EPRI

2024

AT A GLANCE

Protection and Control

Program 37.103

Research Value

- Application guidance for relay settings and configuration management
- Monitoring technologies for enabling condition-based protection system maintenance
- Lab testing and independent technology assessment to support members making informed decisions
- Knowledge preparation and hands-on technology transfer at the P&C lab

Member Benefits

- Reduce the risk of protection system mis-operation by establishing systematic configuration management programs, streamlining change management processes, and automating relay settings verification
- Lower cost, reduce human error, and improve power system reliability by migrating from time-based to condition-based protection system maintenance programs
- Enhance safety, storm-hardening, and grid resilience by embracing fiber-optic communication and digital substation technologies in new P&C design

Utilities face the challenge of managing the performance and reliability of multi-generation protection and control (P&C) assets accompanied by tighter regulations and short-staffed workforce. New technologies and automation tools provide utilities with tremendous opportunities to advance new P&C designs and digital substations, establish and automate relay settings and configuration management programs for reducing manual processes and improving reliability, and develop cost-effective condition-based protection system maintenance programs.

By developing an application guide, evaluating new technology, and conducting technology transfer, the project is able to assist members in various facets. In addition, the collobrative nature of the project brings protection and control colleagues together from other utilities.

EPRI Technical Contact

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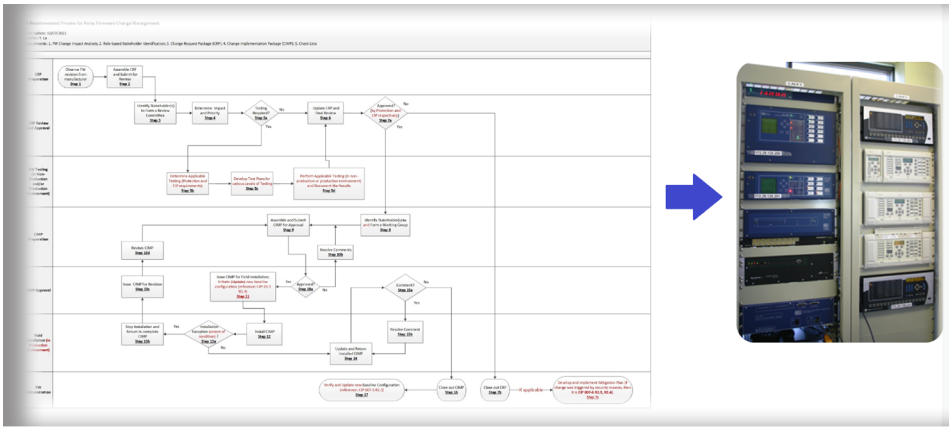
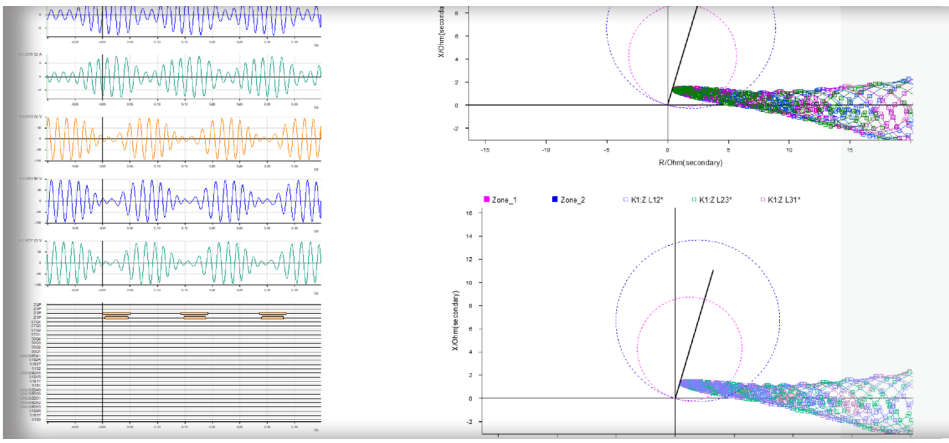
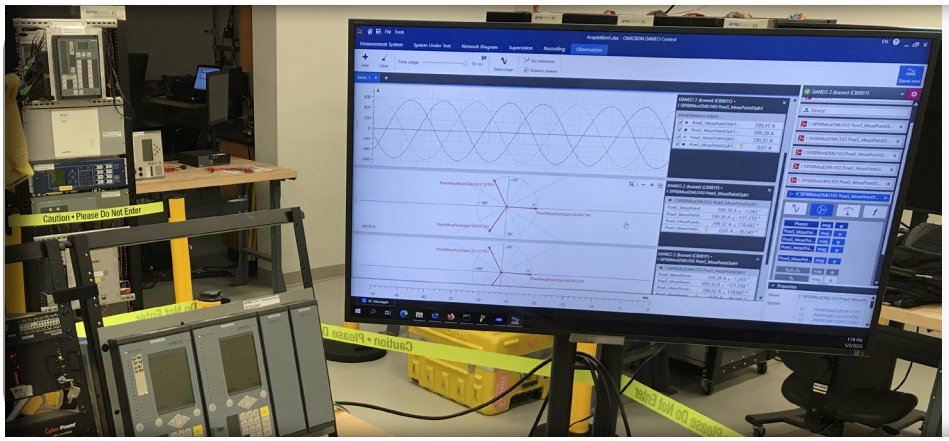
Research Highlights



Collaborated with members and developed an application guidance for effective management of relay firmware changes.



Conducted lab testing to evaluate the actual performance of transmission protective relays under stable and unstable power swings.



Developed testbed systems and conducted independent technology assessment of process bus technologies and solutions

For more information, contact:

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