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Issue: CCS and MDM (IT components distinct from CC&B); Clean Charge Network
Witness: Charles A. Caisley
Type of Exhibit: Direct Testimony
Sponsoring Party: KCP&L Greater Missouri Operations Company
Case No.: ER-2018-0146
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2018-0146

DIRECT TESTIMONY

OF

CHARLES A. CAISLEY

ON BEHALF OF

KCP&L GREATER MISSOURI OPERATIONS COMPANY

Kansas City, Missouri
January 2018

DIRECT TESTIMONY

OF

CHARLES A. CAISLEY

Case No. ER-2018-0146

Q: Please state your name and business address.

A: My name is Charles A. Caisley. My business address is 1200 Main, Kansas City, Missouri 64105.

Q: By whom and in what capacity are you employed?

A: I am employed by Kansas City Power & Light Company ("KCP&L" or "Company") as Vice President – Marketing and Public Affairs.

Q: On whose behalf are you testifying?

A: I am testifying on behalf of KCP&L Greater Missouri Operations Company ("GMO").

Q: What are your responsibilities?

A: My responsibilities include the KCP&L's and GMO's small-scale distributed and renewable generation projects, energy products and services platforms, energy efficiency and demand response portfolio, community and customer strategy and communications, marketing, economic development, governmental affairs and public relations functions. Many of these areas are responsible for direct interaction with KCP&L and GMO customers and stakeholders. These areas of direct customer interaction include: online/electronic transactions and portals, social media, community affairs, business customers, customer complaints, city franchises and regulated and non-regulated products and services. In addition to having responsibility for multiple areas with direct customer interaction, I am also responsible for leading a cross-functional team of

individuals with responsibility for our overall customer experience and strategy. This includes customer research and segmentation as well as customer data analytics.

Q: Please describe your education, experience and employment history.

A: I graduated from the University of Illinois in Urbana-Champaign with a Bachelor's degree in political science. I earned a Juris Doctorate degree from St. Louis University School of Law and a Master of Business Administration from Washington University in St. Louis. I joined KCP&L in 2007 as Director of Government Affairs. Prior to joining KCP&L, I was employed by the Missouri Energy Development Association (MEDA), the Missouri Industry Association for Missouri investor-owned utilities, as President. Prior to that I was employed as the Chief of Staff to the Speaker of the Missouri House. In both positions, I dealt extensively with Missouri utility law and energy policy.

Q: Have you previously testified in a proceeding before the Missouri Public Service Commission ("Commission" or "MPSC") or before any other utility regulatory agency?

A: Yes, I have previously testified before the MPSC in Case No. EC-2015-0309 and the Kansas Corporation Commission in Case No. 16-KCPE-160-MIS.

PURPOSE AND REASON FOR THIS FILING

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to provide an overview of GMO's Clean Charge Network. In addition, I will describe the Customer Self Service (CSS) portals as a component of the Company's One CIS project.

CLEAN CHARGE NETWORK

Q: Why is GMO requesting rate recovery of the electric vehicle charging stations ("EVCS") in this case?

A: As discussed in the direct testimony of Tim Rush, the Commission did not allow EVCS costs to be recovered in rates in KCP&L's last rate case. Because EVCS are an integral part of the Clean Charge Network ("CCN")and the Company's distribution system, GMO is asking the Commission to reconsider its position on the recovery of these costs.

Q: How does GMO's CCN fit into the regulatory framework of a regulated public utility in Missouri?

A: GMO's CCN is a function of providing electric service under GMO's Certificate of Convenience and Necessity. GMO is able to integrate EVCS into its distribution system grid. EVCS allow GMO to provide regulated electric service to its mobile customers. EVCS are part of GMO's regulated electric plant and should be recovered in its rates.

Q: Do EVCS and the CCN serve the public interest?

A: Yes. The CCN is in the public interest in Missouri because it places Missouri in the forefront of accommodating and promoting development of an industry that is expected to advance quickly in the near future, it brings a public charging network to Missouri in an efficient and effective manner, and it provides benefits to GMO's Missouri customers and to Missouri citizens overall. Approval of the CCN tariff allows GMO's service offerings to evolve to meet the demands of mobile customers in its certificated territory, ensuring continued provisioning of sufficient and efficient electric service at just and reasonable rates.

