



S&C's Scada-Mate® Switching Systems with 6800 Series Automatic Switch Controls Enable Utility to Defer Capital Investments

S&C Featured Solution: Scada-Mate Switching System

Location: Southern United States

Customer Challenge

A major Southern utility had four dual-transformer substations that could not accommodate seasonal peak loading while simultaneously handling the loss of one transformer in a given substation.

In the utility's existing operating scheme, each transformer is normally loaded to up to 75% of its nameplate rating. If one of the transformers in a substation is lost, its load is automatically transferred to the other transformer. Each transformer can handle 150% of nameplate rating for 2 hours, then 125% of nameplate rating for 22 hours. But during peak loading periods, each transformer may be required to carry up to 150% of nameplate rating indefinitely.

The utility had contemplated purchasing eight larger transformers to replace the existing ones. But then

they learned that S&C Scada-Mate Switches with 6800 automatic switch controls could defer—or completely eliminate—the proposed expenditure for larger transformers. An economic analysis overwhelmingly supported the S&C solution.

S&C Scada-Mate Switches with 6800 automatic switch controls can transfer load between transformers and/or substations, in accordance with prescribed parameters. If the load-transfer operation is remotely performed via SCADA, there will be no need to dispatch a crew to manually reconfigure the system.

And with Scada-Mate Switches, the time required to restore service after an outage is drastically reduced. SAIDI (System Average Interruption Duration Index), and CAIDI (Customer Average Interruption Duration Index) are markedly improved.

S&C Solution

The utility procured 30 S&C Scada-Mate Switches, each equipped with an S&C 6800 Automatic Switch Controls. They also modified their distribution system to include ties permitting the loads of one substation to be served by other substations. With this arrangement, all substation transformers can now be loaded to up to 125% of nameplate rating for 24 hours.

In the event that a substation transformer is lost, the system automatically transfers 25% of the load to the other substation transformer, and the remaining 75% of the load to three adjacent substations.





Results

The utility was able to defer the purchase of the larger transformers for at least three years at some substations... even longer at others. In some instances, the larger transformers are no longer even needed.

The utility now has plans for additional distribution automation projects using S&C gear.

This load-shifting solution can also be applied with an automated Omni-Rupter® Switching System. This solution can also be utilized with suitable underground distribution switchgear, including Remote Supervisory Pad-Mounted Gear and Remote Supervisory Vista® Underground Distribution Switchgear.

