Shunt Trip Requirements for Services Fed From the BC Hydro Downtown Network and Unit Substations - 2 Pages

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Affects Electrical Contractors Working off the Victoria Downtown BC Hydro Network and the installation of Unit Substations

In buildings supplied off of the BC Hydro downtown Victoria networks and for buildings Housing a unit substation, a shunt trip is required by Victoria Fire Department (VFD), Victoria Electrical Inspections Section, and BC Hydro. Additionally new and upgraded installations 400 amps and greater require a draw out main breaker for low voltage services fed from the Downtown Network per BC Hydro policy.

Background

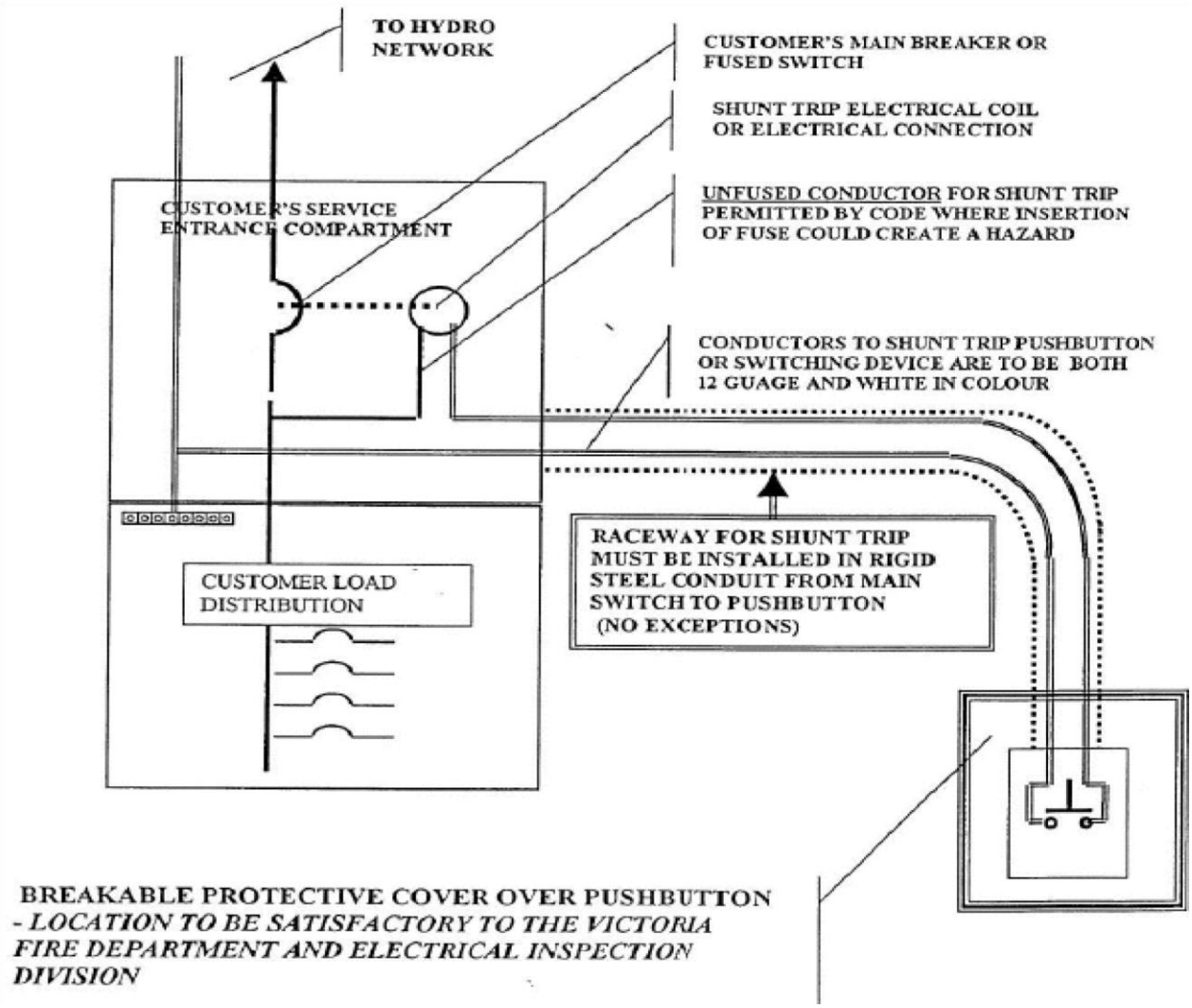
In cases where electrical services are supplied from the BC Hydro underground network it is unsafe and impractical for utility workers to disconnect a building from sources of electrical energy during emergencies such as flooding or fire. Where a building cannot be disconnected fire fighters may not be able to enter safely. Many electrical rooms are located below grade or deep inside the building and access to the main switch cannot be gained without fighting the fire or wading through water or other debris. In the case of unit substations it is critical to remove the load before Hydro workers can safely open the supply source.

Requirements.

- The shunt trip operating button shall be located at the main entry to the building or as required by VFD. In cases where a fire alarm annunciator is installed the shunt trip shall be located at or above the annunciator panel and may be protected from unintentional operation by a breakable cover over the operating button. Where space permits the shunt trip button may be located in a fire alarm control panel if space is available.
- For High voltage services (Greater than 750 V) the shunt trip shall be located in the primary side of the transformer.
- The wire to the operating button shall be minimum of #12 and colored white or natural grey.
- No fuse or circuit breaker may be installed in the shunt trip circuit.
- The wiring shall be installed in rigid metal conduit including any portion installed in concrete.
- The switching shall be on the identified conductor only. Note: because shunt trips are unprotected by overcurrent devices, we do not want the ungrounded wiring to run external to the switch enclosure. Any unintentional grounds on the wiring would therefore cause the shunt trip to operate in turn clearly showing that repairs are immediately required to eliminate the ground fault.
- The BC Hydro Network is bordered by Chatham / Caledonia on the north, Blanshard Street on the east, Bellville Street on the south and the waterfront on the west. For unit substations located inside of buildings there shall be a shunt trip in the primary switch. Private, outdoor unit substations are not subject to shunt trip requirements and are generally operable without necessitating entry to the building

Electrical Inspections Policy

Diagram:



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