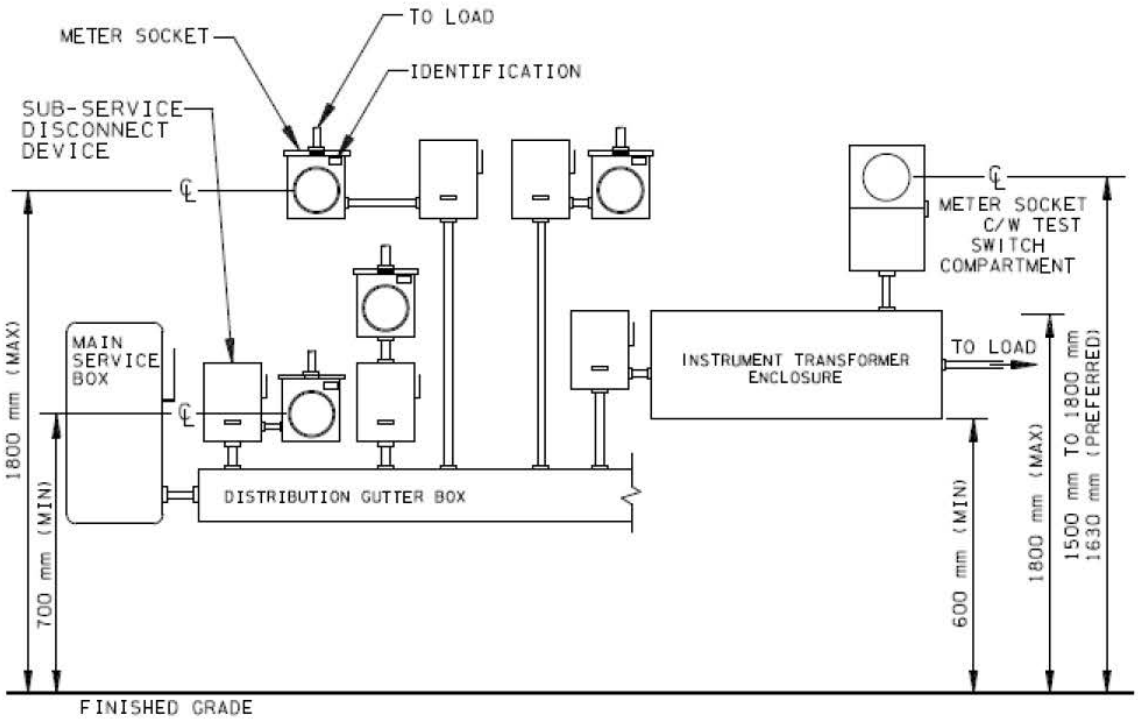
Notes:
1. See section 4.3.
2. Underground service illustrated.

6.6 Meter Centre



Notes:
1. See section 4.4.

6.7 Grouped Sub Service Metering



Notes:

1. See section 4.5.
2. Cold style metering with the meter socket on the load side of the sub service disconnect device and with the neutral isolated at the meter socket is required.
3. Each meter socket shall be adjacent to, and as close as practicable to, the controlling sub service disconnect device and in the same room as the controlling sub service disconnect device.
4. Contact BC Hydro and refer to the ES53 Series Underground Electrical standards and the ES54 Underground Civil standards for underground main service conduit, wireway and pull box requirements.
5. Multiple Self-Contained Metering and multiple Instrument Transformer Metering are allowed.

6.8 Service Pedestal

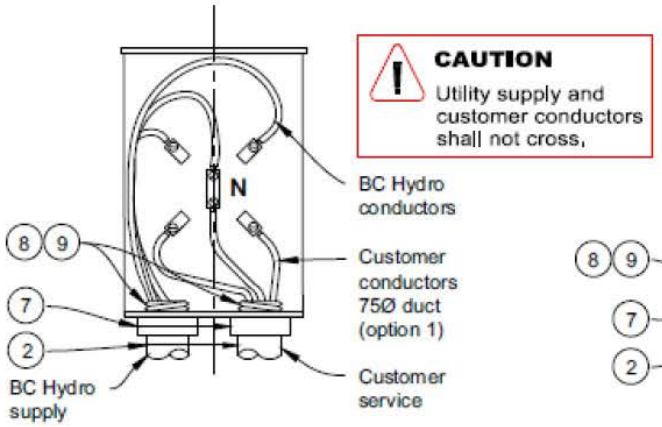


Figure 1 - 200 A Meter Socket - Hot Style Customer Bottom Exit

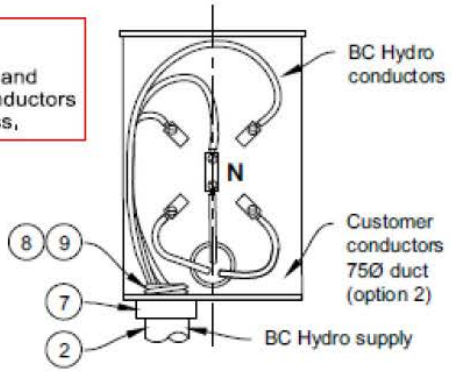


Figure 2 - 200 A Meter Socket - Hot Style Customer Back Exit

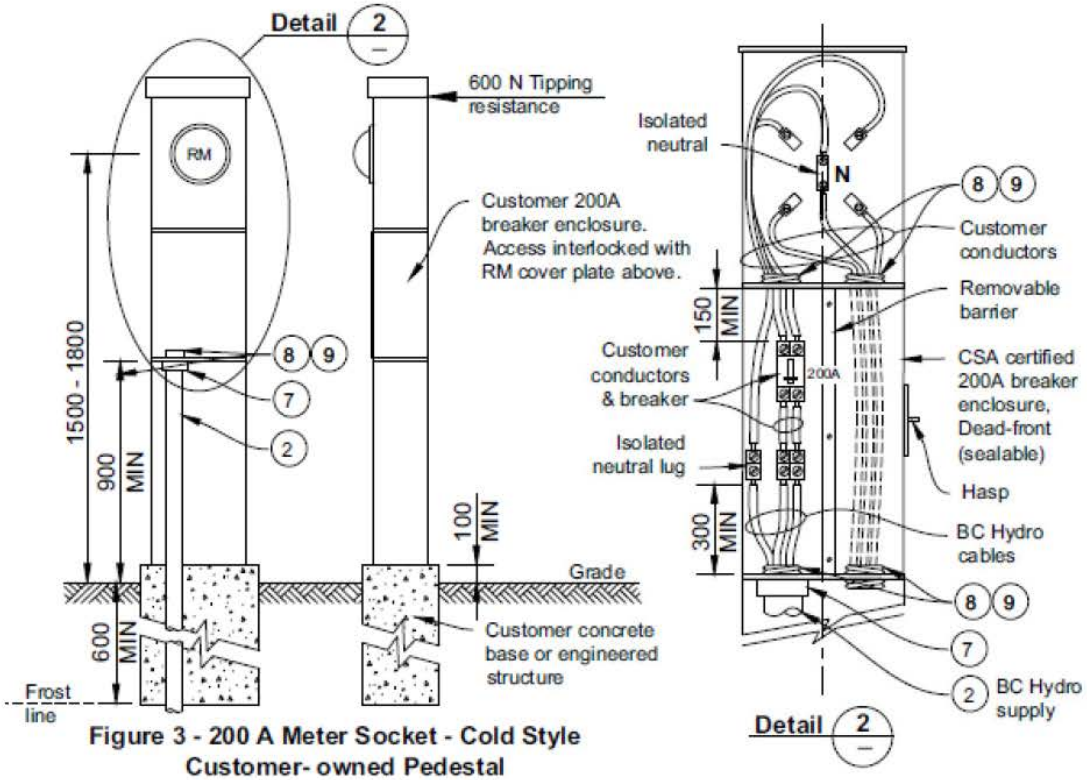
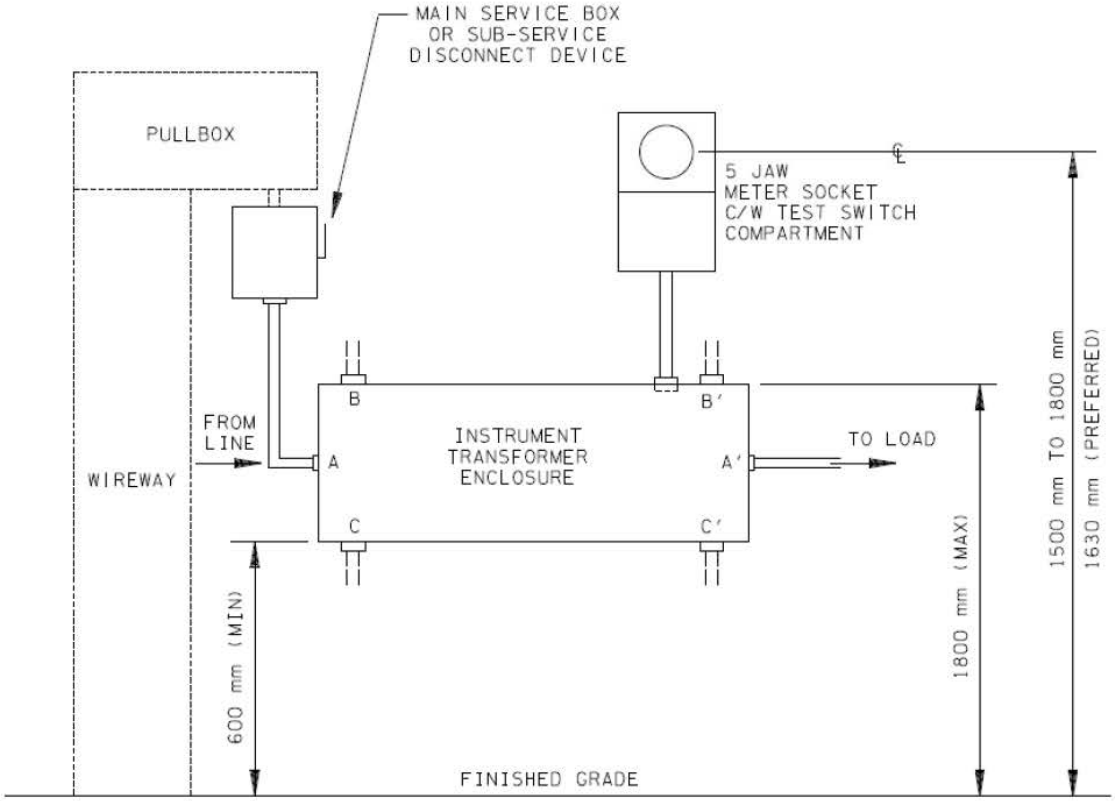


Figure 3 - 200 A Meter Socket - Cold Style Customer- owned Pedestal

Notes:
1. See section 4.6.

