

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans Discovery 2023
Data Response**

PG&E Data Request No.:	CalAdvocates_016-Q004		
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DRU Index #:		Requester:	Holly Wehrman

The following questions relate to your 2023-2025 WMP submission.

QUESTION 004

Please explain PG&E's selection criteria for where to install the following equipment on underground circuits:

- a) SCADA UG switches
- b) Junction boxes
- c) Load break elbows

ANSWER 004

- a) SCADA underground switches are typically only installed at mainline intersections. The 3-way SCADA switch can have up to two positions enabled with SCADA due to the space constraints on the top of the switch. Additionally, a communications signal to enable SCADA is not always available at the location where we would otherwise like to install a SCADA-enabled switch. While SCADA-enabled switches are preferred in these locations (mainline intersections where communication are available), it is at the discretion of the Electric Distribution Planning Engineer to specify the appropriate device as part of the project design.
- b) PG&E installs junction boxes on both mainline (600 Amp, AKA 600A) and tap-line (200A) systems.
 - i. A mainline junction is the connection of multiple 600A separable connectors tied together in a subsurface enclosure and mounted on a wall of the enclosure. This connection could also include a 200A elbow mounted on top to feed a nearby radial tap-line. PG&E typically designs the underground system such that there is a switching device at every other enclosure, allowing the use of a single junction in between. [Technically speaking, this design approach is due to the 600A single junction (also called a "separable") being a dead-break device requiring a clearance to open.]
 - ii. A tap-line junction is typically a load-break elbow installed on a bus bar mounted on the wall of a subsurface enclosure. These can be 3-way or 4-way connections. These junctions are typically designed to be back-to-back on 200A radial systems and are not the preferred connection for 200A loops, but they can be used to serve a single transformer on a loop system if it is

more cost efficient than looping in and out of a transformer. In some cases, the 200A junction can also be pad-mounted (installed inside a pad-mounted enclosure).

- c) The use of 200A Load-Break (LB) elbows is required when terminating 200A cable (ending the cable run, generally into a piece of equipment like a transformer) on all subsurface installations installed after July 2016. The use of 200A LB elbows has been required for terminating 200A cable on most new pad-mounted installations since the early 1990s. [Please note that when performing work on existing underground installations that involves the replacement of existing 200A Dead-Break (DB) elbows, it may not be feasible to convert 200A DB to LB elbows. The overall height of the 200-Amp LB elbow is 0.92" taller than the existing DB elbow and the enclosure covers must be able to be securely closed when cables are placed on an insulated or grounded standoff in the enclosure. In the cases where a LB elbow cannot fit safely in the existing enclosure, DB elbows are approved for use.