

Turnkey Solution to Eliminate Reliability Issues Associated with Ground Faults



Problem:

The facility has experienced at least one ground fault incident each year over the past few years, resulting in the tripping of operating generation. inoLECT was contacted to review the site's fault protection systems and provide recommendations to improve system reliability during ground faults.

Recommendation:

inoLECT personnel identified the inclusion of ground fault protection at 480V switchgear levels and the lack of ground fault protection on the 480V MCC's throughout the site. This is typical for many power generation facilities. Proper selective protective device coordination could not be achieved with the existing site electrical equipment as it relates to ground faults on 480V motor circuits. Therefore, inoLECT recommended the application of high resistance grounding replace the existing solidly grounding for all of the site 480V transformers.

CASE STUDY

Solution:

inoLECT engineered, procured, installed, and commissioned 480V High Resistance Grounding systems. High Resistance Grounding, when installed on Low Voltage and Medium Voltage systems, provides continuous operation of motors and loads when a ground fault occurs. This yields a significant increase in electrical system reliability. Since ground faults account for almost 90% of power system faults experienced, HRGs are essential for systems that require continuous operation.

Success:

Within a few months of the final installation, the site experienced ground faults on two generator heater circuits. In lieu of tripping an operating generator, an alarm was received. An orderly process of identifying the failed equipment and performing repair followed. Prior to the installation of the high resistance grounding equipment, this incident would have tripped all operating generation. In the end, the total installed cost of the high resistance grounding systems was far less than the estimated loss of revenue for either of these events. The resistance grounding system had also provide value beyond reliability with motor ground faults as initially intended.



**Final Installation,
2 of 6 High Resistance
Grounding Devices**

Our products and services are centered around Safety and Reliability. inoLECT's core services cover the full gamut of Arc Flash Solutions, from Incident Energy Analysis, to Remediation and Implementation. We can provide you correct results and available options that will get you on track to a safe, efficient facility.

If your facility is experiencing reliability issues, contact inoLECT to schedule an assessment. Let us engineer your Peace of Mind.