6.9 120/240 V, 1 Phase, Instrument Transformer Enclosure



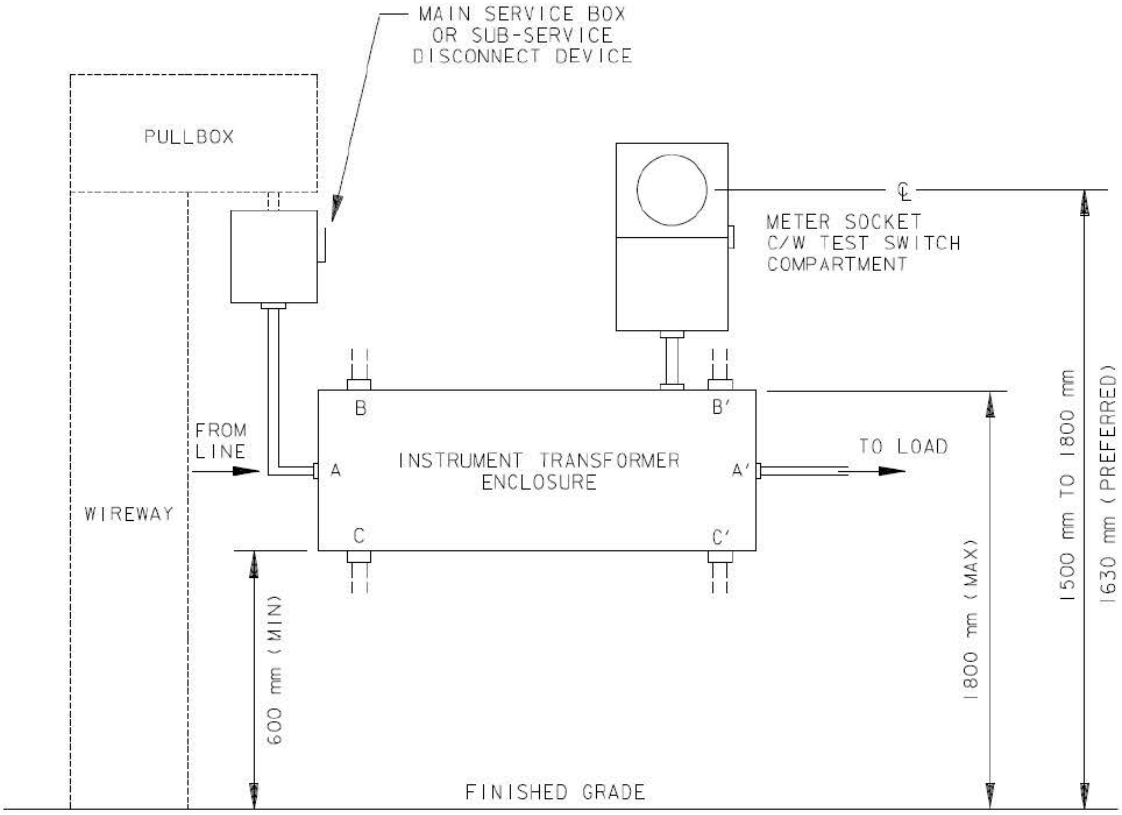
Notes:

1. The following minimum 120/240 V, 1 phase instrument transformer enclosure dimensions shall be provided.

Main Switch Size	Enclosure Size (W x H x D)
400 A or Less	760 mm x 420 mm x 205 mm (30" x 16" x 8")
Over 400 A	1065 mm x 460 mm x 405 mm (42" x 18" x 16")

2. The customer shall supply and install a 5 jaw meter socket
3. Illustrated equipment locations may vary provided the specified dimensions are achieved.
4. The instrument transformer enclosure shall be in the same room, adjacent to, and as close as practicable to, the main service box or sub service disconnect device.
5. The meter socket shall be in the same room, adjacent to, and as close as practicable to the instrument transformer enclosure.
6. Contact BC Hydro and refer to the ES53 Series Underground Electrical standards and the ES54 Underground Civil standards for underground main service conduit, wireway and pull box requirements.
7. The instrument transformer enclosure shall be installed in horizontal position with line entering and load exiting from A to A' (preferred option), B to B', C to C', B to C', C to B', A to B', A to C', B to A', or C to A' as depicted in the diagram.

6.10 3 Phase Instrument Transformer Enclosure



Notes:

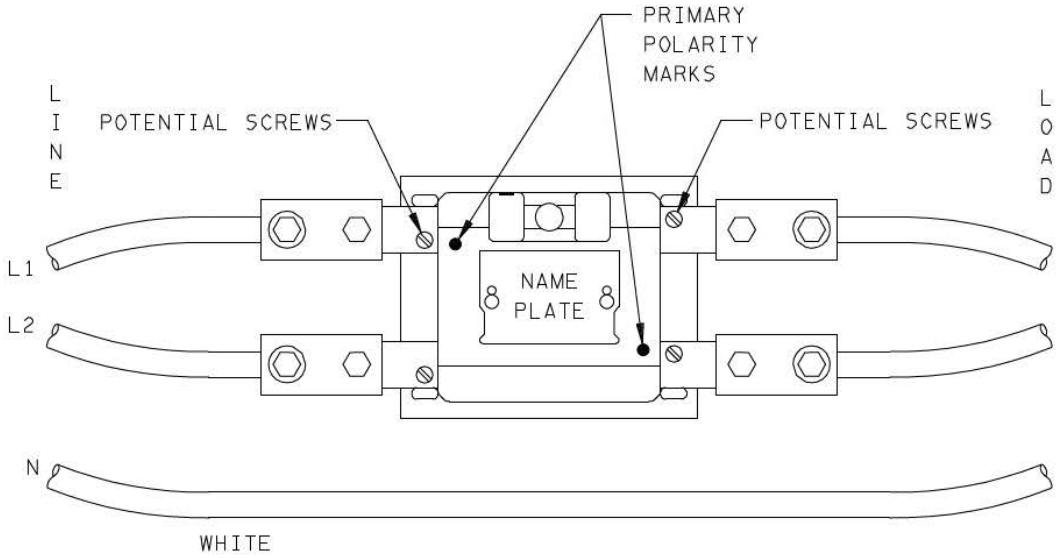
1. The following minimum 3 phase instrument transformer enclosure dimensions shall be provided.

Main Switch Size	Voltage	Enclosure Size (W x H x D)
400 A to 600 A	All	1065 mm x 460 mm x 405 mm (42" x 18" x 16")
601 A to 1,000 A	All	1065 mm x 915 mm x 610 mm (42" x 36" x 24")
Over 1,000 A	All	Use switchgear instrument transformer compartment or an approved engineered assembly complete with consultant's drawings

BC Hydro is phasing out the 30" x 16" x 8" instrument transformer enclosure for 3 phase installation. Starting from April 15th, 2019, this enclosure will no longer be accepted.

2. Illustrated equipment locations may vary provided the specified dimensions are achieved.
3. The Instrument transformer enclosure shall be in the same room, adjacent to, and as close as practicable to, the main service box or sub service disconnect device.
4. The customer supplied meter socket shall be in the same room, adjacent to, and as close as practicable to the instrument transformer enclosure.
5. Contact BC Hydro and refer to the ES53 Series Underground Electrical standards and the ES54 Underground Civil standards for underground main service conduit, wireway and pull box requirements.
6. The instrument transformer enclosure shall be installed in horizontal position with line entering and load exiting from A to A' (preferred option), B to B', C to C', B to C', C to B', A to B', A to C', B to A', or C to A' as depicted in the diagram.

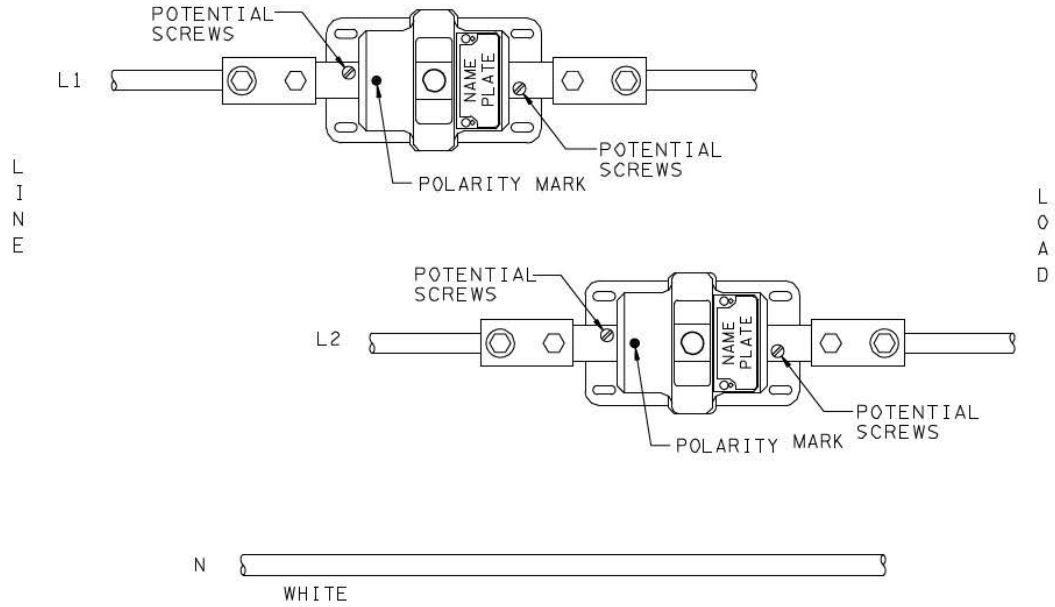
6.11 120/240 V, 1 Phase, Metering with a Single 3 Wire Bar Type CT



Notes:

1. Contractors are required to use only BC Hydro supplied standard mechanical connectors.
2. See section 5.3.2.1.
3. The actual polarity markings may be different. Consult with the Local Design or Metering Technician should there be any question.
4. The mechanical connectors (lugs) shall be installed in-line with the CT bus bar per above diagram.

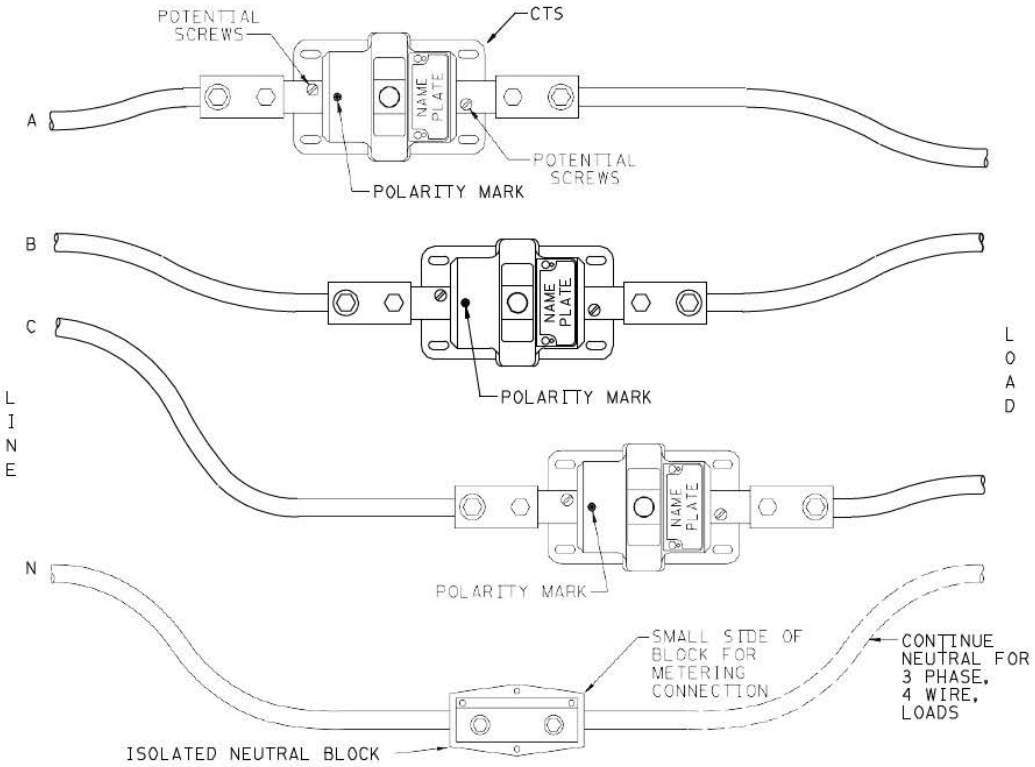
6.12 120/240 V, 1 Phase, Metering with Two 2 Wire Bar Type CTs

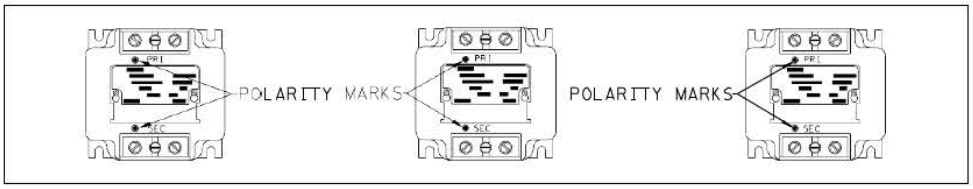


Notes:

1. Contractors are required to use only BC Hydro supplied standard mechanical connectors.
2. See section 5.3.2.1.
3. Polarity marks shall be towards the line side.
4. The mechanical connectors (lugs) shall be installed in-line with the CT bus bar per above diagram.

