

CASE STUDY

SGS Patrolman Plus Helps Nueces Electric Cooperative Improve Rural Fault Response

The Situation

Nueces Electric Cooperative serves large rural areas across South Texas, including remote ranch properties, long feeder lines, and difficult-to-access terrain.

Before deploying SGS Patrolman Plus communicating fault indicators, crews often relied on OCR operations, member calls, and manual patrols to locate faults. In many cases, troubleshooting required crews to patrol multiple miles of line through gates, brush, ranch property, and difficult-to-access terrain before narrowing down the faulted section.

The cooperative also wanted better visibility into temporary faults that could indicate developing line problems before they became permanent outages.

SNAPSHOT



LOCATION

South Texas



UTILITY

Nueces Electric Cooperative



ENVIRONMENT

Rural ranch land and remote feeder lines



PRIMARY CHALLENGE

Limited fault visibility and difficult line patrols



RESULT

Faster fault isolation and improved visibility into temporary fault activity



The Response with SGS

SGS Patrolman Plus communicating fault indicators were installed at strategic locations throughout the system, including:

- Rural feeder takeoffs
- Hard-to-access taps
- Junction points
- Areas with recurring outages

The devices provided:

- Immediate text and email alerts
- Faulted phase indication
- Temporary and permanent fault visibility
- Faster directional troubleshooting

The Response with SGS

During one outage near La Paloma Ranch, an upstream OCR operated while a downstream OCR failed to trip correctly. The circuit runs through remote, difficult-to-access ranch property and takes a minimum of 1 to 2 hours to patrol. Under normal troubleshooting procedures, crews would have started patrolling the wrong section of line.

However, a Patrolman Plus indicator farther downstream confirmed the fault was past that location. Crews were redirected to the correct section and avoided unnecessary patrols across remote ranch property.

In a separate outage, crews experienced repeated fuse operations caused by an intermittent conductor contact issue hidden in heavily overgrown terrain. Fault indicators helped crews narrow down the affected section of line and eventually identify a damaged top pin allowing the conductor to intermittently contact the crossarm.

Proactive Maintenance

The cooperative also discussed using repeated temporary fault indications proactively to identify developing issues such as:

- Tree contact
- Corroded jumpers
- Hardware deterioration
- Phase slapping during high winds

Rather than waiting for permanent outages, crews can investigate and perform maintenance earlier when repeated temporary fault activity appears in the same area.

“The biggest takeaway is that the product gives you a better starting point. Instead of troubleshooting the whole line, crews can start in the right area.”

**— Brandon Brown,
Metering Supervisor, NEC**



The Results



Reduced unnecessary patrol across remote feeders



Faster identification of faulted sections and phases



Improved visibility into temporary fault activity



Better starting points for field crews during restoration



Increased opportunities for proactive maintenance before permanent outages occur

Contact us for more information

Smart Grid Solutions (SGS) is a US-based manufacturer of fault indicators. Our devices are manufactured in Texas, and meet Build America Buy America requirements.

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