



An ERS Customer Testimonial

Strengthening Reliability: ERS Delivers Turnkey Relay Upgrades for a Regional Power Provider

From relay modernization to full system integration, ERS worked with a regional power provider to enhance protection, boost reliability, and optimize operational efficiency across multiple power stations.

Background

A regional wholesale power provider with decades of service supplies electricity to millions of consumers across multiple states. Dedicated to delivering reliable, cost-effective power, the provider continually invests in innovation and infrastructure to meet the evolving needs of its members. Maintaining the integrity of generation stations is critical to protecting high-value assets, including transformers, generators, and breakers. The provider partnered with Electrical Reliability Services (ERS) to begin relay testing and ongoing system reliability support. Over time, many of the relays inherited from previous facilities became outdated, with some electromechanical units exceeding 20 years of service. These aging relays presented a growing risk to safety, reliability, and operational efficiency, highlighting the need for a comprehensive relay modernization initiative across multiple facilities.

Company Profile

This regional wholesale power provider is owned by dozens of member cooperatives. The organization delivers reliable, cost-based electricity to more than a million consumers across a multi-state territory, supported by a workforce of over 1,000 employees and serving hundreds of thousands of square miles.

Industry

Electric Utility

Location

Western USA

Benefits

- Modern relays improved protection and reliability
- Faster installation and testing minimized downtime
- Enhanced communication simplified compliance
- Streamlined systems reduced maintenance costs

Challenge

When servicing power systems or upgrading infrastructure, time is always critical. The work needed to be completed within a very tight window, with minimal room for error, because any misstep could lead to prolonged outages or equipment damage. The aging relays were responsible for protecting transformers, generators, and breakers, some of the provider's largest capital investments, and their failure could have resulted in significant financial loss, operational disruptions, and safety hazards. Additionally, the outdated system lacked modern monitoring and event recording capabilities, making it difficult to track performance, detect faults quickly, and meet regulatory reporting requirements. Coordinating such an upgrade required precise planning, skilled personnel, and careful execution to ensure uninterrupted power delivery while improving overall system reliability and efficiency.

Solution

ERS partnered with the power provider to address the risks posed by aging relays through a comprehensive upgrade plan. The solution replaced legacy electromechanical relays with modern microprocessor-based units, delivering enhanced functionality, improved communication, and more reliable event recording. ERS managed the full scope of the project, including system design, panel construction, removal of existing relays, installation and wiring of new relays, development of relay settings and logic, event configuration, and full commissioning and testing. Critical protection was implemented across generators, transformers, lines, and substation interfaces, ensuring both primary and backup coverage. The project was carefully coordinated to minimize downtime, maintain uninterrupted service, streamline maintenance, improve compliance reporting, and enhance overall system reliability.

Results

- ✓ Improved asset protection and reliability for critical equipment
- ✓ Enhanced communication and event recording for better system monitoring
- ✓ Simplified regulatory reporting to meet compliance more easily
- ✓ Reduced maintenance costs through streamlined calibration and testing
- ✓ Minimized downtime with faster testing and commissioning



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