Q. Please describe the CCN.

A. In January 2015, KCP&L launched an initiative to install and operate just over 1,000 EV charging stations throughout the Greater Kansas City region and within the KCP&L(Missouri and Kansas) and GMO service territories. Currently, the Company has installed 913[1] Level 2 stations and 16 Level 3 stations, or DC fast charge ("DCFC") at 323 locations to support the growing market of electric vehicles ("EVs").

Q. Where are the EVCS located?

A. The stations are located throughout the KCP&L and GMO service territories near where people live and work.

The Company has placed the majority of the Clean Charge Network in workplace and retail locations; however other venues have also been popular. Below is a summary of EVCS installations by location type:

Workplace	28%	Hospitality	8%	Education	7%
Retail	20%	Multifamily	8%	Municipal	7%
Healthcare	11%	Parking Garage	8%	Parks and Rec	3%

The Company has placed 270 stations in KCP&L-Kansas, 399 stations in KCP&L-Missouri, and 260 stations in GMO.

Q. Please explain how EVCS host arrangements work.

A. The standard host contract is for a term of ten years. The Company will install, own, and maintain the EV charging station infrastructure. Hosts may have Level 2 or Level 3 or both types of stations installed at their location. Those hosts who have Level 3 charging

[1] As of January 2, 2018.

stations, must agree to provide one parking space for a dual port Level 3 charging station and 6-10 parking spots on average for 3-5 dual port Level 2 charging stations. The host agreed to pay for the electricity used at the Level 2 charging stations for a period of 2 years, and a grant from Nissan paid for the electricity used at the Level 3 charging and a third year of Level 2 charging through December 2017.

Q. How is GMO currently billing users of the Clean Charge Network?

A. For the first three years electric vehicle ("EV") charging was free for all drivers. GMO utilized a grant from Nissan to cover the cost of charging in the 3rd year. However, as of January 1, 2018, the Clean Charge Network has moved to a host site or EV driver pay model. Driver charging will continue to be free at host sites that have agreed to pay for the cost of charging. Of the 929 stations, 180 stations will be host paid. These host paid sites include retail locations, hospitals, and grocery stores, among others. For locations that elected the driver pay model, the cost of charging will be billed to the driver on a per kilowatt hour rate and paid by the driver through the ChargePoint payment collection system.

Q. How are EV drivers billed through the ChargePoint system?

A. KCP&L has contracted with ChargePoint, the charging station vendor, for ongoing charging station network operations, driver support services, and for the billing and collection functions related to energy provided at the EV charging stations. Under the Driver Pay scenario, individuals who charged their vehicles would be billed through the meters in the charging station for the energy they used. The charging station and ChargePoint's web and mobile applications are able to tell the driver the rate he is going to be charged as well as whether or not and when a session overstay fee would be

charged at that station. The payment is collected by ChargePoint, pursuant to an agreement between ChargePoint and the charging customer, and remitted to the Company. KCP&L will be able to compare usage recorded and paid for by all of the stations at an installation cumulatively, to the monthly usage recorded by the utility meter at the installation. The tariff proposed by GMO is discussed more fully in the Direct Testimony of Company witness Mr. Tim M. Rush.

Q. How does a customer sign up to use EVCS?

A: Drivers can sign up and establish a ChargePoint customer account or directly with ChargePoint to access stations on the KCP&L Clean Charge Network and over 21,000 EV charging spots nationwide on the ChargePoint network. Once the customer account is established, the account holder must register the KCP&L Clean Charge Network (or generic ChargePoint) radio frequency identification ("RFID") cards that are authorized to register charges against their account. The account holder may register CCN RFID cards that they have received from KCP&L or car dealership, or they may request cards be sent to them.

Q: How does a customer use EVCS?

