

Dakota Electric Association

Solutions to streamline GIS, design and outage management processes



PROJECT AT A GLANCE

Project Type

Operational utility solutions

Location

Farmington, Minnesota

Number of Members

More than 100,000

Applications

Integration of GIS-based processes makes existing circuits and proposed circuits available in the same system so operations staff can work in parallel with the designers rather than in succession

Solutions Implemented

ArcFM™ Network
ArcFM™ Operations
ArcFM™ Design

CUSTOMER BENEFITS

- Model, design and manage critical infrastructure
- Highly configurable
- Easily adapted for multiple uses
- Proactively identify needed repairs and replacements well in advance



Dakota Electric Association (DEA) is a member-owned, not-for-profit electric utility serving more than 100,000 members — making it the second largest electric cooperative in Minnesota and among the 25 largest electric distribution cooperatives in the United States.

Dakota Electric purchases wholesale electricity from Great River Energy, a generation and transmission cooperative in Maple Grove, Minn., and distributes electricity to homes, businesses and farms in parts of Dakota, Goodhue, Scott and Rice counties.

In 2011, the NRECA's Reliability Benchmark Group (RBG) determination of System Average Interruption Duration Index (SAIDI), a measure of an electric cooperative's service reliability, ranked Dakota Electric as the country's sixth most reliable cooperative and a reliability leader in the state of Minnesota.

Challenges

Targeting optimum customer service and maintaining its superior reliability ranking, Dakota Electric staff was spending hours each day on manual processes to

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Leonard Jewell, Dakota Electric technical systems manager

compile design information from hard copy records, developing switch orders and building circuits to support the legacy OMS. This time-consuming process was due to lack of a unified solution to manage design, asset management and operations functions from a single network model. “It was not an efficient process,” explained Leonard Jewell, Dakota Electric technical systems manager. “We wanted a system that used a centralized network geodatabase.”

Solution

Dakota Electric’s migration to Schneider Electric’s ArcFM™ Network Solution in late 2009 was driven by the ArcFM Operations based on ArcFM Network. ArcFM Operations received high user acceptance during evaluation at Dakota Electric because it was comparable in functionality and ‘look and feel’ to the legacy OMS. More importantly, it integrated completely with the ArcFM Network database and Feeder Manager Circuit Management tools. This product suite presented the unified solution Dakota Electric was looking for to streamline its GIS, design and outage management processes.

To take advantage of the opportunity to integrate network design capabilities, Dakota Electric added the Designer graphic design solution — also based on ArcFM Network.

The Bottom Line

“Let’s do it once.” Jewell explained how the integration of GIS-based processes makes existing circuits and proposed circuits available in the same system; Dakota Electric operations staff to work in parallel with the designers rather than in succession. “The network we define, ArcFM Operations can switch, transformer by transformer, to keep customers live during the cable replacement process.” He noted that the ArcFM Feeder Manager tool is the unheralded workhorse, providing the highly

stable platform for network connectivity that supports this in-line switching capability.

Less paper. “By integrating the connectivity and switching, we eliminate the intermediate paper phase and the errors associated with that translation process,” said Jewell. “And, we’ve probably saved more than \$5,000 annually in copy paper costs alone.”

Information at hand. The cooperative also relies on ArcFM Operations extensively for restorative switching to minimize time and resources. Jewell emphasized that the application automatically documents outage time and specific customers affected by an outage. This accounting is important not only for reports required by the state PUC but also for helping the cooperative continuously evaluate its customer service.

An integration framework. ArcFM Network demonstrated further enterprise benefits by making up-to-date information available for the utility’s work management system and accounting and customer service processes.

Extensibility. Dakota Electric’s implementation of the Schneider Electric solution is a work in progress. Dakota Electric continues to develop and add tools allowing it to maximize utility of its single and uniform network model for the enterprise.

Supports planning. Dakota Electric anticipates using ArcFM Operations for outage simulation in the near future, allowing the cooperative to prepare restoration plans and further support its customer service goals.