

Southern California Edison
2022-WMPs – 2022 Wildfire Mitigation Plan Updates

DATA REQUEST SET Cal Advocates - SCE - 2022 WMP - 15

To: Cal Advocates
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Received Date: 6/29/2022

Response Date: 7/14/2022

Question 05:

Please provide the protective device settings that SCE normally uses (i.e., outside of HFTD areas or outside of high fire-risk weather) in 2022, including the following parameters:

- a) The minimum to trip current;
- b) Definite time delay;
- c) Time curve; and
- d) Coordination parameters.

Response to Question 05:

- a. During normal operating conditions SCE's distribution circuit phase and ground minimum trip values are described below.

Phase minimum trip:

The minimum trip will typically be set to 150% of maximum projected downstream load of the protective device.

For 12kV and 16kV distribution circuits, the typical pickup setting for the substation protection device is 720 amps, or 130% of maximum load.

Ground minimum trip:

The minimum trip will typically be set to about 20-30% of the phase minimum trip.

- 1. Typical pickup setting is 180 amps for 12kV and 16kV distribution circuits, which allows the ground function to coordinate, in 4-wire systems, with the largest standard fuse used on branch line fusing and underground fuse dips.
 - 2. SCE validates at the issuance of the setting that the unbalance current does not exceed the ground minimum trip setting.
- b. SCE doesn't typically use a definite time delay during normal operating conditions.
 - c. SCE typically uses Inverse or Very Inverse time current curves during normal operating conditions.
 - d. SCE performs coordination studies on distribution circuits to provide circuit-optimized settings to the protective devices on that circuit. The maximum available fault current at the substation with any allowed switching configuration should be used for coordination.

Coordination parameters between CBs and RARs follow a timing interval generally known as the Coordinating Time Interval (CTI). The minimum CTI is 0.3 seconds with the ideal CTI being 0.5

seconds. A 0.3 second CTI is usually required when there are three or more devices to coordinate, to avoid clearing timing from becoming excessive. If more than three devices in a series need to be coordinated, other options may be considered.