6.13 3 Phase, 4 Wire, Metering with Bar Type CTs



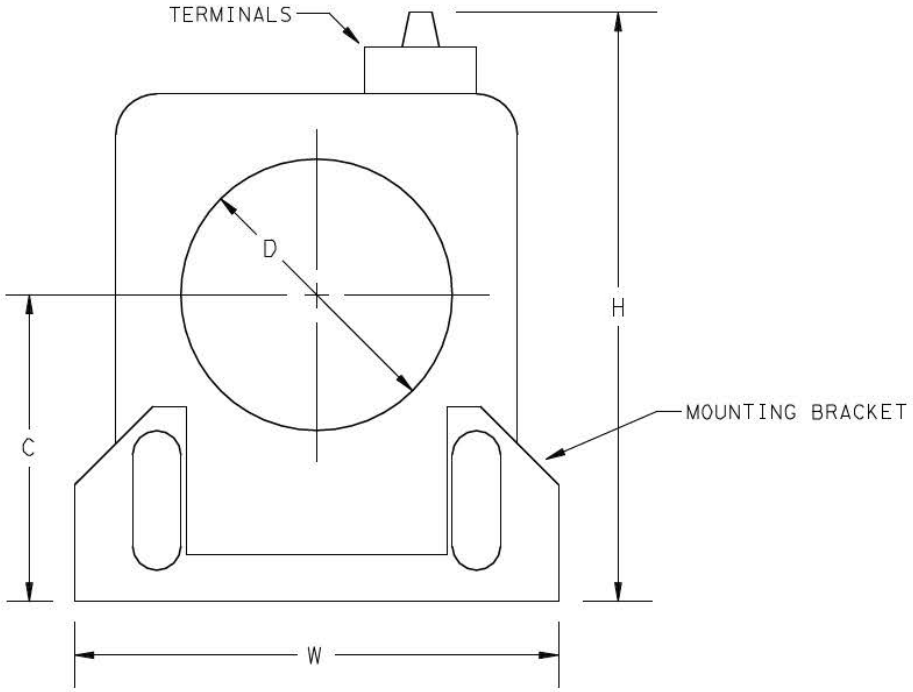


VTS NOT REQUIRED FOR 120/208Y V, 3 PHASE, 4 WIRE SUPPLY.

Notes:

1. Contractors are required to use only BC Hydro supplied standard mechanical connectors.
2. See section 5.3.2.
3. Polarity marks shall be towards the line side.
4. It is a requirement that CTs are staggered for most efficient use of space, thereby reducing increased bending radius and ease of wiring of secondary terminals.
5. The mechanical connectors (lugs) shall be installed in-line with the CT bus bar per above diagram.

6.14 Typical Indoor Window CT

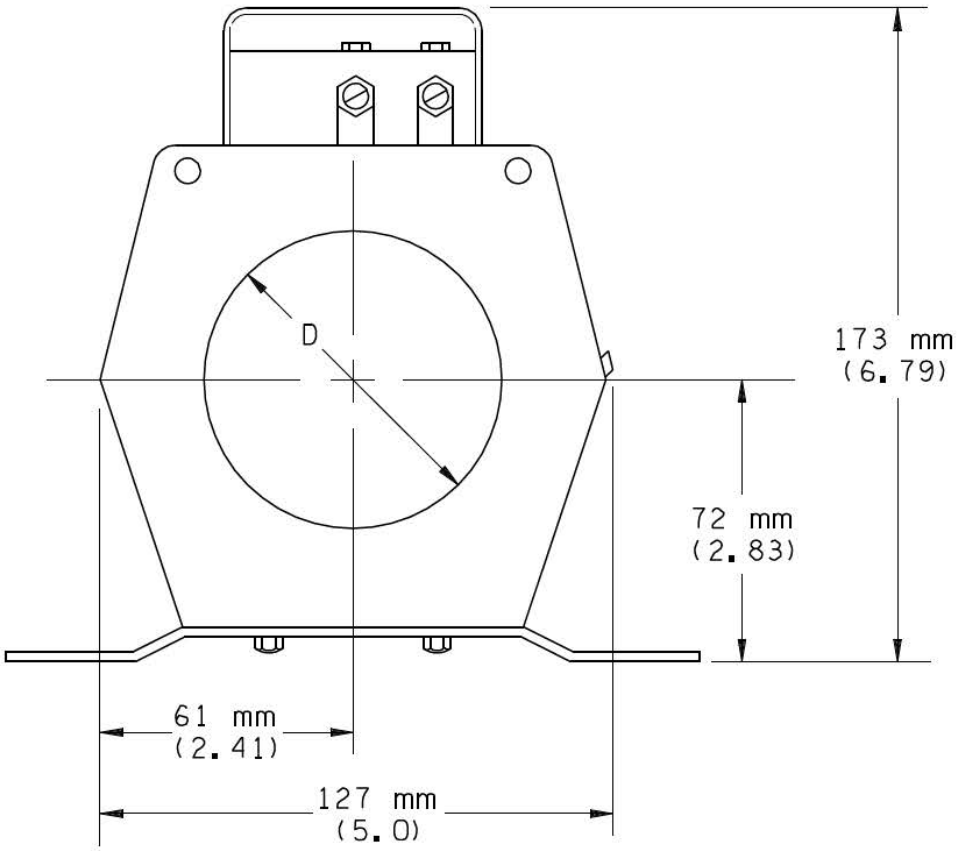


DIMENSION TABLE

Rated Current	"D" Minimum Window Diameter	"W" Maximum Body Width	"H" Maximum Overall Height	"C" Window Centre Height
1,500-5 A 2,000-5 A	146 mm (5.75")	229 mm (9.0")	292 mm (11.5")	Adjustable from 114 mm to 140 mm (4.5" to 5.5")
3,000-5 A 4,000-5 A	146 mm (5.75")	229 mm (9.0")	330 mm (13.0")	Adjustable from 146 mm to 178 mm (5.75" to 7.0")
5,000-5 A 6,000-5 A	206 mm (8.125")	292 mm (11.5")	330 mm (13.0")	145 mm ±3 mm (5.69" ±0.125")

Notes:
1. See section 5.6.

6.15 Typical Indoor/Outdoor Donut CT

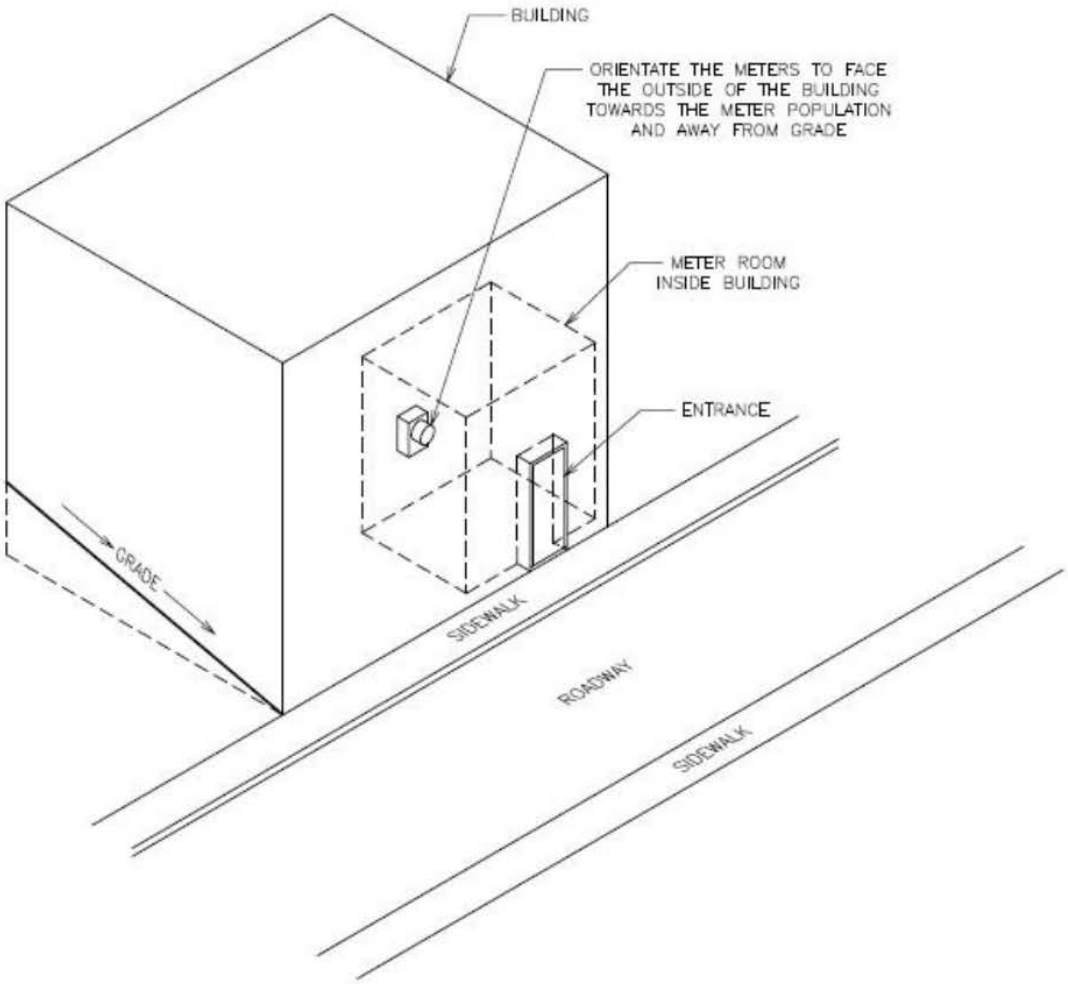


DIMENSION TABLE

Rated Current	"D" Minimum Window Diameter
200 A 300 A	63 mm (2.5")
400 A 600 A 800 A	79 mm (3.12")

Notes:
1. See section 5.6.

