

Abstract

Overhead System Condition Assessment and Maintenance: Techniques and Benefits

As overhead distribution electric equipment ages it is subject to damaged by lightning, environmental pollution, switching surges, freeze/thaw cycles, and other issues of age related wear-and-tear. The result of this damage is momentary and sustained outages, reduced feeder reliability, increased Customer Minutes of Interruption (CMI) and a degradation of standard reliability indices such as SAIFI and SAIDI.

This presentation will review the root causes of equipment damage, the symptoms that result from weakened equipment, the opportunity to improve overall overhead distribution reliability, case studies to demonstrate the efficacy of predictive-based overhead system hardening, and the methodologies to develop conditions-based predictive maintenance programs. The review will include high-voltage laboratory test methods and results that demonstrate the failure syndromes of weakened overhead equipment..

Finally, a review of U.S. statistics on weakened equipment findings and field methods to pinpoint the structure and piece of equipment to replace will be reviewed.

Presented by: John Lauletta, CEO, Exacter, Inc.

Infrared Thermography to Inspect Underground and Overhead Equipment

In 2009, the MO Public Service Commission mandated that Investor Owned Utilities in Missouri begin to inspect both overhead facilities as well as pad mounted equipment.

As part of the inspection of these facilities, Infrared Thermography began to be used to assist the inspectors in finding potential “Hot Spots” that might affect the reliability of the electric distribution system.

This presentation will discuss the types of issues typically found using the infrared during the course of inspections. It will address a new opportunity to utilize infrared and how it could allow Ameren Missouri and other utilities to help determine the pad mount transformer tank levels on both single and three phase transformers which could help in preventing transformer failures.

Presented By Ben Ervin, Construction Supervisor, Ameren Missouri Resource Management