

**BEFORE THE PUBLIC SERVICE
COMMISSION OF THE STATE OF MISSOURI**

NOTICE OF COMMUNICATION

COMES NOW Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company (collectively, the “Company”) and for its Notice of Communication states as follows:

On Friday, March 11, 2016 the attached email communication and article was sent to all Commissioners. Pursuant to 4 CSR 240-4.020(8), the Company files this Notice of Communication in all of its contested cases pending before the Missouri Public Service Commission.

Respectfully submitted,

/s/ Roger W. Steiner

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CERTIFICATE OF SERVICE

The undersigned certified that a true and correct copy of the foregoing document was sent by electronic transmission, facsimile, U.S. Mail or e-mail to all parties of record in all of its contested cases pending before the Missouri Public Service Commission on this 15th day of March, 2016.

/s/ Roger W. Steiner

Roger W. Steiner

From: Ives Darrin

Sent: Friday, March 11, 2016 5:33 PM

To: 'daniel.hall@psc.mo.gov'; 'steve.stoll@psc.mo.gov'; 'bill.kenney@psc.mo.gov'; 'scott.rupp@psc.mo.gov'; 'maida.coleman@psc.mo.gov'

Subject: FW: EEI Article

Importance: High

Good afternoon Chairman Hall and Commissioners ~

Sorry for the late Friday afternoon email, but I wanted to share with you an article that is being published today in Electric Perspectives, an industry magazine published by the Edison Electric Institute (EEI). In the article, which focuses on new ways to partner with customers to enhance grid utilization, we discuss two projects. One of these projects you are aware of through recent related proceedings – the Clean Charge Network, wherein KCP&L and GMO are installing charging stations for electric vehicles throughout our service territory. The other centers on a pilot project we are working on with a company named Innovari.

We have been working with Innovari to deploy a real-time verifiable demand response program that we believe is a first in the United States. Essentially, this program puts an interactive energy device in commercial and industrial buildings and runs a self-learning algorithm to reduce demand any time there is a peak demand situation, grid emergency or KCP&L/GMO wants to reduce load either on a specified circuit or in aggregate. Unlike our current demand response programs, this reduction can be tracked in real-time just like traditional generation and so ultimately can be accredited capacity.

Currently, we have deployed 10 megawatts under the planned 16 megawatt pilot program, but there is much greater potential for this technology. The results we have seen so far with this program have exceeded expectations and we would welcome the opportunity to discuss this program with you in greater detail.

Have a great weekend.

Darrin Ives, Vice President, Regulatory Affairs for KCP&L and GMO





Transforming Customers *into* Partners

By Terry Bassham

*Chairman and CEO, Great Plains Energy
and Kansas City Power & Light*

By building stronger demand-side connections—with our customers and grid-edge resources—we can transform today's challenges into opportunities for grid optimization and improved utilization.

There's no question that the electric utility industry is in the midst of redefinition and change. Today is the beginning of a new era in grid modernization and a fundamental shift where customers and technology are pushing the limits of our historical business and regulatory models.

For more than 100 years, investor-owned electric utilities that plan, build, and run the distribution grid have operated under a straightforward regulated system. This model is predicated on reliability and cost-efficiency, and it has worked well. The pricing model is simple: Investment plus cost of operations divided by customer usage. Investors understand it. The result? One of the most reliable infrastructure systems in world history.

Now, the system is evolving and future success will be defined differently. Demand for electricity has softened; we are seeing increased adoption of distributed generation; and customers expect much more than just affordable and reliable electricity. To be successful in this new paradigm, our business and regulatory models must transition to meet these expectations. >>



Future success means embracing big data, automation, and interactivity—especially on the demand side, where customer-owned, grid-edge resources have made the distribution grid increasingly unpredictable. It also means continuing to adopt clean power and energy-efficiency practices—not only because policy is dictating it, but because our customers are, too.

These changes lead to inevitable questions about who will pay, who will benefit, and, most important, how we will continue to ensure reliable and affordable energy during this evolution. And, we need to do this while meeting and exceeding investor expectations.

