



Central Georgia EMC uses SurvalentONE PSM  
to improve reliability, productivity, and uptime.

**Case  
Study**



**Survalent.**

## Central Georgia EMC Improves Control, Reliability, and Uptime with SurvalentONE Protection Settings Manager

Central Georgia EMC (CGEMC) is a non-profit electric cooperative based in Jackson, Georgia. The cooperative serves the needs of parts of 14 counties, with dense suburban and rural areas ranging from south suburban Atlanta to the northern edge of Macon.

CGEMC is responsible for the safe, reliable delivery of electricity to more than 56,000 residential, commercial, and industrial customers. More than a decade ago, CGEMC began a modernization initiative to upgrade their legacy monitoring system with SurvalentONE SCADA & Distribution Management System (DMS) solutions. Most recently CGEMC implemented SurvalentONE Protection Settings Manager (PSM), which they use in 5 ways to reduce operational costs, improve network reliability, and minimize outage times.

### Preserving Protective Relay Coordination when FLISR is Active

CGEMC implemented PSM in 2015 to provide better control over their network's reliability when there is an event and SurvalentONE Fault Location, Isolation and Service Restoration (FLISR) is active. PSM provides centralized control over protection settings groups. It monitors the grid and updates each selected relay through an automated, rules-based process that ensures the right settings group is always active.

By automatically maintaining appropriate relay settings, PSM saves time and helps keep the grid operating at peak efficiency.

The application monitors and controls approximately 300 relays on CGEMC's distribution network. PSM runs in the background, monitoring system conditions; when an event occurs and FLISR is active, PSM ensures that their network devices continue to operate dependably and securely. This is particularly beneficial for devices that need to continue functioning when the distribution network is in an abnormal state.

PSM analyzes the current system configuration and leverages the rules CGEMC has defined for the relays to switch to the appropriate protection settings groups.

"SurvalentONE PSM was a logical add-on to complement our FLISR implementation and has proven its value in many ways," says Herschel Arant, Senior Vice President, Engineering & Power Supply. "Without PSM, it would be difficult to maintain protective relay coordination when FLISR is active. At the same time, we've been able to use PSM outside of FLISR, such as planned maintenance, and to reduce the work required by our operators for restoration and monitoring."

### Device Management During Abnormal Switching Events

With PSM, CGEMC can manage device behavior during abnormal switching events or planned outages. For example, if a substation is out of service for maintenance, PSM directs the required setting changes for the relays associated with it.

Because the rules governing PSM are user-defined, CGEMC can ensure the correct protection settings group is used for each relay. PSM considers the properties of individual line sections, analog points, and status points in the ADMS. When an event occurs on the network, PSM automatically takes action to ensure devices move to the appropriate setting for the condition.

### Automated restoration

Every second counts during restoration activities. CGEMC takes advantage of PSM's automated capabilities to simplify operators' workloads, eliminate errors, and complete time-sensitive restoration activities quickly. When the distribution network is switched into an abnormal state, PSM observes the system condition and implements the same logic a system operator or relay engineer would to automatically transition the device to the desired settings group.

**As a result, CGEMC is able to free their operators from complex manual outage restoration work and has ensured that post-restoration switching orders are completed in the right order in just seconds.**

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### A Proven Back-up Plan

When Hurricane Irma hit Georgia in 2017, PSM played a critical role in reducing outage downtime. The application seamlessly interfaces with CGEMC's existing devices, automatically monitoring system protection relays. Because the application runs in the background on a predefined interval set globally for all relays, it provides an extra set of eyes on the network. When relays were detected to be out-of-sync with the network configuration after FLISR kicked in to restore power during Hurricane Irma, PSM automatically applied the correct protection settings group for each relay. As a result, CGEMC was able to quickly restore power to a large number of customers whose outages were not caused by physical damage. Freed of the effort required to identify and adjust settings, operators were able to focus on bringing power back to customers in the hardest hit areas.

### Miscoordination Elimination

PSM has increased the confidence of CGEMC in their grid's efficiency and reliability by reducing outages caused by miscoordination. Automating the transition of protection settings guarantees that relays will be properly updated after each network change. The ability of the application to update settings in seconds and perform all changes at once mitigates the possibility of another cascading event happening due to miscoordination of relay settings.

**“Over the past couple of years, we’ve reduced customer outage times in half,” says Arant. “We’re very proud of that achievement.”**

## Control your critical network operations with confidence

With Survalent, you can control your critical network operations with confidence. We're the most trusted provider of advanced distribution management systems (ADMS) for electric, water/wastewater, gas, and transit utilities across the globe.

Over 600 utilities in 30 countries rely on the SurvalentONE platform to effectively operate, monitor, analyze, restore, and optimize operations. By supporting critical utility operations with a fully integrated solution, our customers have significantly improved operational efficiencies, customer satisfaction and network reliability.

Our unwavering commitment to excellence and to our customers has been the key to our success for over 50 years.

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