

KEPCo's Delivery Point Metering and SCADA System

Data. It's the lifeblood of business. Companies gather data about consumers, competitors and markets to improve existing products and services, develop marketing plans, and analyze sales trends. KEPCo also collects data, but not about consumers or competitors. Rather, KEPCo collects real-time data from Member delivery points for KEPCo, and others, to complete essential business functions, such as billing, load management, real-time resource load balancing, outage identification, and delivery point reliability.

Infrastructure

KEPCo has 259 delivery points. At each delivery point is a meter and a Remote Terminal Unit (RTU).

The meters are interrogated daily by KEPCo's MV-90 meter-reading software. The data obtained from the meter includes the billing units used by KEPCo to calculate Member bills. These billing units are also used by KEPCo's transmission providers and power suppliers to calculate their bills to KEPCo. Each RTU is polled every four seconds by KEPCo's SCADA system. Each



KEPCo RTU

RTU communicates with a Master Station using radio communications. The Master Station then transfers the information to the SCADA system using a high performance network service (MPLS). Some of this real-time data is shared with Westar, Sunflower, the Southwest Power Pool (SPP), among others, using a protocol specifically designed for sharing information between utilities (ICCP). This real-time data is used by these entities for real-time generation, load balancing, and to verify, validate and when necessary, replace missing meter data.

Metering

KEPCo's 259 delivery points are served by six different transmission providers: Empire District Electric, KCPL, Midwest Energy, MKEC, Sunflower, and Westar. KEPCo owns the metering equipment (meter, instrument transformers, communications, etc.) for the delivery points in the KCPL, MKEC and Sunflower areas. Empire, Midwest Energy and Westar own the metering equipment in their areas. KEPCo is responsible for the cost of repairs or replacement of this equipment.

KEPCo currently is in year two of a three-year project to replace all the delivery point meters that it owns with 'Elite' meters. Elite meters are capable of direct SCADA communications, thus eliminating the need for a



separate RTU. This project will accomplish two primary objectives. First, it eliminates aging RTUs in the KCPL, MKEC and Sunflower areas and enables the old equipment to be used as spares in the Westar and Empire areas. Second, it reduces the amount of equipment and cost associated with a new delivery point. The Elite meters cost about \$2,500, whereas a new RTU and traditional meter costs about \$5,800. Westar has agreed to install Elite meters for all new delivery points and to replace failed meters with Elite meters at existing delivery points. This will eliminate the need, and cost, for additional RTUs.

When possible, KEPCo prefers to use cellular service for meter communications for reasons twofold. First, standard modems are becoming obsolete, due to newer, more efficient means of communication. Second, the monthly charge for cellular data service is 75 percent less than a land line. The initial cost of a cellular modem is higher than a standard modem, but the cost is quickly absorbed by the monthly savings.

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Real Time Data

The real-time data obtained from KEPCo's SCADA system serves a number of purposes. SCADA data is used during load management season to provide data to KEPCo Members regarding the load at their delivery points, the total load on their system, and the total load on the KEPCo system. This data enables Members to make informed, real-time decisions about when to implement load control measures. SCADA data is also used by Westar and Sunflower to balance generation, in real-time, to the load in their control area. Specifically, the power providers must have real-time data for any KEPCo load that is not directly

connected to their transmission system in order to balance load and generation in real-time.

The communication path for meter data is distinct and separate from the communication path for real-time data. If there is an issue with the meter communication path, load information is still available via the SCADA system and vice versa. This data is also used by some of the transmission companies serving KEPCo delivery points to identify delivery point outages in real-time, rather than waiting for a call from KEPCo or a Member. In addition, the real-time information is used to identify delivery point issues, such as low voltage or power factors outside of good utility practice.

KEPCo Investigating Debt Restructuring

Nationwide, the electric utility industry is under pressure to control costs. Cost drivers such as labor, materials, maintenance, and regulatory compliance are causing electric rates to rise. In an effort to slow this trend, KEPCo is investigating the efficacy of extending its original debt on the Wolf Creek Nuclear Generating Station.

A few years ago, Wolf Creek was granted an operating license extension to 2045. KEPCo is evaluating extending the term of its Wolf Creek loan, to more closely match the debt repayment with the useful life of the plant. By doing so, KEPCo may be able to lower the monthly principal payments on Wolf Creek, thus stabilizing or possibly reducing Wolf Creek's impact on wholesale rates.



Wolf Creek Nuclear Generating Station

Tax Assessment Appealed

When KEPCo received its property tax valuation, Ms. Coleen Wells, Vice President and Chief Financial Officer, knew the valuation was too high. That was the easy part. The hard part would be convincing the Kansas Department of Revenue of the same.

Due to the difference between depreciation expense and principal payments on Wolf Creek, KEPCo's margins, over the past few years, have increased. KEPCo's monthly debt service payment is fairly constant. Therefore, as KEPCo's interest expense has decreased, the principal payment has increased, necessitating an increase in margins, as the principal payment is not captured in rates.

