

Keeping Harvest Season Safe with Real-Time Monitoring.

Customer Challenge

South Plains Electric Cooperative (SPEC) serves a large agricultural area in the Lubbock, Texas, region, and every harvest season, cotton gin operations create some of the most demanding conditions on its distribution system. The gins draw enormous seasonal loads, making planned substation maintenance and load transfers challenging without accurate, real-time data on what the

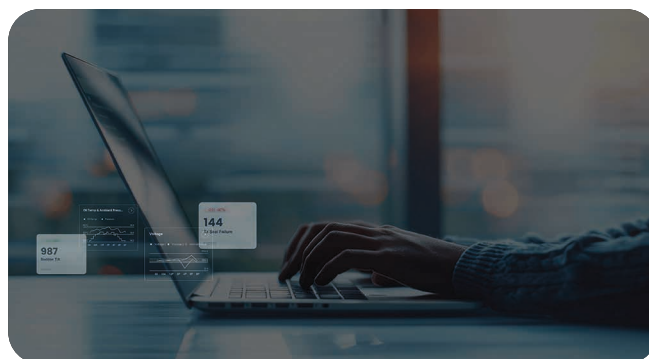
transformers are actually carrying. The stakes go beyond operational inconvenience. Cotton gin facilities are filled with combustible lint and materials, meaning a transformer fault or overload event at the wrong moment could trigger a catastrophic structure fire. SPEC needed transformer-level visibility, not 15-minute interval snapshots, to respond proactively.

Investigation and Insights

Before deploying transformer monitors, SPEC's planning team relied on 15-minute-interval data to determine which loads the gin transformers were carrying at any given moment during harvest. Maintenance clearances and switching operations required conservative assumptions, introducing a margin of uncertainty during every planned outage.

Once SPEC installed UbiGrid^{DTM+} monitors on the cotton gin transformers, that uncertainty disappeared. Live load readings

were directly integrated into their WindMil modeling system, providing engineers with accurate, real-world data to plan with, not estimates.





Solution

SPEC deployed UbiGrid[®]DTM+ units on their cotton gin transformers, streaming real-time load, voltage, and transformer health data into the UbiVu[®] analytics platform. The team integrated those live load readings into WindMil for accurate load-flow analysis, enabling confident planning for substation

maintenance clearances and seasonal load transfers. Continuous monitoring of thermal stress, oil conditions, and bushing health provided SPEC with early warnings of developing issues before they could escalate.

Impact

Lineworker Safety:

Real-time load data gave SPEC the confidence to plan switching and maintenance operations during harvest with precise information and data at the moments it mattered most.

Structure Fire Mitigation:

Ongoing monitoring for overloads and early fault detection reduces the risk of a transformer failure that could cause a fire at a high-fuel-load facility.

Collaborative Problem-Solving:

When issues arose, SPEC and gin operators could review transformer data together in UbiVu and quickly identify root causes.

Asset management:

Visibility into transformer health and load cycles enables proactive oversight of large transformers that are challenging to replace quickly.

“Cotton gin season is when the stakes are highest. You’ve got heavy loads, combustible materials everywhere, and crews who need to work safely around all of it. With UbiGrid DTM+, we finally had the real-time load data to plan those maintenance windows with confidence.”

James Calaway, Systems Planning Analyst, South Plains Electric Cooperative

About South Plains Electric Cooperative

South Plains Electric Cooperative serves approximately 45,000 members across 10,132 miles of line in the Lubbock, Texas area. SPEC’s deployment of UbiGrid[®]DTM+ continues to expand across critical and high-risk facilities throughout their service territory.