At Kansas City Power & Light (KCP&L) we believe that—as a utility and as an industry—utilities are best positioned to mold the grid of the future in ways that capture the most value and that benefit all stakeholders. Unlike new entrants to the electric generation and distribution space, utilities do not optimize to one business model, solution, or technology. Rather, we optimize in favor of our obligation to serve all customers fairly and reliably. We firmly believe that the utility is best suited to drive these changes to ensure the most desirable societal outcomes in partnership with both our regulators and our customers.

Part of our strategy focuses on testing and proving customer programs via targeted projects and technologies that align with the philosophy of empowering customers and optimizing the grid. By embracing a vision of the future that chooses to think of integrating

grid-edge resources as an opportunity (instead of a threat), and customers as partners (instead of obstacles), we can optimize grid utilization and continue to deliver affordable, clean, and reliable power for the long haul. Our ultimate goal? To demonstrate that electric utilities are best positioned to maximize the total value of an optimized grid—from generation to consumption—and to create the platform for implementing the grid of the future.

Early History: Electrify and Build

In order to understand the future, it is critical that we remember the amazing journey we took to get here—and what has led us to this critical point in the grid's history.

In 1882, when Thomas Edison energized Pearl Street Station, he could not have predicted the dramatic game-changing impact that electricity would have on industry and our lives. From that day on, mankind has worked to convert most of its machines and technology to operate using electricity. This trend continues today, with surface transportation increasingly moving to electricity as the fuel of choice. From factories and trains to telephones and computers, our entire existence has become 100-percent reliant upon the secure, reliable, and affordable delivery of electricity. While that is a positive for our industry, it carries with it tremendous responsibility and scrutiny, and makes us a target for third parties who want to access the system itself and the invaluable data generated by operating it.

The electrification of nearly everything has led to a second major historical trend: consistently growing demand. To address this growth, our solution as an industry has been simple: build more central generation and distribution to serve this increasingly diverse load. We have built to supply increasing demand and to create reserves and redundancy to improve reliability. We build and build and build to serve a peak demand number (plus 12-percent reserves) that may only occur once in 20 years.

The unintended consequence of always building to accommodate peak is low system utilization. In fact, across the United States, total system utilization averages 43 percent. This provides for great reliability, but our assets are underutilized in comparison to most other industries.

Fundamental Industry Shifts

With flat, or even declining, overall demand, the shutdown of aging fossil-based resources, and increased environmental pressures, we are now faced with the same optimization, automation, and “lean” redesigns that most other industries already have been through. Let's take a brief look at some of the fundamental shifts shaping our industry.

Coal plants are retiring. Across the United States, more than 25,000 megawatts (MW) have been retired since 2009, with that much more expected before 2022. The Energy Information Administration predicts 90 gigawatts (GW) of retirements before 2040—most happening before 2020 and much of which is driven by the Clean Power Plan. At KCP&L, we have announced more than 700 MW of our own coal plant retirements by 2021.

Renewables and distributed generation are positioned to be a real part of the mix. Renewable energy

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sources have been dominated by large-scale wind, but now smaller-scale renewable resources are increasingly cost competitive and are a bigger part of the nation's energy supply. As just one example, according to GTM Research and the Solar Energy Industries Association, solar surpassed 20 GW of "total operational solar photovoltaic capacity" in the United States by the middle of 2015. And according to a Deutsche Bank study, solar energy will reach grid parity in 36 states by 2016. In our service territories in Missouri and Kansas, we estimate that solar generation will reach grid parity before 2020 for many of our residential and commercial customers.

Strained, aging assets require investment. While load growth has been fairly level since 2008, the distribution grid is still faced with major constraints—whether from pockets of load growth on certain feeders, the addition of distributed generation, or simply due to age. Seventy percent of the U.S. grid's transmission lines and power transformers have been around more than 25 years, while the average power plant is more than 30 years old.

However, it is clear that we cannot replace this infrastructure holistically. Cost pressures, third parties with alternative solutions, environmental concerns and regulations, as well as shifting customer expectations, all point to an evolution in the way we approach maintaining and operating the electric distribution grid. Optimizing our current and future investments with a focus on these new realities will be crucial to our future success as an industry.