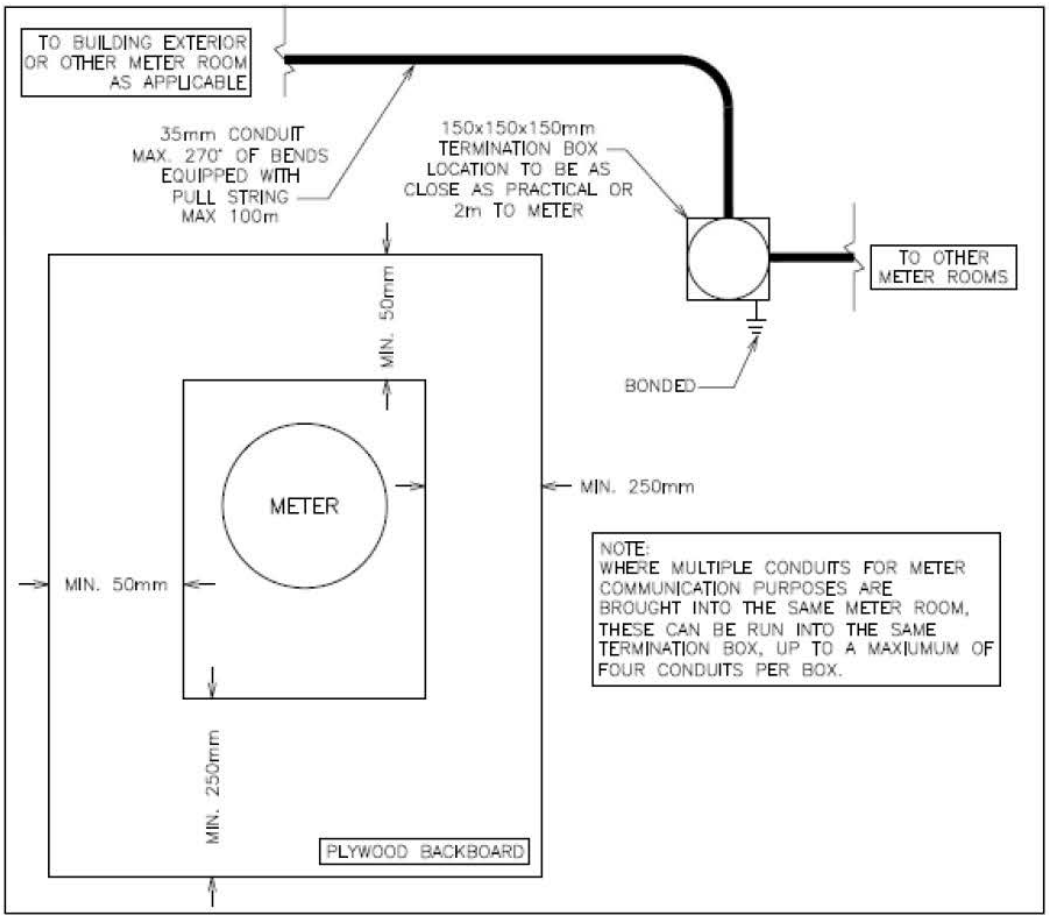
6.16 General Arrangement of Meter Inside Electrical/Meter Room

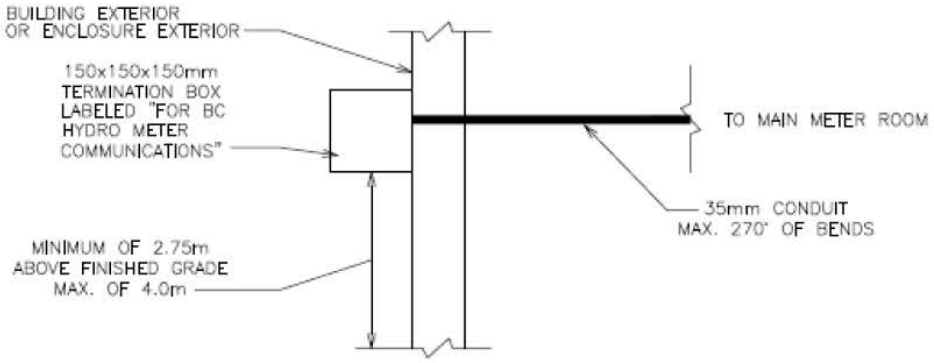


Notes:

1. Grouped sub service meters shall be installed inside an electrical/meter room. See section 3.2.
2. At least one meter socket in the electrical room shall be mounted in such location as shown above, facing an exterior wall preferably without obstruction.

6.17 Meter Connection to RF Mesh Network

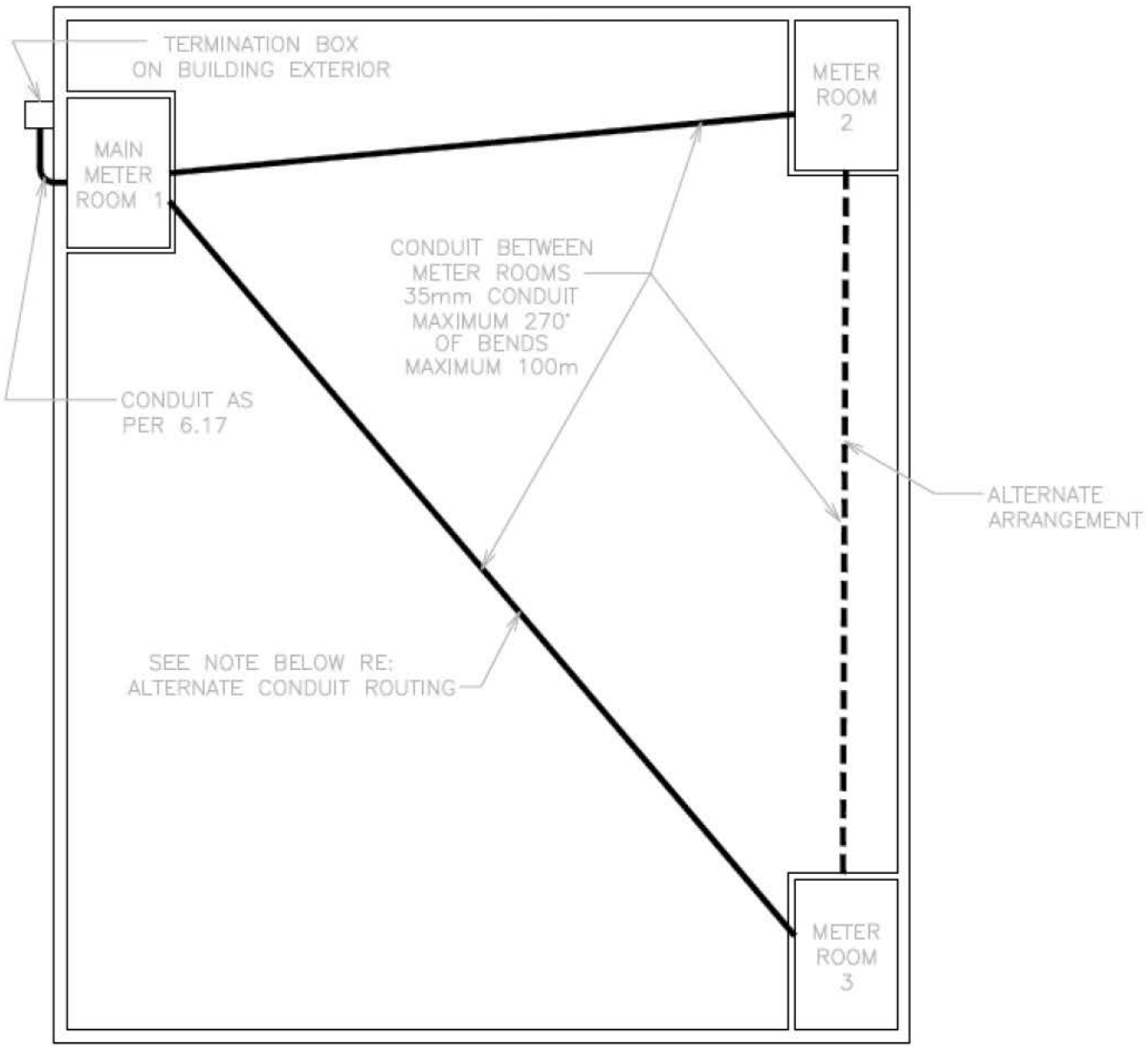




Notes:

1. See section 3.2. The above is only required for one meter inside elec. room
2. All material/connections from Termination box to meter is BCH responsibility.

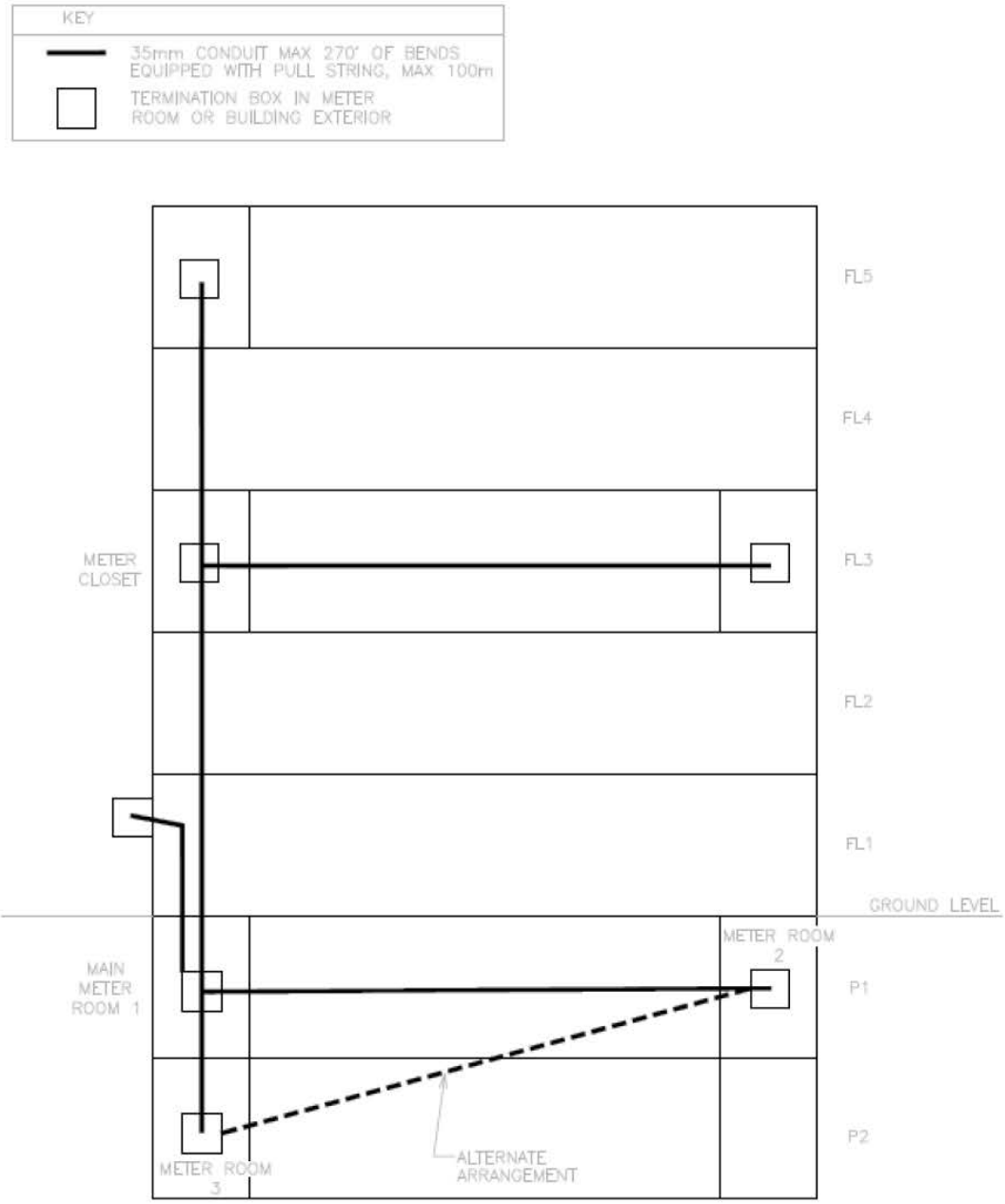
6.18 Multiple Meter Rooms Conduit Arrangement



Notes:

1. Alternate arrangement is to run conduit from Main Meter Room 1 to Meter Room 2, and from Meter Room 2 to Meter Room 3 in a daisy chain configuration, instead of Main Meter Room 1 to Meter Room 3.
2. See section 3.2.
3. Conduit run between meter rooms exceeding 100m requires installation of additional pull box similar to above termination box dimension and set up.

