



# Case Studies

Real World Success Stories

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## IntelliTEAM Provides Reliability for Remote Substation

A large western utility recently solved a problem faced by many utilities with substations in remote areas without SCADA.

Their substation contains a preferred and alternate 25kV source with manually operated load-break switches, transformed down to 12kV to serve the immediate area. The primary source runs through a rural river delta area dedicated almost exclusively to agriculture. In a typical year, customers served by this substation would experience several outages, attributable to large birds in the delta and agricultural implements. Because of delays in outage reporting and the commute time for service crews, several hours might pass before anyone could troubleshoot the problem and transfer the load. The slow response in restoring service was causing customer complaints.

The utility decided to use EnergyLine's IntelliTEAM<sup>®</sup> Automatic Restoration System to address the issue. They installed a two-member team: two Model 2851 Switch Controls with IntelliTEAM software, set to transfer load on loss of the primary source. They configured the controls to transfer immediately to the alternate source on the second loss of voltage (the second source-side recloser operation). A major benefit of the IntelliTEAM system is its ability to detect faults on the load side of the switches, which

prevents the alternate source from closing into a fault.

The Model 2851 controls were paired with two 25kV S&C Scada-Mate<sup>®</sup> switches that replaced the old air-break switches. The Scada-Mate switches were equipped with voltage and current sensors on all three phases.

Because the switches were located within the substation fence, approximately 100' apart, the utility chose Dymec fiber optic transceivers to provide peer-to-peer IntelliTEAM communications. They ordered one of the switch controls with PG&E gateway software and a 900MHz radio so the team could communicate back to their distribution operations center using PG&E protocol.

Within the first 18 months, IntelliTEAM operated four times, thereby significantly reducing the outage time for customers and saving emergency trips to the field. And because IntelliTEAM automatically accounts for any fault on the load side before transferring, it is considerably faster than SCADA operation would be. In addition, the utility set IntelliTEAM to return automatically to the preferred source once the problem is fixed; there's no need for a second trip to the field.

Complaints have essentially been eliminated – the customers see only a blink of their lights instead of an extended outage.