The great customer divide. Today a multitude of forces are driving separation between utilities and our customers. Policies incentivizing distributed generation,

All of these changes have joined forces to fundamentally alter the face of the distribution grid—from a one-way system to an emerging two-way system, with multiple points of entry into the grid.

coupled with declining costs of solar, have led customers to heavily adopt their own generation. Commercial and industrial customers across the nation are entering into their own power purchase agreements (PPAs) with renewable energy providers and pressuring state policymakers to further open access to third-party renewable providers. In fact, according to the American Wind Energy Association's annual report, more than 1,700 MW of wind PPAs were from private-sector, government, or educational institutions in 2014. And many program-centric third-party companies have built entire business models around serving as intermediaries between utilities and their customers, creating even larger challenges.

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Modern History: Connect, Interact, and Balance

So what does this new era or next evolution of our industry look like? Amidst myriad options, there is one thing almost everyone agrees on: We must transform our grid from a one-way system to a new and dynamic two-way system. We must integrate grid-edge resources securely, reliably, and affordably. Many new players will want to offer products and services to our customers and connect them to our grid. Utilities

will be responsible for managing a much more complex and distributed grid than ever before.

As we transform the grid, the solution to many of our challenges resides on the customer side—which is essentially an untapped "Wild West" rich with capacity and resources that can be harnessed and leveraged to create broad, sweeping benefits. Rather than building up the supply side, we will begin building stronger demand-side connections—with our customers and grid-edge resources—to transform today's challenges into opportunities for grid optimization and improved utilization that Thomas Edison and his colleagues never could have imagined.

KCP&L's Clean Charge Network

A perfect example of what we're trying to achieve as an industry in customer-focused grid modernization and system utilization is our Clean Charge Network. KCP&L is investing more than \$20 million to build out a network of electric vehicle (EV) charging stations throughout the Kansas City region. As a part of this project, we are installing and operating more than 1,100 EV charging stations that will be capable of supporting more than 12,000 EVs. The stations are manufactured by ChargePoint and will be part of the ChargePoint network of more than 20,000 charging spots in North America. Installation of the charging stations began in January 2015 and will be completed this summer.

Connecting to our transportation system brings high-margin load growth that will help us make up for demand lost from other aspects of grid modernization like energy efficiency and distributed renewable energy.

The charging stations are being installed strategically throughout our service region, ensuring there will be a charging station near where EV owners live and work. We are partnering with local companies to serve as host sites for our Clean Charge Network. The host companies will not charge anything to locate the stations on their property. In return, we are providing the entire infrastructure at no cost to the host. Most of the charging stations currently installed in our service territory are behind our customers' meters. In contrast, our Clean Charge Network stations are being installed as part of our distribution grid infrastructure. We are filing for recovery of the capital and operating costs of the Clean Charge Network in base rates.

The Clean Charge Network illustrates how utilities should approach investing in the modern grid era. Not only does it embrace technology, customer expectations, and system optimization, but it begins to help redefine the policy conversation around the utility's emerging role. Developing and deploying the Clean Charge Network will demonstrate six areas of customer and public benefit:

- beneficial electrification coupled with more efficient grid utilization;
- improved environmental sustainability;
- local economic development;
- increased customer programs and interaction;
- lower costs through large-scale purchasing and planning; and

- proactive policymaking both at the regulatory and legislative levels.

There is growing pressure to better utilize the system we already have built without adding new capacity. Electric transportation is one of the best opportunities to do this. The Clean Charge Network is our effort to spur the electric transportation market in our region. Connecting to our transportation system—the last sector of the economy that is not electrified—brings high-margin load growth that will help us make up for demand lost from other aspects of grid modernization like energy efficiency and distributed renewable energy.

As more drivers adopt EVs, we will see more efficient use of the electric grid through increased electricity sales during off-peak times, spreading the cost of operating and maintaining the electric grid over increased usage.