6.19 Multiple Meter Rooms on Multiple Levels Conduit Arrangement



Notes:

1. Alternate arrangement is to run conduit from Main Meter Room 1 to Meter Room 2, and from Meter Room 2 to Meter Room 3 in a daisy chain configuration, instead of Main Meter Room 1 to Meter Room 3.

To view the latest revision of this document go to:
http://www.bchydro.com

2.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-2, Attachment 4.10, p. 1
BC Hydro Secondary Meter

On page 1 of Attachment 4.10 to Exhibit B-2, CBP provides e-mail correspondence dated Tuesday, May 14, 2019, between BC Hydro and CBP, in which BC Hydro states:

> BC Hydro will not be building or taking ownership of customer build lines for the proposed Cosens bay project however we may be able to secondary meter customers and bill them directly given that services are built to [BC Hydro] standards (see our secondary metering guide).

1.2.2 Please provide an overview of BC Hydro's Secondary Metering service. In your response please provide a summary of: (i) the key components of the service and how it works; (ii) BC Hydro and CBP's responsibilities; (iii) connection requirements; and (iv) operation and maintenance requirements.

RESPONSE:

Secondary metering is where BC Hydro measures consumption and demand (where applicable) at secondary voltage (under 750 volts) for its customers. There are cases where BC Hydro provides secondary metering service downstream of a point of delivery and through private electricity delivery facilities. A common example would be a multiple family residential complex, such as townhouses and condominiums where the point of delivery is at the strata's main switch.

There are a number of configurations for secondary metering service, including single family, multi-family, commercial and multi-unit commercial arrangements. The single family type secondary metering service requirements will be discussed in this response, as it is the most relevant in this case.

Section 3.1 of the Electric Tariff states that BC Hydro will provide service (primary or secondary) in accordance with BC Hydro's current distribution system development plans, distribution standards and applicable laws and regulations in each case. In addition, section 4.2 states that BC Hydro will install metering for billing purposes at locations most convenient to BC Hydro.

(i) The key components of the service and how it works

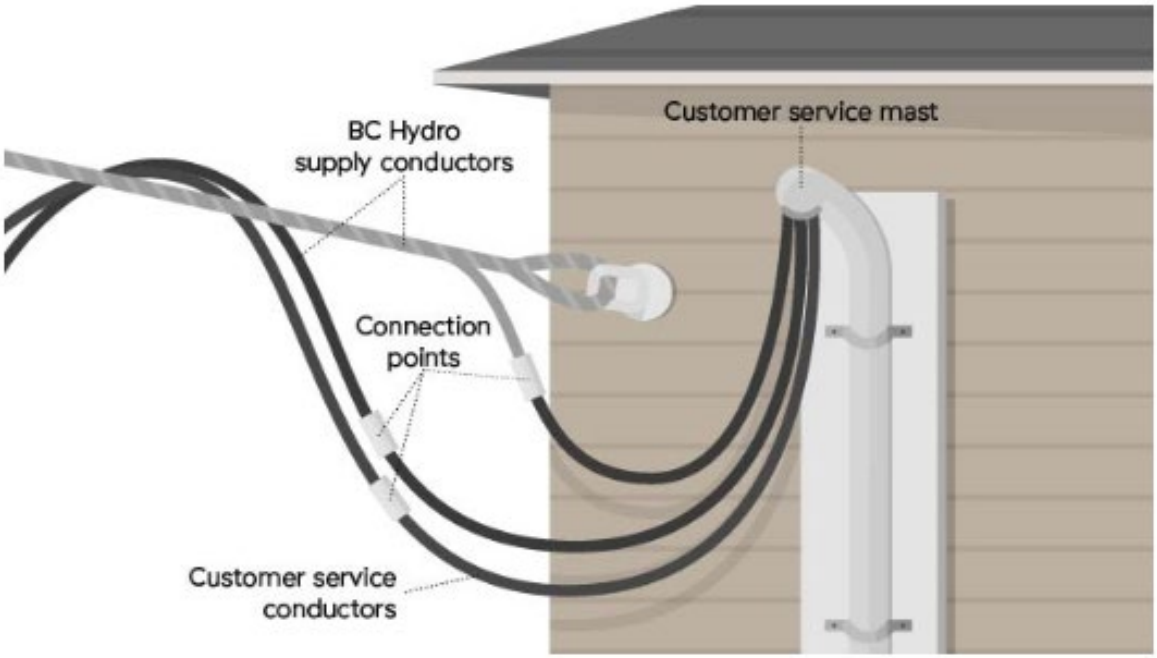
When BC Hydro provides single family residential service at the request of a customer, the Point of Delivery as defined in the Electric Tariff (i.e., "The location at which the Service Connection is connected to the Metering Equipment or the Customer's electrical facilities, whichever comes first") is different for overhead and underground installations.

The technical requirements for overhead and underground service connections can be found summarized here:

https://app.bchydro.com/accounts-billing/electrical-connections/overhead-underground-connections.html

Overhead Service

In the case of overhead services, the customer owns, installs and maintains the meter base, conduit from the meter base up to and including the weather head (top of the customer's service mast in the image below) as well as the conductors between the meter base and Point of Delivery.

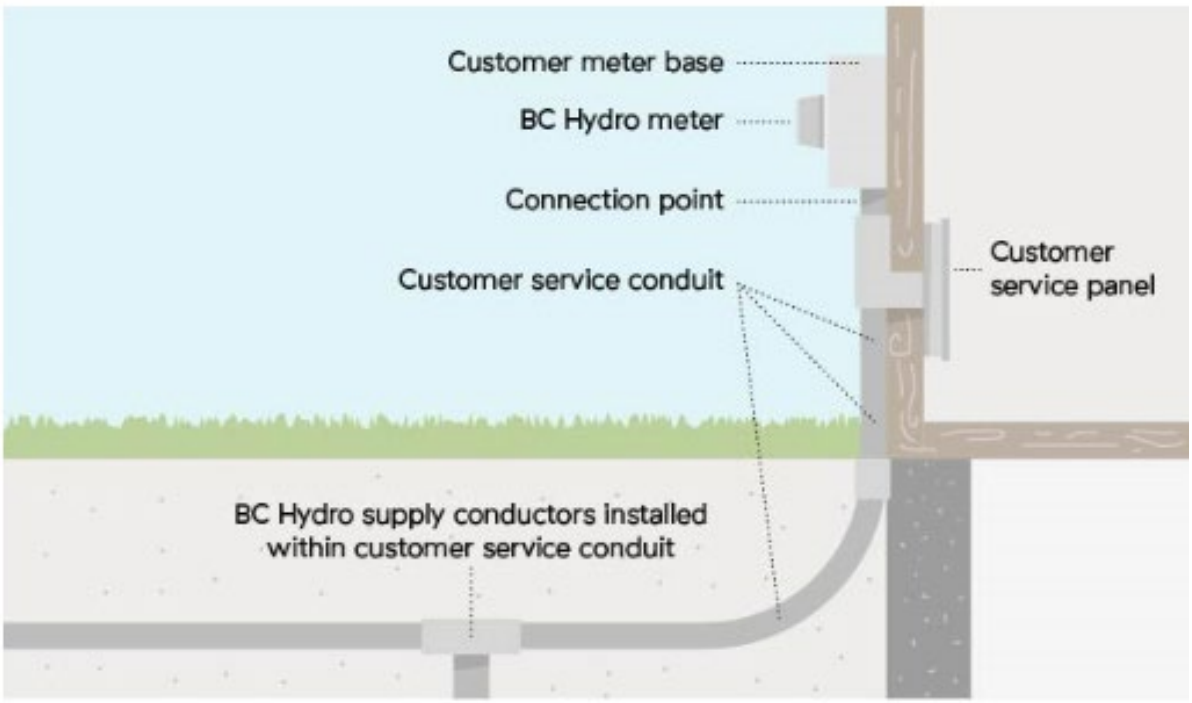


The Point of Delivery is shown as the "Connection points" in the drawing above. The meter base and meter are not shown but are located at the bottom of the duct connected to the Customer service mast.

The BC Hydro supply conductors enable a connection (Service Connection) between the BC Hydro distribution system and the customer's service equipment. In the case of overhead connections, the customer's service conductors connect the BC Hydro Service Connection to the line side terminals of the customer's meter base. The customer also has service conductors connected between the load side terminals of the meter base to their service panel. When the meter is installed between the line and load side terminals of the meter base, it completes the electrical connection, energizes the customer's service panel and enables BC Hydro to measure the electricity usage at the service for billing purposes.

Underground Service

In the case of underground services, the customer owns, installs and maintains the meter base and the conduit from the meter base to the property line. BC Hydro installs its supply conductors (Service Connection) in the customer's service conduit.



In the case of underground connections, the BC Hydro supply conductors are connected to the line side terminals of the customer's meter base. The customer also has service conductors connected between the load side terminals of the meter base to their service panel. When the meter is installed between the line and load side terminals of the meter base, it completes the electrical connection, energizes the customer's service panel and enables BC Hydro to measure the electricity usage at the service for billing purposes.

BC Hydro and CBP Responsibilities

In the event that CBP were to construct a private primary voltage and low voltage distribution system and BC Hydro were to provide secondary metering, CBP must apply to BC Hydro for a PSC.

BC Hydro would identify the preferred Point of Delivery and confirm any specific requirements, connection guidelines and distribution standards relevant to the service request.

CBP would need to provide information as requested by BC Hydro in order to review and process the PSC application.

CBP would design and construct the primary voltage and low voltage distribution system downstream of the Point of Delivery in accordance with, all applicable requirements including for example, the requirements of the BC Electric Code and Technical Safety BC (TSBC).

(ii) Connection requirements

Primary Voltage Connection

Parties interested in receiving primary voltage service from BC Hydro must initiate a request via a formal PSC application and submit information including:

- **Electrical one-line diagram;**
- **Calculated fault levels;**
- **Protective device and equipment ratings; and**
- **Site plan with equipment locations, clearances, right of way information.**

The PSC requirements can be found at the following link:

https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/distribution/standards/ds-primary-guides-2017-R2.pdf?accept=accepted

BC Hydro will work with the proponent to clarify the requirements and review the submitted information as needed throughout the process.

Once the installation has been completed and BC Hydro has received confirmation of Technical Safety B.C. (TSBC) approval and a copy of the Annual Operating Permit held by Class A licensed electrical contractor for the site, BC Hydro will connect the primary voltage service.

Secondary Voltage Connection

A homeowner connected to the CBP private distribution system would own and maintain the meter base and the service equipment downstream of the meter base. If the homeowner wanted to become a BC Hydro customer, they must provide evidence that their electrical installation has been approved by TSBC and that it also conforms to BC Hydro's secondary voltage revenue metering requirements.

Once these requirements have been met, the homeowner is eligible for metering service by BC Hydro. The customer must apply in accordance with section 2 of the Electric Tariff and pay a service connection fee in accordance with section 11.2 of the Electric Tariff in advance of receiving service.

(iii) Operation and Maintenance Requirements

CBP would be responsible for operating and maintaining the private primary voltage and low voltage distribution system in accordance with the requirements of the BC Electrical Code and subject to the inspection jurisdiction of TSBC.

Homeowners would be responsible for operating and maintaining the service equipment associated with their residence. This must be performed by an approved electrical contractor authorized to work in the province of B.C.

BC Hydro would be responsible for operating and maintaining its distribution system upstream of the Point of Delivery and would also operate and maintain the revenue meters installed at its customer locations.