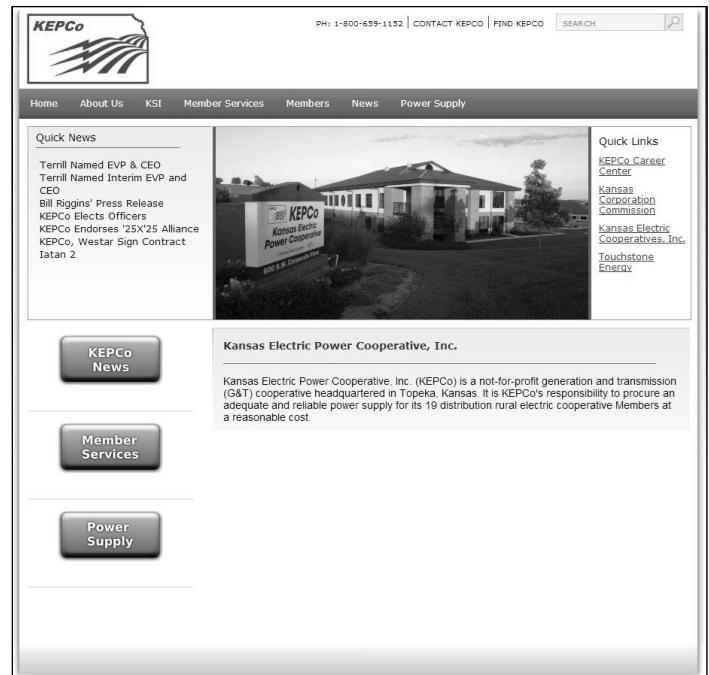
Ms. Wells prepared a detailed PowerPoint presentation, illustrating that although KEPCo's margins have indeed increased, the increase was necessary to satisfy KEPCo's mortgage payments, and was not reflective of an accumulation of capital.

KEPCo was successful in its appeal. KEPCo's valuation was substantially reduced, resulting in a tax savings of \$405,000.

New KEPCo Website

On June 3, KEPCo launched its new company website (www.kepco.org). The website was developed by Matt Ottman, Information Specialist 2, and Kelsey Schremp, Administrative Assistant. The new website has many features the old site did not, such as password protected areas enabling KEPCo Managers, Member co-op staff, and Board Members to access rebate forms, financial reports, and monthly Board books, among others.

The new site is much easier to edit and update, as well as navigate. The new site is hosted on Touchstone Energy servers, independent of KEPCo, at no charge. As such, if KEPCo were to have an Internet outage, the web site will remain accessible. In addition, the new site will serve as KEPCo's Intranet for employees and will allow employees to access the Intranet without being connected to KEPCo's computer network.



KEPCo Launches Investment Program

KEPCo has introduced a Member Investment Program which will allow KEPCo Member Systems the ability to invest idle cash with KEPCo. Under the new program, Members will be able to invest \$25,000 or greater for any term and KEPCo will pay the Member an interest rate equal to current commercial paper rates. If KEPCo would

need to borrow money, and a Member has invested funds with KEPCo, KEPCo could use the Member funds and pay the Member an interest rate equal to the average of the current commercial paper rate and line of credit rate.

By utilizing the program, the Member will earn an interest rate equal to or greater than the interest rate the Member is accustomed to and KEPCo will benefit from a source of cash at a lower cost than its traditional credit lines.

2012 Cooperative Difference Survey Results



For the past nine years, Touchstone

Energy Cooperatives has funded an annual exploration of member opinions to help cooperatives better understand the actions and messages that define the 'Cooperative Difference.' This research provides cooperatives with actionable strategic insight

to more effectively connect with members to improve satisfaction and engagement. Below is a synopsis of the 2012 survey results.

Touchstone Cooperatives provide superior service to their membership

Collectively, cooperatives significantly outperform the utility industry average and compare favorably to the best investor-owned utilities in the country as measured by the American Customer Satisfaction Index (ACSI).

Cooperatives excel on core competencies such as reliability, restoration and problem resolution

A solid foundation of service experiences creates an environment for building trust and engagement between member and cooperative.

Economic realities continue to affect member perceptions

Concerns about electric costs and their impact on household and business budgets raise the importance members place on cost containment and the value of electricity.

Building trust and member engagement pays huge dividends

Respondents indicating a high level of engagement with their cooperative provide significantly better

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KEPCo Board Room

KEPCo Upgrades Multimedia Capabilities

Unveiled at the July Board of Trustees meeting, KEPCo now has the capability to use multimedia technology to enhance Staff presentations. The new technology will provide a more effective means of communication between the presenter and attendees. In addition, meetings can now be recorded digitally rather than using analog technology.

Components of the new technology include four high resolution display boards, two wireless desktop microphones, one wireless lavalier microphone, and the capability to connect to the audio video system through hard-wired or wireless means.

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performance ratings across all key satisfaction drivers than unengaged members and are more likely to support cooperative initiatives.

Members support a balanced approach to meeting future energy demands, but at no extra cost

Members support a diverse portfolio of generation resources as long as the cost to do so does not result in higher rates.

Communicating our position as a low cost provider of electricity isn't always heard

Communication efforts in the area of cost containment and highlighting the

cooperative's goal to provide electricity at the lowest possible costs play a significant role in member satisfaction.

Cooperatives serve an increasingly tech-savvy membership

Use of computers and the Internet is nearly ubiquitous among most member segments. Use of social networking websites such as Facebook and Twitter continues on a steady course of growth.

Members express a desire to gain better control over their consumption of electricity

Members continue making strides toward lowering their monthly electric consumption. However, members feel

the cooperative could do more to help them gain better control over their electric bill.

Use of Co-op Connections Card builds member value and engagement

Overall awareness of the Co-op Connections Card continues to grow among participating cooperatives but most members remain unaware of the program's existence. Building member awareness and getting members to utilize the program more frequently leads to higher perceptions of value and increased overall satisfaction.