



CASE STUDY

G&W Electric's Teros Recloser Delivers Power Reliability to Costa Rica

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The lush, rainforest-covered mountains of Costa Rica are a popular tourist destination. But those same features also present significant challenges for the utilities operating there. One utility, Coopelesca, looked to G&W Electric and their three-phase Teros recloser to improve power reliability and reduce maintenance costs. **Coopelesca's distribution system covers more than 2,400 miles of line, and serves 105,000 customers, including 91,000 homes, 1,700 industrial locations, and 13,000 commercial properties, such as tourist resorts.**

Nature, Power Lines and Power Outages

In this area of Costa Rica, wildlife, trees, and other vegetation frequently touch or interact with the distribution lines. Typically, outages due to this type of contact last only a few seconds, and only impact a relatively small number of customers. But without reclosers or other automated equipment or breakers in place, these outages could leave customers without power for hours.

Prior to installing the recloser, Coopelesca had to send a team to manually flip a blade switch and close the circuit with a hot stick to restore power every time there was an outage. This could take up to an hour, and was not ideal for worker safety.

Eventually, the utility started dealing with switchgear that was corroded, difficult to open/close, and – in some cases – no longer functioning properly.

Moving to the Teros Recloser

Coopelesca decided to install the G&W Electric Teros recloser for overcurrent protection. Built as a turnkey modular solution, Teros is a 15 and 27kV three-phase, solid dielectric vacuum recloser that offers a durable and cost-effective way to improve system reliability and network resiliency. Teros offered a number of advantages that aligned with what Coopelesca was looking for in a solution.

The system is rugged and durable enough to stand up to the harshest environmental conditions without being damaged. External conditions, like weather, can negatively affect the reliability and longevity of a recloser system. Since Coopelesca operates in an environment with intense humidity, heat, and frequent storms, durability was critical. Several features, such as standardizing on larger creepage distance modules and mechanism sealing, greatly reduce the potential for adverse conditions to damage the recloser throughout its service life.

And the device itself is built to last – designed and tested to perform for more than 10,000 operations over the course of up to 25 years, providing much-needed peace of mind.

Additionally, the Teros recloser all but eliminated one of the utility's biggest headaches: maintenance. Since it is solid dielectric and requires no oil or SF6, Teros eliminates the need for routine maintenance and improves personnel safety. The recloser's simple mechanisms also provide for a highly reliable device that has minimal operating components and no operating electronics.

In the unlikely event that technicians do need to access the unit, a transparent cover provides full visibility of the magnetic actuator and all mechanism components, allowing them to quickly diagnose any issues. Also, the Teros recloser system provides an easily accessible design, with all electronics within the control. If parts need to be replaced, a simple and modular layout allows for quick disconnection and reconnection of control components without removing other devices.

Better Grid Reliability

Since installing the Teros recloser, power reliability has significantly improved. Short circuits that previously knocked power offline for hours and required manual fixes are now detected and resolved automatically in a matter of seconds, with far fewer customers impacted.

This freed Coopelesca's maintenance teams up to focus on other tasks, saving time and money. Bottom line: crews can be more efficiently utilized. And all customers can count on a more stable, reliable grid.

"At the end of the day, what we want is to keep the power on for most of the customers most of the time," said Flavio Corsi, RVP, Sales of Latin America for G&W Electric. **"And this equipment helps with that."**



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