



# Field Facts

## Utilities Find Big Improvements with Smart Grid Substation Upgrades



Installation of new Feeder Breaker Relays

The **Problem** for a large utility was how to rapidly deploy improved distribution system demand response, relay and control equipment at their substations. Several hundred distribution feeder circuit breakers and capacitor breakers were to be upgraded with the addition of distribution SCADA functionality, funded in part by the Recovery Act's Smart Grid Investment Grants. Upgraded relay panels were combined with Gateway communications equipment and each substation needed to have all old equipment removed and the new panels installed at once. Some of the funding requirements were based on meeting tight deadlines.

The **Solution** was supplied by KVA Inc. providing replacement relay panel doors and their team of substation field specialists.

New replacement doors were fabricated to the exact dimensions needed for the various breaker sizes and styles. Upgraded digital relays and test switches were then installed and the relay settings were downloaded by KVA technicians. Once tested, the panels were delivered to each substation and installed by the KVA Field Service teams who also provided supervisory oversight.

A tight schedule was maintained and no outage was necessary. Having a pre-wired, pre-tested replacement door made up ahead of time significantly decreased the utility's time for deployment at each substation.



BEFORE - Relay Panel with old electro-mechanical relays



AFTER- Upgraded digital relays



More reliable and more economical, upgraded relay panels from KVA can automatically isolate faults, restore power and monitor demand. The net effect of improved communications and control at each distribution substation is the more efficient use of power and increased grid reliability. From concept through to effective implementation KVA supported the project by providing on-time fabrication, wiring and testing in addition to field installation.



New Relay Panel doors are staged for Deployment



Testing Relays and Downloading Relay Settings



Utilities rely on KVA to bring the expertise, equipment and personnel to successfully complete their transmission and distribution projects. Our experienced teams provide a wide variety of services from maintaining and installing large apparatus and manufacturing protection and control panels, to on-site relay systems integration.