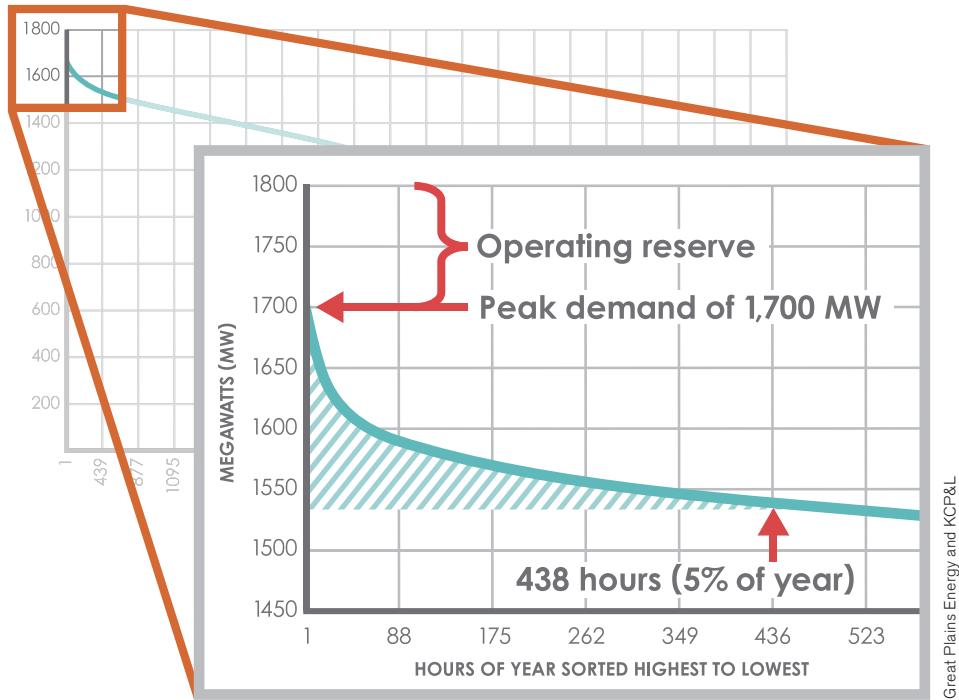
In addition, this project proactively demonstrates for policymakers the merits of utility primacy in planning, building, and operating the grid. It also serves as a showcase for the knowledge and value utilities can bring to integrating new customer-facing technologies into the grid. For example:

- This project generates multiple environmental and health benefits by reducing tailpipe emissions. EVs and plug-in electric hybrids reduce ozone-depleting emissions and help meet regional ozone standards. They also can be counted toward

carbon dioxide reduction as part of state compliance with the Clean Power Plan and eliminate many other pollutants categorized by the Environmental Protection Agency.

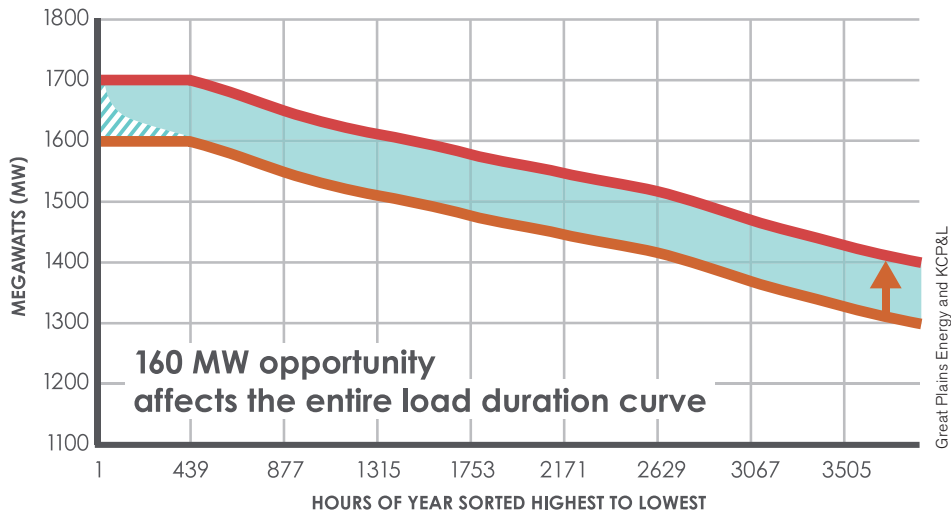
- The Clean Charge Network will spur regional economic development by attracting business and talent as well as by increasing household spending on local goods and services by reducing out-of-pocket costs for our customers on fuel and maintenance for their vehicles. We believe it will attract auto industry, EV industry, and battery and charging station companies to our service territory and has served as a proof point for the innovative projects many utilities are undertaking today.
- With more than 1,100 EV charging stations installed across our service territory, there is a unique opportunity to offer network-enabled programs for demand management, time-of-use rates, and vehicle-to-grid battery storage and discharge.
- We own and operate the Clean Charge Network, and just through the scale of this project, we already have reduced charging station installation costs by nearly 50 percent in our region. This will spur customer deployment of charging stations in our area and will result in a more robust system than one entity could create by itself.
- Beyond cost, design benefits gained from the installation and operation of charging stations as part the electric grid include the streamlining of infrastructure through central design, enabling easier expansion, and creating one unified customer experience and payment standard. While we own and operate the Clean Charge Network, we could not implement it without partnering with technology companies.