A: Once a driver establishes a ChargePoint account, they can access a EVCS by using their KCP&L CCN card, the ChargePoint mobile app, an RFID credit card or by calling driver support at (888) 758-4389. The 888 number is listed on each charging station and on the back of the KCP&L CCN card. How-to videos run on every charging station and additional Frequently Asked Questions are available on KCP&L's website at https://www.kcpl.com/media/indexedmedia/about_kcpl/ccn/cleanchargefaqsforevdriversfinal.pdf. Drivers have access to 24/7 support, an advanced mobile app to help them find

available charging stations, notifications about charging status and much more. Drivers can also save their favorite station locations, and track their energy use, gas savings, and avoided greenhouse gas emissions.

Q. Is an EV driver required to sign up with KCP&L to qualify for EVCS tariff?

A. No. EV drivers may sign up for an account directly with ChargePoint and EV drivers that do not have a ChargePoint account may access a CCN charge station by calling ChargePoint driver support and providing a valid credit card. All EVCS charging will be billed under the charging station tariff.

Q. How will an EV driver know how much they are being billed to charge their EV at EVCS?

A. At charging stations operating under the driver pay model, the EVCS, ChargePoint's web and the ChargePoint mobile application will all provide the driver the kWh rate they are going to be charged along with any session overstay fees that could be assessed and all applicable taxes that will be applied.

At the end of each charge session, all session cost components and taxes assessed may be reviewed on the charge station and the driver can also elect to receive e-mails and/or text messages containing the charge session cost details. The ChargePoint account holder can also review a history of charging sessions that have been charged to their account with the cost components for each charging session.

Q: Can you explain the concept of the Session Overstay Fee contained in the proposed tariff?

A: The Company has the discretion under Schedule CCN ("Clean Charge Network") to impose a Session Overstay Fee to incent customers to move their vehicles once the

charging process is completed so that other customers can have access to the charging station. If a Session Overstay Fee is approved the driver would be provided a grace period after the EV has completed charging before the Session Overstay Fee would be imposed. The grace period allows the EV driver to receive notification (via text or e-mail) and move their vehicle to avoid these charges.

Q How does KCP&L intend to determine if a Session Overstay Fee should be applied?

A: The Company plans to only implement the Session Overstay Fee when needed at charging station locations based on the occupancy and availability of charging ports at each host site location. Initially, KCP&L does not plan to implement the Session Overstay Fee on any of the charging stations. The Company will monitor charge port availability and overstay times and implement Session Overstay Fee at host locations where the additional inducement is needed to get drivers to move their vehicle.

Q. Will the Session Overstay Fee be the same at all Clean Charge Network locations?

A. No. Schedule CCN sets a cap of $6.00 per hour for Session Overstay Charge and care must be taken to ensure they are set high enough to incent drivers to move their vehicle but not so high as to discourage customers from using the stations. KCP&L set the maximum of the range of Session Overstay Charge at $6.00 per hour based on the maximum rate of charge provided by the Level 3 charging station – the fastest charger. The lost revenue potential of a Level 2 charge port is significantly less (approximately $1/hr.) and the Session Overstay Charge should reflect this differential. The Company wants to establish the minimum number of Session Overstay Charges levels but recognizes that higher overstay charges may be needed at some locations compared to other.

Q. What type of other notification can a driver receive?

A: Notifications are available to make drivers aware of their EV charging status at all times. Text and email notifications can be set up to notify drivers when their car is fully charged, when charging is interrupted, when a session overstay grace period is ending, and when EVCS become available for use.

Q. How does ChargePoint collect charging fees from account holders?

A. ChargePoint operates on a prepay credit system. The first time you use a ChargePoint station with a fee, the driver will need to enter payment information. ChargePoint charges the Account holder $10 using their preferred payment method on file and deducts the charging costs from it. Every time the account balance goes below $5, ChargePoint charges the account another $10 using the payment method on file. If the driver cancels their account, ChargePoint refunds the remainder of the balance to the account holder.

