



S&C's Asset Management Helps Regional Water Utility Prevent Costly Outages

S&C Featured Solution:
Asset Maintenance and Monitoring Services
Location: Southern United States

Customer Challenge

During a routine inspection, a regional water utility discovered an operating issue with a substation's main power transformers. The situation had a high potential for causing costly outages and equipment damage. Had the problem continued and led to a substation outage, utility pumping stations would have lost power, potentially leaving up to 1.6 million residents without water in a hot climate. Millions of dollars in damages could also have been incurred.

After resolving the problem, the water utility recognized the need for additional assistance with inspection, maintenance, and monitoring of its critical substation assets, including its main power transformers and circuit breakers. Because the water utility owns and operates just three substations, having their own monitoring and control center was not economical. They wanted an experienced partner who could provide an efficient, reliable way to monitor their substations to prevent unplanned outages and equipment damage.

S&C Solution

The water utility sought assistance from S&C for monitoring and management of its substation assets. After assessing the customer's requirements, S&C determined that remote 24x7 monitoring was the optimum solution. The water utility enlisted S&C's Global Support and Monitoring Center (GSMC) to provide continuous, remote monitoring of its main power transformers, circuit breakers, bus-tie breakers, and Circuit-Switchers. S&C installed sensors on the equipment, including seven transformers in the water utility's substations to connect them directly to the GSMC.

The sensors provide real-time information on equipment conditions, allowing S&C's GSMC



S&C Asset Management provides maintenance and monitoring solutions for critical assets such as this main power transformer.

"By proactively monitoring and maintaining the water utility's assets within their substations, S&C is helping ensure the continued distribution of water to millions of people in the region."

*—Wanda Reder,
Chief Strategy Officer, S&C Electric Company*

technicians to assess internal components using metrics to determine when corrective action is needed. For example, the sensors enable S&C to conduct a Dissolved Gas Analysis, which gauges gas levels developed within a transformer by incipient faults. The levels of specific gases, such as the hydrocarbon acetylene, alert GSMC technicians to the presence of internal arcing and potential future equipment failure.

When any equipment conditions fall outside of normal parameters, GSMC technicians have the information

S&C provides 24x7 remote monitoring of regional water utility's substation transformers to avoid outages and asset damage.



Monitoring screen showing status of a 138-kV to 26.4-kV substation transformer.

needed to pinpoint causes. They immediately notify the water utility and start taking corrective actions, including dispatching an S&C field services crew if necessary. By relying on the GSMC, the water utility benefits from swifter response times to equipment issues so that outages are abbreviated or altogether avoided.

By continuously monitoring the water utility's transformers and other critical assets, S&C's GSMC can detect most issues before they impact performance. To ensure that all equipment is operating safely and reliably, S&C also performs routine annual inspections and maintenance on the customer's three substations. Field technicians document all equipment conditions and even conduct infrared inspections to identify hidden issues and ensure that all substation assets can continue to operate well into the future.

Results

S&C's Asset Management solution provides comprehensive inspection, maintenance, and monitoring services. This solution helps to ensure that all of the regional water utility's substations operate reliably around the clock, 365 days a year. If a problem arises, S&C is prepared to quickly identify it, notify the customer, and initiate preventative or corrective actions within minutes. By partnering with S&C, the water utility is helping to prevent costly unplanned system outages, receiving timely asset maintenance, extending equipment life, and ensuring an even more reliable water supply for its local residents.