Emerging Technologies

PAD MOUNT SWITCH GEAR TCC TEST SYSTEM

Application Brief

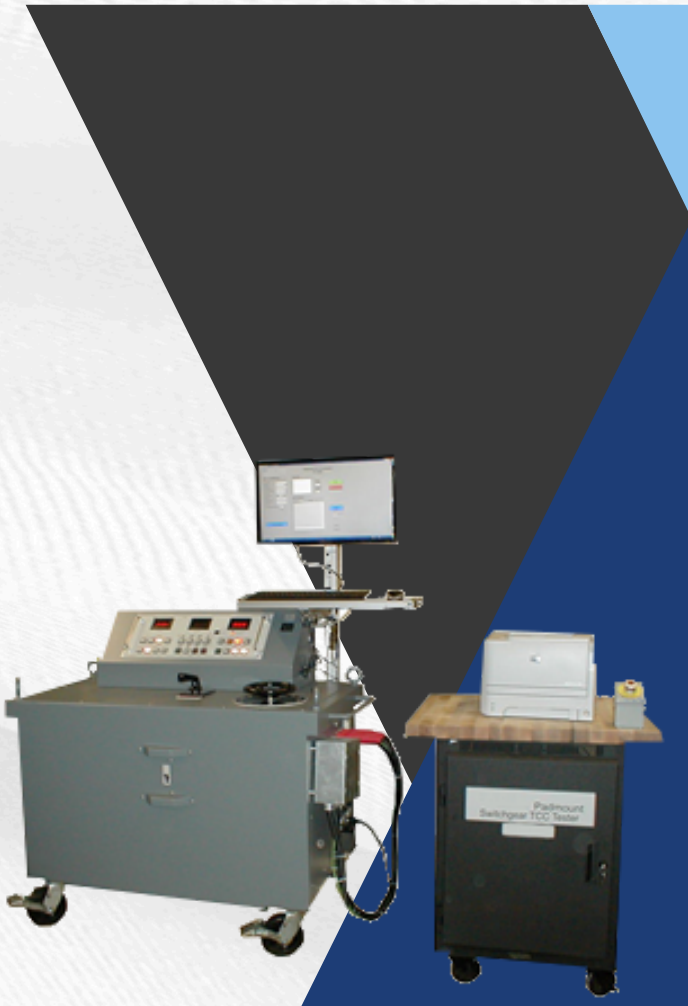
Emerging Technologies, LLC was called upon to design and build a custom Pad Mount Switchgear Test System incorporating a customer provided manual TCC tester. The system was to further automate the testing process by adding additional functionality over the existing test system and enhance operator safety features and current accuracy.

The design integrated a customer supplied TCC tester for current sourcing and TCC timing measurements. The existing TCC test set was configured to output results to the new test system computer for management of the test. The new system software interfaced the operator, the existing TCC test set, plant network, and local printer.

A new LabVIEW software application was developed to provide test step information with operator confirmation. Additionally, an accurate external master CT was added to increase the current accuracy of the TCC test. Current setting feedback was handled by the new test system computer and test application. Final test report generation was also included with the new test system application.

The standard ET system design package was developed for customer approval and to support the ET system build effort. Components were provided by the customer as well as ordered and supplied by ET. DUTs are interfaced via special cables provided as part of the final system.

Customer Benefit:
The customer is able to keep cost down by providing an existing manual version of TCC test set. Additional safety devices were incorporated for use in the customer's strict safety conscious manufacturing environment. Accuracy was increased via measurement upgrades.



ET RESPONSIBILITIES:

- Functional Specification Generation
- ✓ Design/Engineering
- ✓ Fabrication
- ✓ Programming - Software
- Programming - Firmware
- Circuit & PCB Design
- ✓ On-Site Commissioning
- Post Commissioning Support
- Other

TECHNOLOGIES:

- Embedded Computers
- Microcontrollers
- Visual Software
- Control Software
- ✓ Data Acquisition
- ✓ Computer Based Control
- ✓ Communications - Serial Comm
- ✓ System Integration
- ✓ Other

SPECIAL FEATURES:

- ✓ Complete System Verification at ET
- ✓ Design Evolution of Existing System
- ✓ Operator Safe DUT Testing Area Sensors
- ✓ Adjustable Monitor Mount & Keyboard Tray
- ✓ Increased Current Accuracy Modification