

Checklist of Requirements for Customer-Owned Primary Services Supplied at 4 kV to 35 kV (Primary Guide)

The formal application shall include all documents and drawings as described in the latest revision of the Primary Guide. This checklist is a job aid that can be used to assist in ensuring the completed submission meets BC Hydro requirements.

Customer required submission item Primary Guide reference: section 5.2.2	Check item included in submission
(1) Authenticated by a professional engineer (seal, signature, date) in good standing with EGBC, and displays a permit to practice issued by EGBC. Other engineering associations (e.g. Alberta) are not acceptable. - To prevent delay in the review, the one-line diagram needs to be signed and sealed with the submission package.	<input type="checkbox"/>
(2) All customer owned service entrance equipment is shown, up to and including secondary revenue metering where applicable.	<input type="checkbox"/>
(3) Cable and conductor sizes are shown, up to and including secondary revenue metering where applicable.	<input type="checkbox"/>
(4) Available fault levels at operating voltage and future/alternate operating voltage where applicable.	<input type="checkbox"/>
(5) Interrupting ratings of the overcurrent protection devices, if not already included in a protection coordination or arc flash hazard assessment study. Location and rating of surge arresters.	<input type="checkbox"/>
(6-1a) Rating (e.g. kW, kWe, kVA, kVAR, PF), make, and model of the emergency standby generator and associated open-transition transfer switch, and a copy of the approval certificate issued by an accredited organization under section 10 of the <i>Safety Standards Act</i> , or drawings/manuals that state this equipment is approved by an accredited organization under section 10 of the <i>Safety Standards Act</i> ; OR	<input type="checkbox"/>
(6-2a) Rating (e.g. kW, kWe, kVA, kVAR, PF), make, and model of the emergency standby generator and the completed application form and required details for any closed-transition ("bump less") transfer switches per BCEC section 84 <i>Interconnection of electric power production sources</i> for review and approval by BC Hydro Distributed Generator Interconnections. CAUTION: This requires additional work for both BC Hydro and the customer. Refer to Distributed Energy Resources - Closed Transition Transfer Interconnection Requirements (CTTIR).	<input type="checkbox"/>
(7) Use industry standard symbology such as IEEE/ANSI, IEC, or include a legend clearly indicating device functionality.	<input type="checkbox"/>

Customer required submission item Primary Guide reference: sections 5.2.3 and 10.1.4	Check item included in submission
(a) Time-current characteristic curves authenticated by a professional engineer (seal, signature, date) in good standing with EGBC. A standard 4½ x 5 cycle log-log graph used for the coordination study. Service entrance protective device settings shall be compatible and coordinate with BC Hydro's protective equipment (see section 10 <i>Primary Service Protection Requirements</i>) BC Hydro may request the customer to submit complex or illegible coordination graphs on 11" x 17" sheets instead of the standard 8½" x 11" sheets.	<input type="checkbox"/>
(b) Single time-current characteristic curve with upstream BC Hydro protection, customer relay/fuse curves, and transformer magnetizing inrush.	<input type="checkbox"/>
(c) Indicated maximum fault levels for bolted three-phase faults (LLL) and single line-to-ground (LG) faults, but without cutting the curves at those points.	<input type="checkbox"/>
(d) Indicated time margins between the BC Hydro protection and customer entrance protection at the maximum fault level and any other fault level that produces minimum time margin (see section 10.1.4 <i>Interrupting Rating and Minimum Time Margins</i> for minimum allowable time margins).	<input type="checkbox"/>
(e) A corresponding text box for each curve providing curve details (relay manufacturer, pickup, time dial, curve type, curve modifiers, current transformer ration, and delay). The customer's total clearing curve shall include the relay/control response time, breaker/recloser interrupting time, and all other propagation and powerup delays.	<input type="checkbox"/>

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Customer required submission item Primary Guide reference: sections 3.7 and 5.2.4	Check item included in submission
(1) Authenticated by a professional engineer (seal, signature, date) in good standing with EGBC, and displays a permit to practice issued by EGBC.	<input type="checkbox"/>
(2) The location of the building and the primary service vault. If indoor, confirm clearances and pull pit configuration.	<input type="checkbox"/>
(3) The proposed terminal pole or service cable vault.	<input type="checkbox"/>
(4) Routing of the overhead line or underground cables on private property to the point of connection.	<input type="checkbox"/>
(5) BC Hydro road access for line trucks to the first pole and the revenue metering pole if the primary service is overhead line.	<input type="checkbox"/>
(6) Detailed design layout of any primary vault or outdoor kiosk, showing crew access and emergency escape routes, minimum operating clearances, safety grounding, proposed primary service duct layout, bends, and fittings and pull boxes, as applicable. Duct profile with wall penetration should be included.	<input type="checkbox"/>

Customer required submission item Primary Guide reference: sections 3.7 and 5.2.5 TSBC Information Bulletin B-E3 090312 1 <i>Overhead line guidelines</i> CSA C83 <i>Communication and power line hardware</i>	Check item included in submission
(1) Authenticated by a professional engineer (seal, signature, date) in good standing with EGBC, and displays a permit to practice issued by EGBC.	<input type="checkbox"/>
(a) First customer pole shall be a new dedicated minimum class 2 pole, independently anchored through use of customer guying and anchoring (if required), double dead-ended, crossarms and gang-operated loadbreak service switch, and fused cutouts.	<input type="checkbox"/>
(b) Gradient control mat, ground electrodes, and switch grounding details.	<input type="checkbox"/>
(c) Conductor separation at the crossarm, phase conductors and neutral separation, neutral conductor attachment separation to ground.	<input type="checkbox"/>
(d) Fused cutouts (or recloser) mounting details and minimum clearances between devices on the pole.	<input type="checkbox"/>
(d) Revenue metering new class 2 pole for primary metering. If secondary metered, installation details for service entrance up to meter.	<input type="checkbox"/>
(f) Pole mounting hardware and components shall be certified to CSA C83.	<input type="checkbox"/>

Customer required submission item Primary Guide reference: sections 5.2.6	Check item included in submission
Signed and sealed BC Hydro form <i>Statement to BC Hydro Regarding Primary Voltage Service Entrance Equipment</i> (also known as the primary service declaration)	<input type="checkbox"/>
(1) Authenticated by a professional engineer (seal, signature, date) in good standing with EGBC, and displays a permit to practice issued by EGBC.	<input type="checkbox"/>