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DIGITAL SOLUTIONS · SYNERGI™ ELECTRIC

30 YEARS WITH SYNERGI ELECTRIC

Customer story - Mid-Carolina Electric Cooperative

Mid-Carolina Electric Cooperative engineers have seen Synergi Electric evolve from a text-based mainframe application into today's powerful software for simulation, analysis and planning of power distribution feeders, networks and substations. The software from DNV GL supports Mid-Carolina Electric's goal to provide the best service to their customers.

When Mid-Carolina Electric Cooperative (MCEC) first purchased the software that is now Synergi Electric, most of today's power engineers had not even left school yet. MCEC was one of the first three users of the original product that started off as Scott & Scott 30 years ago. They have been using the software ever since. They've seen name changes, and also exponential growth in the features and capabilities, allowing analysis of a wide range of scenarios.

Engineer Brian Sandifer has worked for MCEC for 22 years in Lexington, South Carolina. He is currently responsible for planning and design, including use of the data from the geographic information system (GIS). He says the company uses Synergi Electric mainly for planning, evaluation of voltage loss across the system and for routine studies. The best thing about Synergi Electric, he says, is the dependability of the software.

Best service for members

"Mid-Carolina Electric Cooperative wants to provide the best service for our members. That's where Synergi Electric really excels. We're very happy with the software, says Sandifer. "Synergi Electric helps us as a planning tool to analyse our system under different and proposed conditions to determine what and when system upgrades will be needed," says Sandifer.

Synergi Electric models and analyses power distribution systems in a real world spatial environment in full detail from the substation to the member. It provides the flexibility to model systems over a 10-year period down to the second on radial, looped and mesh network systems on multiple voltages and configurations. The results are enhanced network performance, extended asset life and increased profitability.

“Mid-Carolina Electric Cooperative wants to provide the best service for our members. That’s where Synergi Electric really excels.”

Brian Sandifer, Mid-Carolina Electric Cooperative



Peak usage

“We load the model with the system’s peak usage and can see the effects. This allows us to grow certain feeders and anticipate the future growth of the system. If we know that a large subdivision or large commercial load is being constructed on our system, we can plan for that future load using Synergi Electric. We would add the load information to the line section of the new growth. Then we would run analyses to determine the effects that the new load has, not only to the existing feeder, but also how the feeder would react if we grew existing loads,” says Sandifer.

“Synergi also helps us coordinate studies to proactively keep as many members from losing power through proper sectionalizing and planning during unforeseen anomalies. We can proactively prepare before the member sees the issue. It benefits the members in the end,” he says. “We trust the results that we get from Synergi Electric.”

Contingency analysis allows MCEC to run studies on circuits that back up to each other. “If we were to connect two circuits together, by running contingency analysis, we can evaluate if we are exceeding characteristics of equipment and conductor especially during peak usage times,” says Sandifer.

In order to build a model in Synergi Electric, daily maintained GIS data is imported into the software. The data is exported to the outage management system (OMS).

Inspection Manager module

The Inspection Manager (formerly Essentials) complements Synergi Electric at MCEC and is used to insure the health of the assets in service. All aspects of asset inspections, work scheduling and asset management are being managed in Inspection Manager. For example, it tracks schedules, documents maintenance and creates reports of treatment in the field of poles, substations and meters. Every year, 10% of the poles are inspected, and Inspection Manager keeps track of schedules and performed upgrades. It also has a system that allows for billing of joint use of poles - when other utilities are paying fees for utilizing MCEC’s assets.

“It helps us analyse and improve our systems. It sees the needs and recognizes them for us,” says Sandifer.

MID-CAROLINA ELECTRIC IN BRIEF

Mid-Carolina Electric Cooperative, Inc. (MCEC) is a not-for-profit electric distribution utility headquartered in Lexington, South Carolina. It is owned by nearly 45,000 member-owners who reside in Lexington, Richland, Newberry, Saluda and Aiken counties. MCEC is the fifth largest of the 20 electric cooperatives in South Carolina. Together these cooperatives serve more than 1.4 million members in over 75% of South Carolina.

PROFILE

- Profile: Mid-Carolina Electric
- Web: mcecoop.com
- Market: Electric utility
- Product: Synergi Electric

CUSTOMER FEEDBACK

Why we chose DNV GL - Digital Solutions

- We have used the software as it has developed for more than 30 years
- Dependability of the software - it works
- Functionality

This is what we gained:

- Improved record-keeping and data collection
 - Satisfied with the results
 - Continual improvement of the software
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