Figure 1: Load-Duration Curve



 **160 MW opportunity**

Shaving the top five percent of the load-duration curve could improve distribution system utilization by nearly 19 percent.



 **19% increase in system utilization**

Innovari's IEP provides automation, intelligence, and control to the farthest reaches of the distribution grid, resulting in real-time and two-way verifiable feedback for KCP&L.

By partnering with customers and gaining this control for 400–500 hours per year, not just for 20–40 hours of emergency scenarios, we have the potential to change everything about the way our system can operate.

ChargePoint handles the network operations, has designed a customer-centric interface, and has built into the network the capability for demand response and other load-management functions. We are supporting their business with our platform. Furthermore, we received support from car companies, environmental organizations, and a host of other stakeholders who were excited to see the utility lead an innovative project in our community.

The Clean Charge Network is a new grid technology that extends to the customer side of the meter. We are building support for the regulatory approval needed to rate-base this investment. The Missouri and Kansas Commissions have opened exploratory dockets, and we will make our case.

Projects like the Clean Charge Network are not without regulatory risk. Often such projects involve grey areas of unsettled regulatory policy—investments or operations that are not expressly prohibited but may exceed what many stakeholders view as the traditional or settled role for electric utilities. Many times such projects are met with misgivings or outright opposition by stakeholders such as consumer groups, environmental organizations, regulatory staffs, and non-regulated companies. This can result in negative media attention and protracted regulatory proceedings. As an industry, too often we avoid these risks and decide not to do the project without clear authority under current policies.

Electric utilities need to keep pushing the envelope. Through our Clean Charge Network and projects like it, we are defining what we think should be included in the definition of the modern, reliable, and resilient grid. We also are describing both the utility role in and value to that system. We have to build the future we want to see. Our industry needs to lead by doing. The Clean Charge Network is not a theoretical argument but rather an up-and-running concrete project that allows all stakeholders to evaluate and prove benefits while defining the role utilities should play in operating the grid of the future.

The Innovari Interactive Energy Platform

To truly optimize the distribution grid and integrate solutions that third-party companies have and customers want, we must embrace the edge of the grid beyond our meter as an integral part of the solution. Integrating generation and electric devices on the customer side of the meter, as well as taking a closer look at influencing customer behavior, are where the ultimate solution for a more efficient and reliable grid lies. But to achieve that goal, we must be able to see past the meter and to the grid's edge—to control it and dispatch it under the same tolerances necessary to meet our obligation to reliably meet customer demand.

We began by seeking a technology partner who could help us mine the untapped potential

of our distribution grid and grid-edge resources in partnership with our customers. Through Innovari's Interactive Energy Platform (IEP), we have begun to transform our biggest challenges into tremendous opportunities for improved grid performance.

Unlock capacity to defer infrastructure investment. One prevailing utility challenge has been low system utilization, resulting from the era of “build more.” The result has been a load-duration curve with a lot of room for improvement. (See Figure 1.) We needed to reshape that curve to improve system utilization to meet growing demands and relieve constrained feeders, without adding more infrastructure. This is a “lean” approach to managing the grid—in stark contrast to our “build more” heritage.

By effectively shaving the top 5 percent of that curve, a utility could improve system utilization by nearly 19 percent. This could result in huge savings in deferred, or even eliminated, infrastructure investment.

