GUEST OPINION

Going Back to Roots

GREAT PLAINS DRILLS DOWN

By Michael Chesser and John Marshall

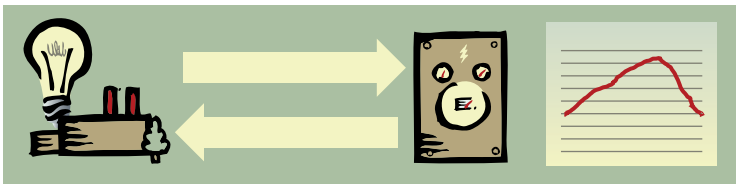
WHILE MUCH OF the industry focuses on major changes and investments in the generation side of our business, the world of energy delivery has the opportunity, and in some ways, the mandate, for even more fundamental change.

At Kansas City Power & Light (KCP&L), we are aligning our investments in our infrastructure and our people to take a leadership role in this change.

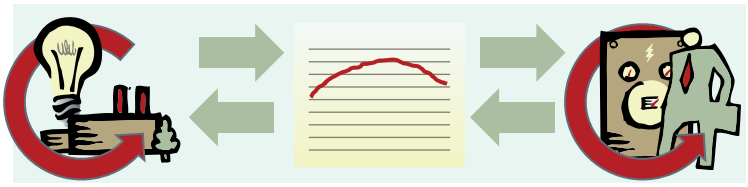
A new model, which we call our "Delivery System of the Future," is reshaping how we deliver energy and how we work with our customers. This is an extension of the strategic intent we developed last year, which emphasizes innovation and customer partnership.

Fundamentally, this approach delivers greater value to customers through greater customization, and a new level of collaboration between utilities and customers to shape load in response to market conditions. There is tremendous value from a variety of sources to be realized from these efforts. For example, a reduction in peak demand can reduce unplanned outages, which reduce dispatching and maintenance costs as well as avoid the cost of generation.

HOW UTILITIES AND CUSTOMERS COLLABORATE TO SHAPE LOAD.



Utilities typically manage load and build capacity to meet demand.



Some utilities and their customers have begun to share real-time information to gain efficiencies.

Source: Bridge Strategy Group

Implementing this model is a complex challenge. We are approaching it along four dimensions:

- SMARTER GRID
- SMARTER SERVICES
- SMARTER CUSTOMERS
- SMARTER SUPPLY

SMARTER GRID

Building a smarter grid has been the focus of many utility and supplier efforts. At KCP&L, we have a proud history of technical innovation. One recent accomplishment, working with Telemetric and Richards/ETI, is an economical solution for network automation using commercial cellular networks along with cost-effective hardware and software. Fifty network protectors were installed in September and October 2005. The benefits of this network automation solution included cost savings, longer asset life, increased safety and reliability improvements. The annual routine maintenance cost savings is expected to be approximately $250,000, and the significant improvement in the safety of our employees is priceless.

And more benefits will result from simply knowing more about conditions than has ever been possible. In the first wave of installations, the team used the new data to successfully locate internal wiring problems, defective transformers, high-water levels, water and temperature conditions and excessive switching from a variety of factors.

It's not that these conditions are unique to the installation sites we selected. By enabling our engineers and crews to monitor things they could not previously, their awareness increased dramatically. This level of awareness is the key to a new level of proactive maintenance. Elimination of defects—on our timetable rather than responding to failure conditions—is the key to achieving new levels of reliability and driving out cost.

A defining characteristic of an advanced delivery system is the quality and quantity of information, flowing in parallel with energy, that guides both operational and customer decisions. In this example, new Web site applications were developed that have avoided thousands of dollars of information technology expenses.

Two-way power flow and a parallel real-time information flow will be hallmarks of a smarter grid. And in many ways, the distribution network will evolve to more closely resemble transmission. In building a smarter grid, we are also continuing our technical innovations in transmission, which have included advances in substation automation and reconductoring.

> *Smarter customers will take more control of their energy usage.*

SMARTER SERVICES

Implementing this new model requires a re-examination of services offered by the utility, in light of information availability and the new capabilities of the smarter grid.

Some of these services are enabled by the smarter grid, and others are essential to drive customer response that benefits the grid. Both will build a more robust relationship between utilities and customers.

Improved understanding of customers and detailed economic modeling are required to identify the total value of new and existing services. Regulation is often cited as a hurdle, but change is possible by collaboration and innovation—the same skills applied in developing a smarter grid.

We have worked with regulators in Kansas and Missouri to develop a series of innovative programs. These were done collaboratively through an extensive workshop process, issue-driven seminars and public forums. The collaboration continues through a Customer Program Advisory Group (CPAG) in Missouri, consisting of customers, environmental interests, regulators and other utilities.

We have launched a suite of programs entitled MPower, which is the first wave of solutions supported by our recent regulatory stipulations. This includes a collection of demand-response programs targeted to several customer segments. Initial reaction is strong, and we anticipate achieving 60 megawatts of participation in 2006. There are also a number of efficiency programs supported by the stipulation and a sound economic justification.

