

FIELD SERVICES

The PGE Field Services teams provide a comprehensive suite of engineering and technician services with a focus on "Safety-Around-The-Clock". Our teams are available for specific projects, on-going support projects, or staff augmentation projects. Our skilled and knowledgeable staff are proven leaders in supporting the unique standards and peak performance requirements of our client's networks.

PGE's world-class engineering and test personnel are fully trained on various test equipment, software applications and platforms including Omicron, Doble, Pro-Test and RTS. The PGE Field Services teams also provide maintenance, studies and analyses based on NERC standards.

FIELD SERVICES OFFERINGS

www.powergridengineering.com/field-services

- Relay Calibration, Testing & Commissioning
- **Substation Construction**
- **Construction Management**
- Meter Calibrations
- AC Hi-Potential Testing
- DC Testing
- Circuit Breaker & Switch Testing
- Control System Acceptance Testing
- End-to-End Line Relay Schemes
- Instrument Transformers & Medium Voltage Switchgear Testing
- **Primary & Secondary Injection Circuit Testing**
- Transformer & Ground Testing









To learn more about *PGE* services and solutions, visit powergridengineering.com or call (321) 244-0170

FIELD SERVICES PORTFOLIO HIGHLIGHTS

www.powergridengineering.com/field-services-experience

Field Services Relay Tech & Staff Relay technician and staff augmentation services performing **Augmentation services** maintenance, construction, troubleshooting and emergency operations. FL, GA, AL, MS, AR, IL, NC, LA, MA **Smart Grid Battery Monitoring** In support of a customer's Smart Grid initiative, PGE installed bat-Florida tery monitoring systems in over 185 substations, and requiring only 8 weeks. **Autotransformer Protection Up-**Upgraded two 230/138 kV Autotransformers. grade Florida **Generator Protection Upgrade** Replaced primary generator protection of three combustion turbine generators with SEL-300Gs. **Florida Substation Troubleshooting** Performed troubleshooting of an improperly operating sudden pressure relay. Performed problem duplication and Root-Cause-Analyses studies via relay manufacturer partnership. **End-To-End Line Testing** Performed end-to-end line protection testing on three 230 kV transmission lines using Doble F6150 with Satellite Synchronization. **Florida** Also utilized an ASPEN file to create specific line fault simulations, and performed testing in POTT and DCB line protection schemes. **FERC Redundancy Project** As the primary contractor, PGE constructed, tested and commis-**Florida** sioned FERC mandated redundancy project of four 138 kV lines, three 230/138 kV Autotransformers, two 138 kV and two 230 kV Busses. Project also replaced 18 Coupling Capacitor Voltage Transformers, installed 8k-ft of conduit, 20k-ft of control cable, and added a second DC system (battery bank, battery charger and DC load center). Field Services Multi-phase Substa-Multi-phase 500/230/69 kV transmission substation project to increase tion Modernization Project transmission capacity, upgrade the protection and control system to **Florida** improve system reliability, and bring the station into compliance with the latest NERC guidelines. 500kV and 230kV bus protection addition using the SEL-487B and GE-90 relays for Primary bus. Two 500 kV breaker control and breaker fail relays upgrade using the SEL-351S relay for breaker control and SEL-451 relay for breaker fail. Critical 500 kV transmission line breaker protection connection was performed in-service without any disruptions. 500 kV Breaker Replacement Replaced existing 500 kV Breaker with a Mitsubishi 3000A Breaker. As-Louisiana sociated existing CT column was replaced with a Ritz 3000A unit. Existing 500/230-13.8 kV transformer metering CT circuit was re-tapped.



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