

**PACIFIC GAS AND ELECTRIC COMPANY**  
**Wildfire Mitigation Plans**  
**Rulemaking 18-10-007**  
**Data Response**

PG&E Data Request No.:	CalAdvocates_038-Q01		
PG&E File Name:	WildfireMitigationPlans_DR_CalAdvocates_038-Q01		
Request Date:	February 16, 2021	Requester DR No.:	CalAdvocates-PGE-2021WMP-04
Date Sent:	February 19, 2021	Requesting Party:	Public Advocates Office
PG&E Witness:		Requester:	Tyler Holzschuh

The following questions relate to PG&E's 2021 wildfire mitigation plan (WMP).

**QUESTION 01**

Please provide the following information about reclosers:

- a) What is PG&E's definition of an "interrupter" as used in PG&E's 2021 WMP GIS files in the switchgear layer under the SwitchgearType column?
- b) What is PG&E's definition of a "switch" as used in PG&E's 2021 WMP GIS files in the switchgear layer under the SwitchgearType column?
- c) In the table below, please provide estimated percentages of radial distribution line ends that have each number of switch devices configured to interrupt fault current upstream of the line end (excluding the devices at the substation).

**ANSWER 01**

- a) At PG&E an "interrupter" on the distribution system is essentially a breaker type of device installed in the field on the underground system and can be either padmounted or subsurface and can sense and interrupt electrical faults. Interrupters can have phase and ground fault protection and since most of these devices feed primarily underground systems, they are typically set for "one-shot-to-lockout" meaning there is no reclosing.
- b) At PG&E a "switch" on the distribution system is a device installed in the field on both the overhead and underground systems and can be either pole mounted or padmounted or subsurface. Switches essentially provide the ability to sectionalize the circuit and stop the flow of electricity ("open") and isolate one section of line from another section of line. Most switches are in the normally "closed" position (allowing electricity to flow), but some switches are in the normally "open" position and provide a tie point between one circuit and another circuit to allow rerouting of power when needed during emergencies or routine maintenance. Switches are not designed to interrupt fault current.
- c) PG&E objects to this request because producing a complete response would require substantial effort, resources, and time and thus this request is burdensome. Subject to and without waiving this objection, PG&E provided the

following response. PG&E's distribution system is comprised of over 3,000 individual circuits and literally hundreds-of-thousands of what we refer to as "end-of-line" (EOL) points, which could be referred to as "line ends." The EOL is literally where the radial primary distribution circuit stops/ends, and there can be many different EOL points on the same circuit. The clear majority of EOL points on the primary distribution circuits are ultimately downstream of a line Fuse protection device designed to automatically interrupt fault current when a problem is detected, and these line Fuses may also be downstream of other protective devices such as other line Fuses or line Reclosers. Some EOL points can also be downstream of a line Recloser, but most of these are located at a switch in the normally open position as described in the response to question 1.b).

To provide a sense for how diverse the more than 3,000 PG&E distribution circuits are, the following information is provided on three sample circuits: Apple Hill 2102 which is one of PG&E's largest distribution circuits (based on circuit miles), Berkeley T 0403 which is one of PG&E's smallest circuits, and Paradise 1105 which is in the middle between largest and smallest:

<b>Circuit Name</b>	<b>Primary Voltage</b>	<b>Circuit Miles</b>	<b>Line Reclosers</b>	<b>Line Fuses</b>	<b>EOL points</b>
Apple Hill 2102	21kV	350+	15	460+	>1,000
Paradise 1105	12kV	32+	8	180+	<1,000
Berkeley T 0403	4kV	1+	1	4	9