Innovation has led to a new suite of voice response services in our Customer Care Center. More than 30 percent of our calls now select an automated option for more information. As our smarter grid provides more information about the status of the system, our customer representatives will be able to provide a new level of service.

We are also improving the way we use information from our AMR system, which is installed at almost all of our customers. One application of this is to understand usage profiles and circuit-level loadings. Using this data, we are developing better solutions to meet the needs of customers, as well as solutions that help improve system performance.

SMARTER CUSTOMERS

We were an early mover in establishing e-services, and we're proud of the level of adoption of our AccountLink suite of services. Participation in all products has grown to more than 100,000 accounts. One recent innovation is ApartmentLink, which already includes more than 6,000 accounts in its first year. Property managers are able to manage energy profiles of units in a consolidated way.

Web payment is an area where there is a clear and tangible benefit for customers and the utility. We have more than 50,000 Web payment accounts, and almost 20,000 paperless billing customers. Our municipal customers are also increasing their use of e-services.

We cannot project all of the applications of information when fully available, but there are many examples where information availability has sparked innovation.

Even in the early stages, there are signs of how providing better information to customers will build a new level of collaboration. As information from the smarter grid becomes available, we expect a significant increase in Web-based activity. And with the launch of a new site in 2006, we plan to make it even more user-friendly for our customers. Another innovation is in providing our bigger business customers with breaker operations data via their pagers and PDAs.

Smarter customers will take more control of their energy usage. We can help them take the right steps by providing tools and interfaces, such as AC Cycling devices, Web-enabled thermostats and C&I energy management systems, and the potential for coincident metering. We can also make it easier for them to make informed decisions about distributed generation and simplify connection of these distributed sources.

Communities play a role in creating smarter customers. We are taking a fresh look at our approach to working with community leadership. For example, as we develop a better understanding of our customers and system, we can take that information to community leaders as a basis for collaboration and new ideas. This dialog will accelerate as the graphical capabilities of technology improve in areas such as mapping and design.

News Flash

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ALBANIA HYDRO CUTS

Albania has been hit with outages because of the lack of production from its hydroelectric plants and the high cost of imported energy.

Since 1990, Albania's power system has suffered from poor management and an outdated distribution system, according to the *Associated Press*.

> *We're in the first steps of this marathon...*

SMARTER SUPPLY

A smarter grid, solutions and customers require and enable a new way of thinking about supply. This includes two new perspectives—smaller, distributed resources that meet customer and network needs and demand response as dispatchable "virtual peakers." Our approach will focus on both. These resources can be essential tools in managing peak load, and begin to blur the traditional line between supply and delivery into a more efficient, integrated value chain.

Smaller, distributed resources are already on the grid. Benefits include reliability, stability and a reduction in line loss. The challenge is how to effectively use them, and how to complement them with additional resources. We are working with customers to explore alternative applications of their existing resources. And we are creating services to facilitate new additions.

A new component of the evaluation of distributed resources is in using information to be proactive about where it is best to site new load. We have included economic development representatives in discussions about system expansion to identify ways to work towards a more optimal expansion.

Inherent in the smarter grid is the ability to better control load shape. Information about circuit and customer-level load and additional control equipment, coupled with effective solutions, can result in demand aggregation and ultimately the creation of virtual peakers.

In addition to the benefit of having a dispatchable "virtual" resource to mitigate peaking costs, these resources enable a more effective interaction with a regional transmission organization. A smart grid provides more precise load data, enabling more accurate communication with an RTO and control system operator. The immediately dispatchable, verifiable, virtual peaker also mitigates the need to procure some ancillary services. It is another example where customer collaboration can significantly reduce costs and risk.

Finally, smarter supply enables the utility to optimize circuits for losses and maintenance. Supply under the control of distribution opens a world of possibilities.

THE GOAL FOR THE FUTURE

Although the "Delivery System of the Future" can sound like more of an academic concept, we see it as a goal. To get there, we will take a holistic, pragmatic and collaborative approach. This starts with employees, but also involves customers, regulators, partners and communities.

Building the system will require many steps to develop an integrated approach and extensive, unprecedented collaboration among many parties. We're in the first steps of this marathon, and we're looking forward to the rest of the race.

News Flash
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AES TO BULGARIA

AES Corp. has announced plans to develop a $1.3 billion power plant in Bulgaria. The electric utility sector in Southeastern Europe's electricity market is attracting foreign investors, the *Wall Street Journal* reported. AES has power plants in 27 countries

GE PURSUE TRANSMISSION IN CHILE

GE Energy Financial Services has announced that it is joining with Abengoa of Spain to acquire electric transmission in Chile.

The partners will own three 220-kilovolt transmission lines spanning 183 miles.

SnapShot

Kansas City Power & Light Co., a subsidiary of Great Plains Energy, has:

- 500,000 customers in 4,600 square miles in northwestern Missouri and Kansas
- 1,700 miles of transmission
- 10,000 miles of overhead distribution
- 3,400 miles of underground distribution
- 4,000 megawatts of generation in operation or under construction

Assets of

- $3.3 billion

Annual revenues of

- $1billion


Michael Chesser


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