2.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-2, Attachment 4.10, p. 1
BC Hydro Secondary Meter

On page 1 of Attachment 4.10 to Exhibit B-2, CBP provides e-mail correspondence dated Tuesday, May 14, 2019, between BC Hydro and CBP, in which BC Hydro states:

> BC Hydro will not be building or taking ownership of customer build lines for the proposed Cosens bay project however we may be able to secondary meter customers and bill them directly given that services are built to [BC Hydro] standards (see our secondary metering guide).

1.2.3 Please discuss whether CBP and BC Hydro explored the viability of adopting BC Hydro's Secondary Metering service. Please provide details of any correspondence and explain why the option was not considered to be viable.

RESPONSE:

The option for BC Hydro to provide secondary metering service may be viable, but it will depend on the finalization of the PSC application, as well as the metering communication capability review, as discussed in the email quoted in the reference to this IR (Attachment 4.10 to Exhibit B-2). In addition to the CBP primary and secondary voltage distribution systems being installed in accordance with TSBC requirements, the meter base equipment and installation at each residence must conform with the requirements for Secondary Voltage Revenue Metering (see Attachment 1 to BC Hydro's response to BCUC IR 1.2.1).

BC Hydro's metering requirements include provisions to limit the electrical fault current at the point of metering to ensure the safety of the public and electrical workers. Metering requirements also ensure meter base requirements are met and meter locations and mounting height are appropriate.

If BC Hydro's secondary metering service is requested, then the individual metered residences in the Cosens Bay community will be customers of BC Hydro for their electricity, which means CBP would not recover the costs of installation, operation, and maintenance of the CBP utility system and submarine cable through rates for electricity service.

Please refer to the attachment to BC Hydro's response to BCUC IR 1.1.4 for relevant correspondence.

2.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-2, Attachment 4.10, p. 1
BC Hydro Secondary Meter

On page 1 of Attachment 4.10 to Exhibit B-2, CBP provides e-mail correspondence dated Tuesday, May 14, 2019, between BC Hydro and CBP, in which BC Hydro states:

> BC Hydro will not be building or taking ownership of customer build lines for the proposed Cosens bay project however we may be able to secondary meter customers and bill them directly given that services are built to [BC Hydro] standards (see our secondary metering guide).

1.2.4 Please discuss whether BC Hydro has taken ownership of customer-built lines in other areas and provide examples of any such projects.

RESPONSE:

In accordance with section 8.11 of BC Hydro's Electric Tariff, at the request of a customer, BC Hydro may assume ownership and responsibility for operation and maintenance of the electrical components of distribution facilities on private property up to the point of delivery.

BC Hydro takes over privately built distribution facilities in two scenarios: (1) Overhead Extensions on Private Property; and (2) BC Hydro's Underground Residential Distribution (URD) Subdivision Customer Build Program. BC Hydro discusses these two scenarios below:

(1) Overhead Private Property Takeover - This enables the customer to choose who constructs the private powerline, as long as it has been designed by BC Hydro to its own requirements. The customer can choose to: (i) pay BC Hydro to construct the overhead powerline; or (ii) hire a powerline construction firm that is approved by BC Hydro to construct the overhead powerline, which BC Hydro will take over subject to passing an inspection. The overhead powerlines must be on private property and a statutory right of way is required in favour of BC Hydro in accordance with its standard terms, which relate to access, ownership of assets, operation, and maintenance, among other things.

A common example where BC Hydro would agree to take ownership of a privately built overhead powerline is when a large property owner requests secondary voltage service. Due to the proposed length of the Service Connection, technical constraints (voltage drop limitations) may require the customer to install a primary overhead distribution powerline with a distribution transformer installed closer to the point of utilization to provide adequate service voltage; and

(2) URD Subdivision Customer Build Program - In certain areas of the province where residential subdivision development is common (i.e., the Lower Mainland and Vancouver Island), the customer is offered two options for the design and construction of their development. The first option being for BC Hydro to engineer, design, and construct the subdivision and charge the customer for this through an extension fee. The second option involves the customer directly hiring a BC Hydro approved Engineering Service Provider (ESP) to engineer, design, and construct the subdivision to BC Hydro's standards and requirements. The customer pays the ESP directly and BC Hydro charges an extension fee to inspect, takeover and connect its system to the new subdivision at the interconnection point.

BC Hydro was unable to find an example of it taking ownership of a customer-built submarine cable, such as the one proposed by CBP. Please refer to BC Hydro's response to BCUC IR 1.2.5 for a discussion of why BC Hydro declined to take ownership of CBP's proposed submarine cable.

2.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-2, Attachment 4.10, p. 1
BC Hydro Secondary Meter

On page 1 of Attachment 4.10 to Exhibit B-2, CBP provides e-mail correspondence dated Tuesday, May 14, 2019, between BC Hydro and CBP, in which BC Hydro states:

> BC Hydro will not be building or taking ownership of customer build lines for the proposed Cosens bay project however we may be able to secondary meter customers and bill them directly given that services are built to [BC Hydro] standards (see our secondary metering guide).

1.2.5 Please explain why BC Hydro does not propose to take ownership of the customer build lines for the proposed Cosens Bay project.

RESPONSE:

BC Hydro continues to decline to take ownership of CBP's proposed project, given the complexity of CBP's submarine cable project anticipated. The design and construction of submarine cables requires expertise from several disciplines and is, relative to the construction of overhead distribution lines, orders of magnitude more complex.

A factor that BC Hydro considers in its decision to take ownership of a customer-built powerline is whether, in BC Hydro's opinion, the customer can construct the powerline in a manner consistent with how BC Hydro would construct the powerline. In this case, BC Hydro is not certain that CBP would be able to design and construct the submarine cable to have the equivalent operating life or maintainability as a submarine cable designed and constructed by BC Hydro.

BC Hydro designs submarine crossings to have an operating life of at least 40 years. As discussed in BC Hydro's response to BCUC IR 1.3.8, every submarine cable presents unique design considerations and, therefore, BC Hydro is unable to develop standard design or construction requirements for them. Instead, BC Hydro relies on its specialist engineers and subject matter experts to be involved in all aspects of a submarine cable project, including:

- **<u>Materials</u>: BC Hydro audits and inspects manufacturers during production and testing of submarine cables;**

- **<u>Route design</u>: BC Hydro designs a crossing route based on a topographic marine survey. The selected route for the cable mitigates the mechanical stress on the cable along the marine floor and also the future repairability of the cable, so the route is typically not the shortest point-to-point route; and**

- **<u>Cable installation</u>: Submarine cables typically experience the greatest stress during the laying of the cable, which may significantly affect its longevity. Inspections after installation are not able to determine whether the cable was subject to such mechanical stress. BC Hydro does not rely on external contractors to perform such work, but procures the equipment and resources so that it is able to undertake the work itself.**

In CBP's response to BCUC IR 9.1 (Exhibit B-2), it makes reference to a document titled "*BC Hydro: Submarine Cables, Application and Engineering*" as part of the design basis for CBP's Project. BC Hydro is not aware of what document CBP is referring to, but notes that BC Hydro's internal engineering documents are not intended for use on private systems and they are only applicable to BC Hydro's electric system.

Furthermore, over the last year, BC Hydro has become aware that a number of sites around Vernon are or were under the control of the Department of National Defence, and they have historically been used for various training exercises. Department of National Defence has assessed a number of sites as high risk for finding UXOs, which are military explosives that did not function as intended. See BC Hydro's response to BCUC IR 1.3.5 for a map that shows locations where UXOs have been found and where there have been UXO related deaths.

BC Hydro would need to be confident that the risk of UXOs was mitigated before it would consider taking over the submarine cable. BC Hydro has experience with mitigation of UXO risks on land, but it does not have such experience underwater. From BC Hydro's experience, UXO treatment can be very expensive.[1]

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[1] **For example, a recent pole renewal in a UXO area on DND land increased the cost from $20k to $27.3k (36.5 per cent increase in costs) and a system improvement project in a UXO area increased the cost from $5.3M to $6.5M (22 per cent increase in costs).**

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
> - installation of a revenue meter at the point of connection (" POC")
> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.1 Please confirm whether CBP has submitted a Primary Service Connection (PSC) application to BC Hydro.

RESPONSE:

Not Confirmed. BC Hydro has no record of a PSC application from CBP, but BC Hydro does confirm that we are in discussions with CBP regarding an expected application. It is typical for PSC applications to be submitted after discussions between BC Hydro and the applicant occur and well into the interconnection process.

CBP has not finalized a location to take service from BC Hydro and CBP has not yet acquired the necessary property rights on the west shore of Kalamalka Lake to accommodate a primary voltage service from BC Hydro. BC Hydro continues to support CBP to discuss other aspects of their connection, but BC Hydro cannot proceed with detailed design of CBP's service until CBP finalizes a service location. Once a service location is confirmed, BC Hydro will proceed with the detailed design of a primary voltage service to CBP.

In addition, based on CBP's response to BCUC IR 16.2 and 16.3 (Exhibit B-2), BC Hydro understands that CBP intends to offer a service similar to BC Hydro's Net Metering service (rate schedule 1289). Doing so would result in a connection of generation parallel to BC Hydro's system that, per section 3.9.2 of BC Hydro's Primary Guide for primary voltage services, would require compliance with BC Hydro's Distribution Generator Interconnection requirements. BC Hydro has not received an application from CBP to generate power parallel to BC Hydro's supply.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
> - installation of a revenue meter at the point of connection (" POC")
> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.1 Please confirm whether CBP has submitted a Primary Service Connection (PSC) application to BC Hydro.

1.3.1.1 If confirmed, please provide details on the progress of the PSC application and any outstanding milestones.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.3.1.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
> - installation of a revenue meter at the point of connection (" POC")
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> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.2 Please provide the current processing times for a PSC application and provide CBP's expected date of authorization for connection.

RESPONSE:

When BC Hydro receives a PSC application, BC Hydro generally either accepts or rejects it within 10 business days. The process is often iterative in the sense that a PSC application can be rejected for deficiencies several times before it is accepted. Typically, a PSC application can take between several months to over a year depending on the complexity of the project and quality of the application.

BC Hydro has not received a PSC application from CBP. As discussed in BC Hydro's response to BCUC IR 1.3.1, CBP has not finalized a location to take service that meets the requirements of BC Hydro. Therefore, BC Hydro cannot provide an expected date of authorization for connection at this time.

BC Hydro notes that CBP must provide its permit for connection from Technical Safety BC, as well as a permit to operate as a utility, before BC Hydro would authorize CBP's connection to BC Hydro's system.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
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> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
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> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies
> - Prepare project schedule and cost estimate
> - Finalize submarine cable route and BC Hydro Point of Connection

- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.3 Please discuss any potential factors that may lead to the rejection of the PSC application. In your response please provide any correspondence with CBP related to this matter.

RESPONSE:

When BC Hydro receives a PSC application, it evaluates the application for compliance with BC Hydro's connection requirements (for example requirements of BC Hydro's Primary Guide for primary voltage services). If BC Hydro identifies deficiencies with the PSC application, BC Hydro informs the customer what aspects of their application do not meet BC Hydro's requirements so that the customer is able resolve those deficiencies. If a customer refuses or is unable to meet BC Hydro's connection requirements, then BC Hydro would reject the PSC application.

