

TRASHING THE PAPER CHASE

The office keeps making its way to the field. In recent years, many electric co-ops have completed the first phase of computerizing line trucks: replacing coffee-stained, dog-eared mapbooks with more accurate electronic versions accessed from a laptop computer mounted on the dash.

Now, faced with higher fuel costs, increased consumer expectations for up-to-date service information, and an aging grid, co-ops are accelerating efforts to take modernization to the next level: implementing an integrated mobile work management system.

Wright-Hennepin Cooperative Electric Association in Rockford, Minn., began moving toward paperless work orders in 1999 with StakeOut software from Powel, Inc. (powelinc.com), part of the WorkStudio suite of products covering design and operations, maintenance, vegetation management, and storm assessment.

"StakeOut assists us in managing any type of construction and maintenance work order that our engineers, line crews, and meter technicians tackle," explains Lloyd Walburn, Wright-Hennepin Cooperative Electric IT systems administrator.

The payback for the co-op has been higher efficiency and improved consumer satisfaction, emphasizes Walburn. "We were able to meet a 33 percent increase in our consumer base without adding in-house staff, and our customer satisfaction scores continue to climb."

Lance Hovland, vice president of energy distribution for Wright-Hennepin Cooperative Electric, notes that changes were driven by an increasingly rigorous paper workflow process as growth picked up in 2001. At the same time, the co-op's board and management set a goal to install 95 percent of all new service connections in five days or less.

"We started with simple jobs such as new service installations and security light repairs," he relates. "Then we slowly moved to all job types."

Hovland reports that before the switch, member service employees had difficulty knowing which line truck had been assigned a particular work order or what progress had been made on completing a project. "This made it difficult for office personnel to respond quickly to consumer inquiries without first doing extended research."

When paperwork finally arrived back in the office, Wright-Hennepin Cooperative Electric had to manually enter the data into the co-op's customer information system (CIS) and financial information system from Applied Technology Systems (ATS; ats.coop).

"Now, everyone in our office can find out where things stand from any computer rather than digging through a pile of papers stored in one central office cube," Hovland says. "The real-time environment also lets us review transactions throughout the month, which saves time and effort in resolving discrepancies when a work order closes."

Grand Valley Rural Power Lines, Grand Junction, Colo., uses a mobile work management system from National Information Solutions Cooperative (NISC; nisc.coop) to avoid third-party integration issues, explains Sherry Fix, Grand Valley Rural Power manager of information technology. "For work management to be effective, it all has to come together and integrate."

The co-op's bucket trucks are outfitted with Panasonic Toughbook laptops and electronic maps. Transmitting service orders to the laptops gets accomplished in real time with Verizon data cards.

"As a result, our linemen have been empowered and don't call in to the office much anymore," Fix remarks. "This has cut down on the amount of paperwork handled by our billing department and reduced redundancy. Even time sheets are now completed in the field."

Mandy Bambenek, marketing director for Powel, Inc., finds employee resistance a common concern in converting to a paperless work management system. "Field crews know their own work processes best, so it's important to use their knowledge in designing the system. Second, you don't need to have a big-bang implementation where everything goes live all at once. Consider starting with one type of work or service order and then move to the next one. Keeping a paper backup in place initially, along with plenty of training and technical help, can also ease the transition. Of course, having accurate construction units defined and stored in your accounting system is essential to overall success."

Any digitized work management scheme should also be flexible enough to support multiple job types. For example, EnergyUnited in Statesville, N.C., lists eight defined tasks within its Powel, Inc., WorkStudio.

For reporting requirements, the program can break a large project into multiple smaller jobs, with units divided up based on appropriate federal Rural Utilities Service compliance categories.

EnergyUnited captured a 2009 Innovation Award from Powel, Inc., for its work management system implementation. Integration with the co-op's Cayenta (cayenta.com) CIS for service orders, Tucker, Ga.-based Southeastern Data Cooperative (sedata.com) accounting program for construction jobs, and Telvent (miner.com) ArcFM Solution for GIS (geographic information system) played a key role.

"Our previous work order process consisted of non-connected applications in which the same information was often typed or written in manually into multiple systems," states Brian Dacaret, EnergyUnited construction manager. "It was primarily paper driven with many time-consuming data entry steps that exposed us to errors. In addition, we had recently implemented new CIS and GIS systems, making integration of a staking package the critical link in shifting to a fully electronic setup."

Early employee involvement in the massive change led to a sense of ownership and pride, contends Dacaret. "Many of our folks feel they have only scratched the surface of what we can accomplish. Even a small increase in efficiency can yield significant results and savings through labor and material costs. That contributes to keeping our rates competitive."

Although Marana, Ariz.-based Trico Electric Cooperative has not totally eliminated paper, integration using NRECA's MultiSpeak Initiative (MultiSpeak; multispeak.org) has helped automate much of its work management data. MultiSpeak is a collaboration between NRECA and vendors, consultants, and electric utilities aimed at developing standard interfaces between commonly used (primarily distribution system) software applications and automation tools.

At Trico Electric, jobs created in the co-op's NISC CIS and iVue Accounting & Business Solutions are exported via MultiSpeak 2.2 files into StakeOut. Materials, costs, and other information then move from StakeOut into the co-op's accounting system. Work orders are also sent from StakeOut into the co-op's GIS, ArcGIS, via MultiSpeak 2.2 files.

"We had established a way of designing work orders for subdivision projects utilizing AutoCAD," comments Justin Banales, Trico Electric senior

distribution designer. "So, for us, exchanging data with developers in AutoCAD format was essential. Powel, Inc., and NISC came to the plate and delivered software and integration that enhanced our work order process by eliminating redundant design work and staking sheet creation. The result was better materials control, less data entry, and better tracking of work orders."

Work management systems have undergone change more rapidly than any other utility application, according to Skip McClimans, senior consultant at Power System Engineering, Inc. (powersystem.org), and co-author of *Mobile Workforce Management: A Summary Report*, prepared for NRECA's Cooperative Research Network.

"Cellular communication has helped foster some of this transition," he argues. "Not only can more cellular-based mobile work systems be adopted for utility use but cellular coverage has become ubiquitous over the past several years, making this a serious option for many rural utilities."

He concludes: "Electric co-ops should dip their toe into automated work management with map viewing then migrate to digitizing the highest volume work, such as service orders for connects, disconnects, and reconnects. Look for systems with redundant communication options, such as cellular, satellite, and radio, and those that make it easy to customize fields and forms and integrate with other systems." ■

I N F O T O G O

Five things you should know about work management systems:

1. *Digitizing a co-op's work order paper trail can cut costs, make job information available in real time to everyone, eliminate manual and duplicate data entry, free up dispatch, streamline inventory management, reduce paper piles and lost paperwork, and boost member and employee satisfaction.*
2. *Integrating work management applications with geographic information systems, staking software, customer information systems, and other programs can make for more efficient operations.*
3. *Converting to a mobile work management system can improve communication flow between departments as well as bolster system efficiency, worker safety and productivity, and consumer service.*
4. *Look for software solutions that are intuitive, customizable, easy-to-use, and provide employees with proper training.*
5. *Complete a workflow analysis before automating work order processing.*