Ground Overcurrent Protection

Issue Summary

Many incorrect setting misoperations in the Western Interconnection are attributed to ground overcurrent settings. This indicates that most protection schemes lean toward dependability (relay will not fail to trip) over security (relay will not trip unnecessarily). Generally, this approach ensures relays trip when necessary to protect the system. However, when a ground overcurrent setting misoperation occurs, more facilities than necessary are removed from service, reducing system reliability. In some cases, this can impact load covered by removed facilities.

Time Estimates & Action Plan

12 MO — WECC and the RWG conduct analysis to determine the extent of condition in the Western Interconnection.

18 MO — WECC hosts educational webinars or workshops with industry subject matter experts addressing Ground Fault Protection challenges.

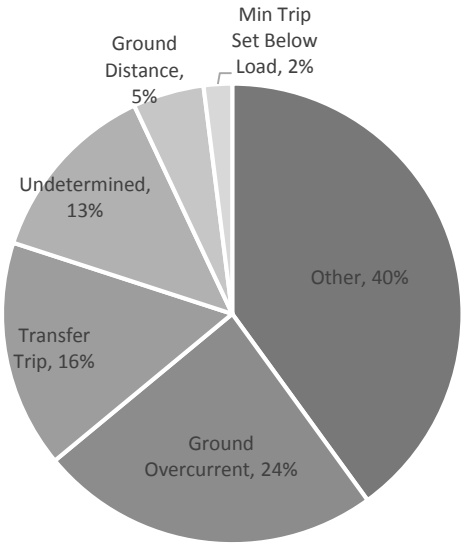
06 MO — Entities asess ground fault protection practices.

12 MO — WECC and the RWG develop a best practice guide with examples of effective coordination of ground overcurrent fault settings.

Analysis

In 2016, incorrect ground overcurrent settings accounted for 9 percent of total misoperations, and 24 percent of misoperations in the "Incorrect Settings, Logic or Design" cause code.

2016 Incorrect Setting and Design Misoperations by Subcategory



Questions to consider:

1. Is this an appropriate issue for the Misoperations Reduction Strategy?
2. How would you rank the priority of this issue (high, medium or low), and why?
3. Do you feel each action could be accomplished in the proposed time frame?
4. Does the Action Plan adequately address the issue?
5. What is the likelihood that your company would adopt the Action Plan (likely, possibly, unlikely), and why?