As discussed in BC Hydro's responses to BCUC IRs 1.3.1 and 1.3.2, BC Hydro has not yet received a PSC application from CBP. Based on correspondence with CBP, their Application and their IR responses in this proceeding, BC Hydro has identified the following potential issues:

- **CBP has not finalized a location and obtained the necessary property rights on the west side of Kalamalka Lake;**
- **Adequate protection at the point of delivery to address any hazardous backfeed risks introduced to BC Hydro's upstream system from CBP's proposed net metering program needs to be designed; and**
- **Risk of UXOs has not been fully assessed by Department of National Defense. Please refer to BC Hydro's response to BCUC IR 1.3.5.**

Please refer to Attachment 1 to BC Hydro's response to BCUC IR 1.1.4 for correspondence with CBP related to this matter.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
> - installation of a revenue meter at the point of connection (" POC")
> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.4 Please provide BC Hydro's estimated costs for connection should CBP's Project go ahead.

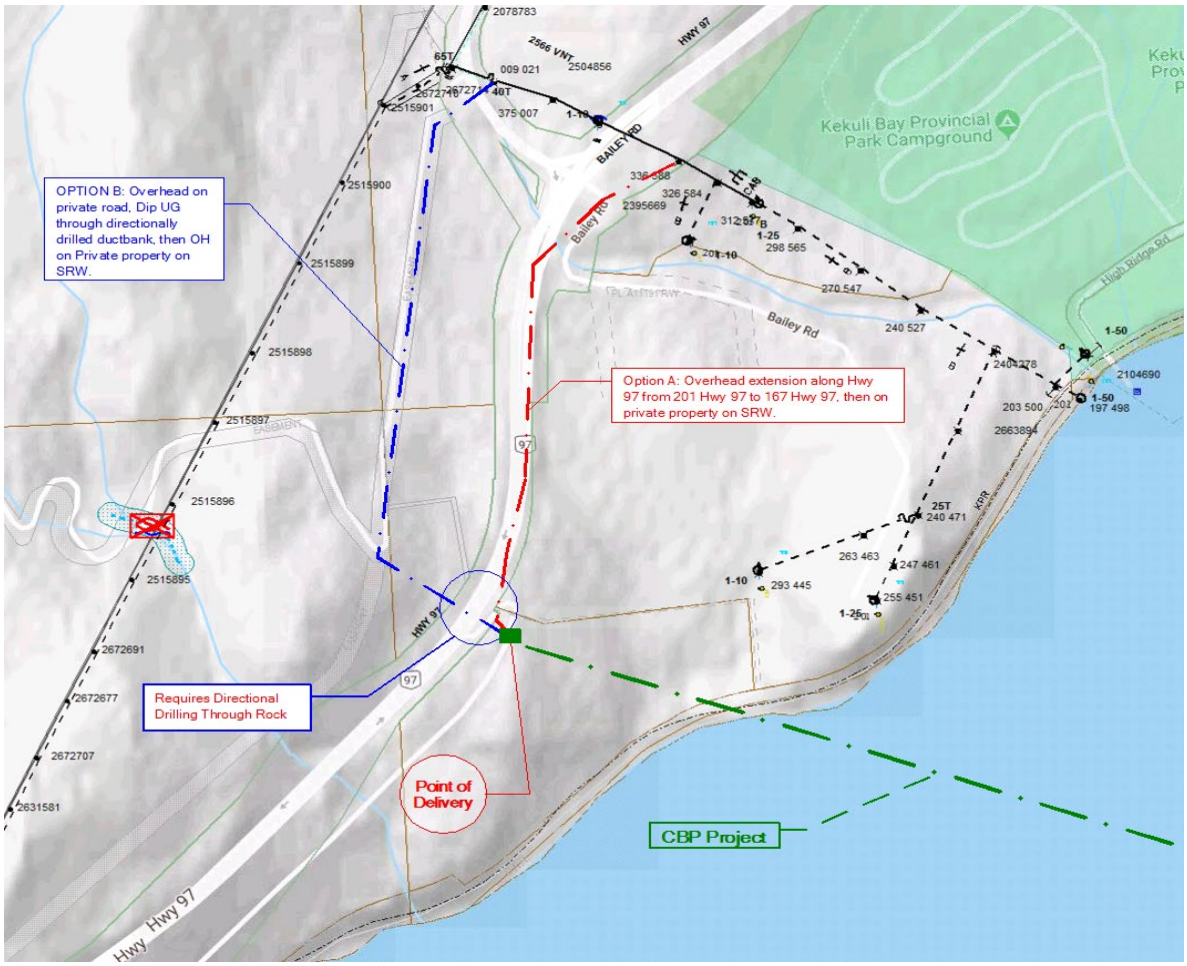
RESPONSE:

CBP has not finalized a location to take service from BC Hydro and CBP has not yet acquired the necessary property rights on the west shore of Kalamalka Lake to accommodate a primary voltage service from BC Hydro. BC Hydro has also not received generation interconnection or net metering application forms from CBP. Therefore, at this time, BC Hydro cannot provide a detailed estimated cost of connection should CBP's project go ahead.

However, based on CBP's proposed point of delivery on the west side of Kalamalka Lake (see image below), BC Hydro has completed a conceptual level estimate for interconnection for the two options discussed in the table below. Conceptual level estimates have a range of accuracy of -50 per cent to +200 per cent.

Option	Description	Conceptual Level Cost Estimate ($)		
		Expected	-50%	+200%
Option A	**Extension of three phase primary overhead on Highway 97 (east side of Highway 97) parallel to 201 South Highway 97 Property. Extend three phase primary overhead onto property at 167 Highway 97, on Statutory Right of Way (SRW) to customer's overhead private switch (point of delivery).**	**100,000**	**50,000**	**300,000**

Option	Description	Conceptual Level Cost Estimate ($)		
		Expected	-50%	+200%
Option B	**Extension of three phase primary overhead on private road, with SRW, directionally drill under Highway 97 (geotechnical to be confirmed) and then extend three phase primary overhead onto property at 167 Highway 97, on SRW to CBP's overhead private switch (point of delivery).**	**200,000**	**100,000**	**600,000**


OPTION B: Overhead on private road, Dip UG through directionally drilled ductbank, then OH on Private property on SRW.
Option A: Overhead extension along Hwy 97 from 201 Hwy 97 to 167 Hwy 97, then on private property on SRW.
Requires Directional Drilling Through Rock
Point of Delivery
CBP Project
Kekuli Bay Provincial Park Campground
Bailey Rd
BAILEY RD
HWY 97
Hwy 97
2078783
2566 VNT
2504856
009 021
375 007
2515901
2515900
2515899
2515898
2515897
2515896
2515895
2672691
2672677
2672707
2631581
336 588
326 584
2395669
312 587
298 565
270 547
240 527
240 278
2104690
203 500
197 498
263 463
247 461
240 471
293 445
255 451

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity; therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
> - installation of a revenue meter at the point of connection (" POC")
> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.5 Please discuss whether BC Hydro has identified any potential issues with the Project, including the Q4 2020 date set by CBP to place the Project into service.

RESPONSE:

To receive service from BC Hydro on the west shore of Kalamalka Lake, CBP will need to meet BC Hydro requirements for a PSC. Please refer to BC Hydro's responses to BCUC IRs 1.3.1 and 1.3.3.

With respect to CBP's Project in service date, BC Hydro will be able to connect CBP's Project when CBP has met all of BC Hydro requirements and requirements from other authorities having jurisdiction. BC Hydro notes that it would take it two to three years to address all of the technical & legal considerations required for the design & construction of a submarine cable crossing, as opposed to the one year that CBP has scheduled. Given the current status of the CBP Project, its scope and the status of its approvals, BC Hydro's confidence in a Q4 2020 in service date is low.

The following is a non-exhaustive list of potential issues that BC Hydro has identified with CBP's project that could result in a delay to interconnect the project at the proposed point of delivery (based on the two options identified in BC Hydro's response to BCUC IR 1.3.4):

- **MOTI approvals and permits associated with BC Hydro overhead build on Highway 97 (previous applications rejected by MOTI);**
- **MOTI approvals and permits associated with directional drilling under Highway 97;**
- **BC Hydro acquisition of SRW on Crown land;**
- **Geotechnical work to ensure feasibility of directional drill (anticipate rock);**

- **BC Hydro acquisition and registration for SRW on private property; and**
- **Obtaining access rights to BC Hydro assets for operation and maintenance.**

Based on BC Hydro's knowledge of CBP's Project, the following is a non-exhaustive list of potential issues beyond BC Hydro's point of delivery:

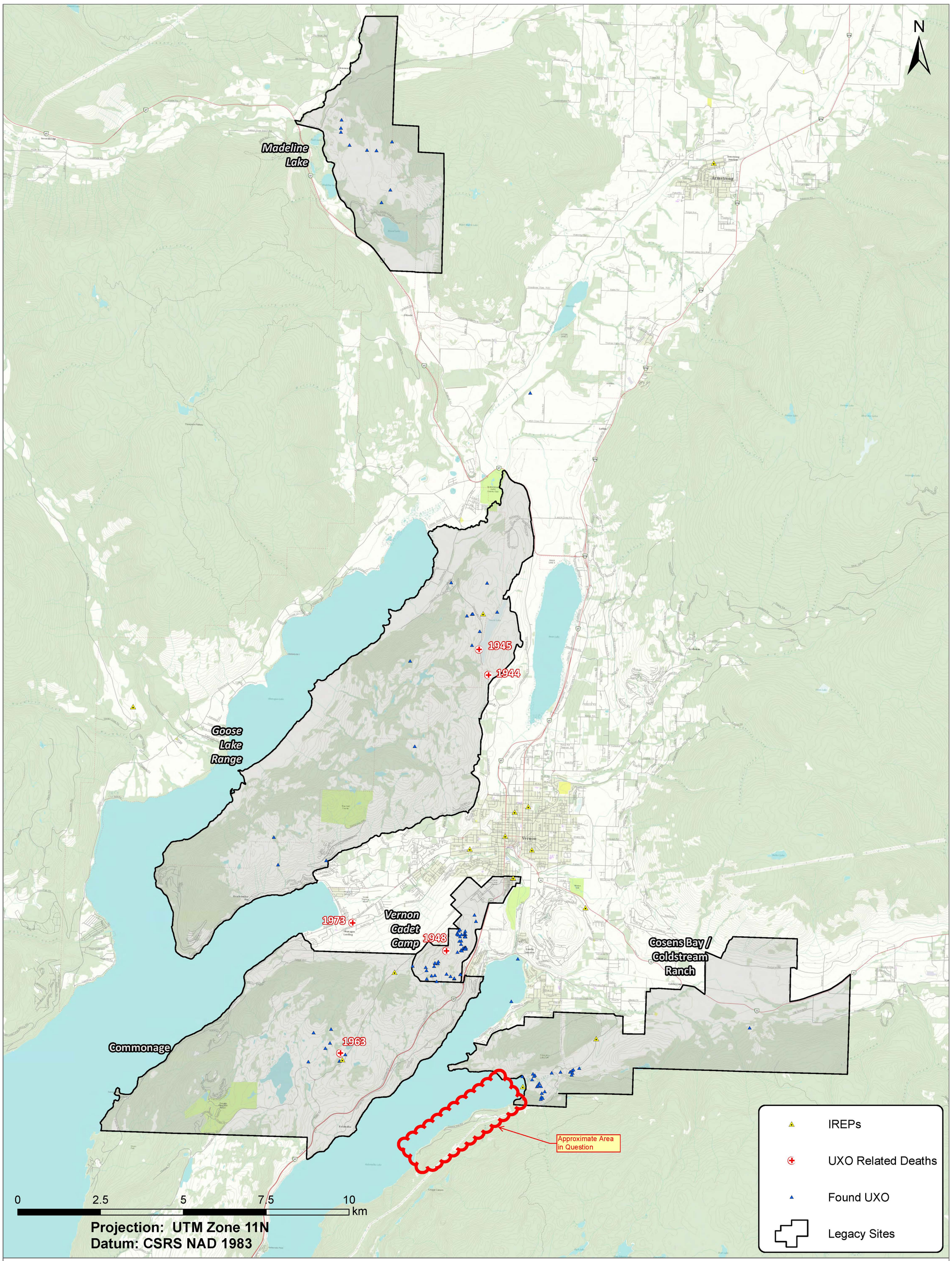
- **Consultation with First Nations;**
- **Environmental and heritage impacts and mitigation;**
- **Acquiring necessary property rights on private property;**
- **Acquiring necessary property rights on the "Rail Trail";**
- **Design and construction of the submarine cable crossing and egress;**
- **Obtaining necessary approvals and permits from all regulatory bodies; and**
- **Mitigation of UXOs.**

Specifically regarding the last point, the mitigation of UXOs, the Department of National defence has confirmed that the greater Vernon area has several locations of increased risk of UXOs. See the attached map (Attachment 1)[1], which shows locations where UXOs have been found and where there have been UXO related deaths.