Through two-way verifiable actions, the IEP attacks that load curve, enabling the demand side to be a guaranteed 5-percent capacity factor. This makes the demand side a real part of the utility's sourcing, hedging, and system-management strategy. By partnering with customers and gaining this control for 400–500 hours per year, not just for 20–40 hours of emergency scenarios, we have the potential to change everything about the way our system can operate.

Unlike traditional demand response or demand-side management programs used for extreme peak demand situations and requiring post-event verification, our pilot project with Innovari provides real-time, two-way verifiable capacity back to the utility anytime we need it. It makes a

generation-quality resource from grid-edge resources. Unlike a generator that is centrally located, it enables utilities to operate with surgical precision, unlocking capacity at the individual substation or feeder level—so we can target our most problematic areas. And it is one that also is owned by the utility as a capital asset, rather than a programmatic expense that creates revenue erosion.

Transform customers into partners. Most important, the business model is designed to strengthen the relationship between KCP&L and our commercial and industrial customers—which was one of the primary drivers behind choosing the IEP.

The utility industry has gotten a bad reputation for treating customers as ratepayers rather than clients. While we believe forces have been at play that foster this concept for their own means instead of hard facts, perception can be reality, and we are working to change that perception and build a new reality. The IEP has allowed us to pioneer techniques with Innovari that enable us to manage customer loads without impacting their operations or comfort.

Customers have shown us that they want technology that automatically manages and enhances their use of electricity. They are not interested in spending time or resources to participate in programs or analyze meter data every day. They are interested in “set it and forget it” functionality that manages consumption based on their wishes throughout the year.

When we call an event using the IEP, all changes to customer loads happen automatically. Customers set their preferences upfront, and real-time feedback means that the IEP can maintain their building environment, not just its load. In addition, participating customers

always have the option to opt-out or change their settings. This “soft touch” means customers only benefit from participating—reinforcing us as a true, trusted partner in their business.

The benefits of the IEP extend far beyond customers enrolled in the program. In fact, automatic demand side management is only one of the grid-edge resources we are looking to leverage and optimize. As customers begin adopting more distributed generation and looking for creative ways to manage their bills, there will be additional ways for them to partner with KCP&L through the IEP and other intelligent technologies.

Integrate the grid's edge to benefit all customers. The IEP provides automation, intelligence, and control to the farthest reaches of the distribution grid. As we continue to deploy this project, it is our hope that we will be able to connect and coordinate a variety of grid-edge resources to balance supply and demand as locally as a feeder—even balancing renewables with other distributed energy resources. With grid intelligence, we can limit unpredictability; and with coordination and control, we can manage two-way power flow and enhance reliability across the grid. In addition, we can leverage and optimize customer- and utility-owned renewables to deliver cleaner energy across our service territory.

Imagine a customer with significant rooftop solar. Imagine that those panels are producing more energy than that customer can use, but that other IEP-connected buildings could use that power to recharge batteries or pre-cool their buildings before peak. Not only would this scenario optimize the use of clean energy, but it would also help KCP&L manage peak and integrate renewables without the negative consequences of intermittency. This is the future we envision.

Enabling the Future Grid Today

At KCP&L, we believe in the fundamentals of our industry. Being a vertically integrated utility allows us to seek solutions that have broad benefits for many stakeholders rather than a single technology that can benefit a single customer class. For lack of a better term, the grid we have created is a “public good,” and we are the stewards of that public good. Rain or shine, tornado or ice storm, we serve our customers with this public good and believe that is not going to change anytime soon. We do not believe that traditional utility structures inhibit innovation or creativity. We believe that we are better suited than anyone else to meet the needs of our states, our communities, and our customers, but we also recognize that we have evolved to meet their changing needs.

While many new players will enter this space in the next several decades, and our resource mix will likely change significantly, utilities will remain at the center and serve as the stewards of the grid. That leads us to our final belief that strong partnerships with our customers will characterize this new future. With our communities and customers as our partners, and our employees as champions, we will be able to effectively engage the grid's edge and make this new future a reality. **EP**



Terry Bassham is chairman and CEO of Great Plains Energy and Kansas City Power & Light.