[1] **In the legend on the map there is a reference to "IREP", which BC Hydro understands to be an abbreviation for "Explosive Ordnance Disposal Initial Report".**

National Defence / Défence nationale

Canada



UXO Discoveries in the Vernon Area

Authored For / Créé pour:	*UXO, Contamination and Legacy Sites Management Program*	*Map Scale / Échelle:*	*1:50,000*
Authored By / Créé par:	*Defence Construction Canada*	*Date:*	*Aug 21, 2014*

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
> - installation of a revenue meter at the point of connection (" POC")
> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.5 Please discuss whether BC Hydro has identified any potential issues with the Project, including the Q4 2020 date set by CBP to place the Project into service.

1.3.5.1 Please discuss if BC Hydro has any concerns with the potential routes identified by CBP.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.3.5.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
> - installation of a revenue meter at the point of connection (" POC")
> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.6 Please discuss whether BC Hydro has indicated it will provide any support for the submarine cable route and connection.

RESPONSE:

BC Hydro will support CBP's interconnection in the same manner that it provides support for other customer interconnections. Please refer to BC Hydro's response to BCUC IR 1.1.7 for a discussion of the assistance BC Hydro has provided, and continues to provide, CBP for its project.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
> - installation of a revenue meter at the point of connection (" POC")
> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.7 Please provide examples of any similar distribution projects which incorporate submarine cables, that BC Hydro has undertaken. In your response, please include a breakdown of construction and operation costs.

RESPONSE:

Examples of BC Hydro distribution projects that incorporate submarine cables are summarized in the following table. As every submarine cable crossing presents unique design considerations, each crossing must be designed based on the site specific conditions and service requirements. Therefore, it is difficult to compare submarine cable projects in an informative way.

The variables that are considered in the design of a submarine cable crossing include:

- **Tidal forces;**
- **Depth of water;**
- **Expected tensions on the submarine cable during installation and while lying on the seafloor;**
- **Accessibility of shore ends; and**
- **Future maintainability.**

In addition, the proposed submarine crossing of Kalamalka Lake bears the unique risk associated with UXOs. Please refer to BC Hydro's response to BCUC IR 1.3.5.

To date, BC Hydro has spent $264,247 in fiscal 2020 on operation and maintenance costs related to submarine cables. These costs can vary considerably from year to year for each crossing.

Project (Location)	In-Service Year	Total Project Cost ($)	High Level Project Details
Sandspit to Skidegate, Haida Gwaii	**2018**	**7.7 M** **Design: 0.3M, Construction: 7.4M**	• **Scope - Replace existing submarine cable crossing (5.5 km) with four 25 kV 1/0 Cu[1] submarine cables; and** • **Properties - Existing BC Hydro SRW reused with no additional modifications.**
Quadra Island to Campbell River	**2016**	**6.0 M** **Design: 0.4M, Construction: 5.6M**	• **Scope - Replace existing submarine cable crossing (2.9 km) with four 25 kV 350kcm Cu[1] double armoured submarine cables; and** • **Properties - Existing BC Hydro SRW reused with no additional modifications.**
Winfield/Lake Country to west side of Okanagan Lake	**2011**	**2.4 M** **Design: 0.2M, Construction: 2.2M**	• **Scope - Replace existing submarine cable crossing (3.7 km) with four 25 kV 250kcm Cu[1] submarine cables; and** • **Properties - Additional SRW acquisition required to widen existing SRW.**

[1] **Refers to cable size.**

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
>
> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
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> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.8 Please provide an overview of BC Hydro's design criteria and/or technical specifications for the design, construction and operation of overhead, underground and submarine cables for 25 kV distribution systems. Please provide references for any relevant documentation.

RESPONSE:

BC Hydro's distribution standards are designed in accordance with the standards that form Canadian Electrical Code Part III.[1] These standards are:

- **CSA C22.3 No. 1-15, Overhead Systems;**
- **CSA-C22.3 No. 7-15, Underground Systems;**
- **CAN/CSA-C22.3 No. 3-98 (R 2013), Electrical Coordination;**
- **C22.3 No. 4-74 (R 2015), Control of Electrochemical Corrosion of Underground Metallic Structures;**
- **C22.3 No. 5.1-93 (R 2013), Recommended Practices for Electrical Protection - Electrical Contact Between Overhead Supply and Communication Lines;**
- **CAN/CSAC22.3 No. 6-13, Principles and Practices of Electrical Coordination Between Pipelines and Electric Supply Lines; and**
- **CAN/CSA-C22.3 No. 9-08 (R 2015), Interconnection of Distributed Resources with Electricity Supply Systems.**

These national standards provide the electrical, mechanical, and structural design basis and load factors; the clearances and offsets between adjacent structures

[1] **These standards are available from the Canadian Standards Association at www. csagroup.org.**

and utilities; the recommended practices for electrical coordination between utilities and adjacent systems; and the practices for interconnection of distributed energy resources.

BC Hydro's distribution standards apply these national codes as the design basis to create our design and construction standards. These standards series are:

- **ES43, Overhead Distribution Standards;**
- **ES53, Underground Electrical Distribution Standards;**
- **ES54, Underground Civil Distribution Standards; and**
- **ES55, Distribution Design Standards.**

The objective of BC Hydro's Distribution Standards is to build a safe, reliable, and economic distribution system using consistent and repeatable elements. The distribution standards ensure compatibility with our work methods, safety practices, operating practices, and maintenance practices. BC Hydro also specifies and approves, and manages the quality of the materials that are used in conjunction with the distribution construction standards.

BC Hydro notes that its utility standards are designed for application on BC Hydro's own electric system. Customer service entrance equipment must also comply with BC Hydro's connection requirements (Reference: Requirements for Customer-Owned Primary Services Supplied at 4 kV to 35 kV, R2). Satisfying these requirements is only an indication that the customer's equipment is compatible with BC Hydro's system and does not relieve the customer from fulfilling the requirement to meet all applicable codes and regulations which are subject to the inspection and approval by the authority having jurisdiction.

BC Hydro uses the same basis for its design of submarine cables where they terminate on the shore, and in the procurement specifications for cables. BC Hydro does not have standards for submarine cable design and routing as each crossing is unique and faces different challenges. Each crossing must be designed based on the site specific conditions and service requirements.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
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> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
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> - installation of a revenue meter at the point of connection (" POC")
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> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.9 Please discuss BC Hydro's requirements (if any) for distributed generation connected to the customer side of a PSC.

RESPONSE:

Customers may install generators for the purpose of providing standby power during supply outages or for the purpose of displacing electricity normally provided by the utility. In either of these situations, the customer equipment and generator installation must comply with the requirements of the BC Electrical Code, including section 84-002, which states: "The interconnection arrangements shall be in accordance with the requirements of the supply authority."

Section 3.9 of BC Hydro's Primary Guide for primary voltage services outlines the requirements for customer owned generation used for the purpose of standby power. These requirements address situations where there is either an open transition (i.e., utility power is disconnected, the customer load is isolated from the utility supply and then connected to the standby generator) or closed transition (i.e., the customer's generator is connected briefly prior to the utility power being disconnected).

If at a later time a generator is installed downstream of the point of delivery between BC Hydro and CBP, the equipment and installation must meet the requirements of the BC Electrical Code and the electrical safety inspection authority of Technical Safety BC.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
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> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
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> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.10 Please discuss whether CBP would be a Net Metering customer of BC Hydro, or whether CBP would be required to notify BC Hydro of any distributed generation interconnections.

RESPONSE:

If CBP becomes BC Hydro's customer for the purpose of reselling electricity to its customers in the Cosens Bay area, CBP would not be eligible for the Net Metering Program. The intent of the program is to enable end use customers to displace their electricity use with generation from clean or renewable resources (e.g., solar, wind or hydro).

BC Hydro must be notified of any distributed generation downstream of the point of delivery in accordance with section 84-002 of the BC Electrical Code. Once notified, BC Hydro will perform a technical review of the proposed installation and, if the proposal is accepted by BC Hydro, the generator installation can proceed.

The installation must be completed in accordance with the requirements under the BC Electrical Code and under the inspection authority of Technical Safety BC. Upon receipt of the customer's electrical contractor's Authorization & Declaration of Compliance or Certificate of Electrical Inspection from a Technical Safety BC Officer, BC Hydro would then authorize the generator connection.

If BC Hydro provides secondary metering to individual residential properties downstream of the point of delivery, these parties will become BC Hydro customers and will be eligible for the Net Metering Program.

3.0 A. BC HYDRO SERVICE AREAS

Reference: THE PROJECT
Exhibit B-1, Section 2, pp. 4–5; Attachment A-6, p. 1;
Exhibit B-2, BCUC IR 10.4.2
BC Hydro Primary Service Connection

On pages 4 and 5 of its Application, CBP states:

> CBP is not a generator of electricity, therefore, it must source an electricity supply from the British Columbia Hydro and Power Authority ("BCH"). To facilitate this supply, it is the intention of CBP to make a formal application with BCH for a customer owned Primary Service Connection, in turn constructing and operating a Cosens Bay, community-specific electricity delivery system as highlighted below.
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> To supply electricity to its Buyers, CBP has identified the development and construction scope as:
> - connection to BCH's 25 kV distribution system
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> - combination of overhead, submarine, and underground power line from the BCH POC to the community of Cosens Bay, with exact locations to be determined based upon environmental, engineering, landowner, and cost evaluations (evaluations that are presently underway)
> - within the community of Cosens Bay, combination of overhead and underground 25 kV power lines, transformers, and secondary service cables
> - installation of fiber optic cable
> - installation of a revenue meter at each customer's off-take point (collectively, the "Project" and shown generally on Figure 1).
>
> Pending receipt of this Exemption, and all other applicable permits and approvals, CBP's goal is to place the Project into service on or before May 18, 2020.

In Attachment A-6 of its Application, CBP provided a newsletter outlining activities for the community power project:

> May-June Activities
> - Enter into option agreements with West Kalamalka Lake property owners
> - Submission of BCUC exemption application
> - Formal tender of submarine cable
> - Complete regulatory field studies

- Prepare project schedule and cost estimate
- Finalize submarine cable route and BC Hydro Point of Connection
- BC Hydro connection application

In response to British Columbia Utilities Commission (BCUC) Information Request (IR) 10.4.2 CBP stated:

> In consideration of the various regulatory processes and technical requirements, CBP has revised the targeted in-service date to Q4 2020.

1.3.10 Please discuss whether CBP would be a Net Metering customer of BC Hydro, or whether CBP would be required to notify BC Hydro of any distributed generation interconnections.

1.3.10.1 If confirmed, please provide details of the process.

RESPONSE:

Please refer to BC Hydro's response to BCUC IR 1.3.10.