Q. What has the Company done to increase the use of the CCN?

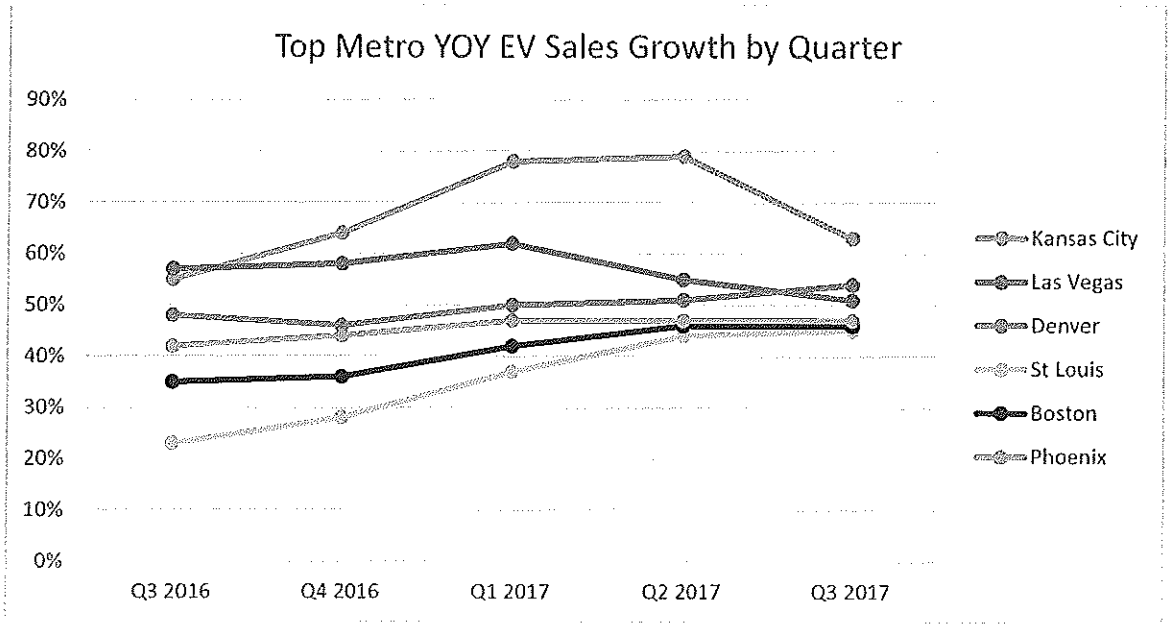
A. The Company has undertaken many community outreach and marketing activities related to the CCN, including building an EV driver affinity group, outreach and training to local car dealerships, partnership with Nissan, development of a multi-pronged advertising approach, held EV events and built a customer microsite.

Q. What has been the growth in the number of electric vehicles in the Kansas City metro area?

A. For four quarters in a row, Kansas City has led the nation in electric vehicle growth with a 78 percent increase in the first quarter of 2017; 79% increase in second quarter 2017 and 63% increase in third quarter 2017 respectively as compared to 2016.[2] The graph

[2] Source: ChargePoint; Polk/IHS Markit Data 2017Q3

below illustrates this growth compared to other large cities in the United States. As shown in the graph, the Kansas City area has had an accelerated growth relative to other cities shown. It is reasonable to conclude that there is a direct correlation between the increased accessibility made possible by widespread placement of EV infrastructure through the CCN and the growth in adoption of electric vehicles.



Q. What has been the growth in the number of electric vehicles been in the KCP&L service territories?

A. At the end of 2014, just prior to the launch of the Clean Charge Network, there were an estimated 805 plug-in electric vehicles ("PEVs") in the KCP&L service territories. As of June 30, 2017, the number of registered EVs in all KCP&L jurisdictions had increased to over 2,400 PEVs, a compounded average annual growth rate of 44%.

In addition, the number of registered EVs in the Company's service territories has grown faster than the cumulative new EV sales indicating that dealers are importing off-lease and trade-in EVs from other markets to Kansas City to meet the growing demand.

Another change in the electric vehicle market is the decreasing dominance of plug-in hybrid electric vehicles ("PHEVs") and the consumers increased willingness to invest in battery electric vehicles ("BEVs") with a limited driving range, typically below 80 miles.

The following table provides the breakdown by jurisdiction. Initially, PHEVs made up 70 percent of PEVs, but now PHEVs represent 56 percent of PEVs and BEVs have increased to 44 percent of all PEVs.

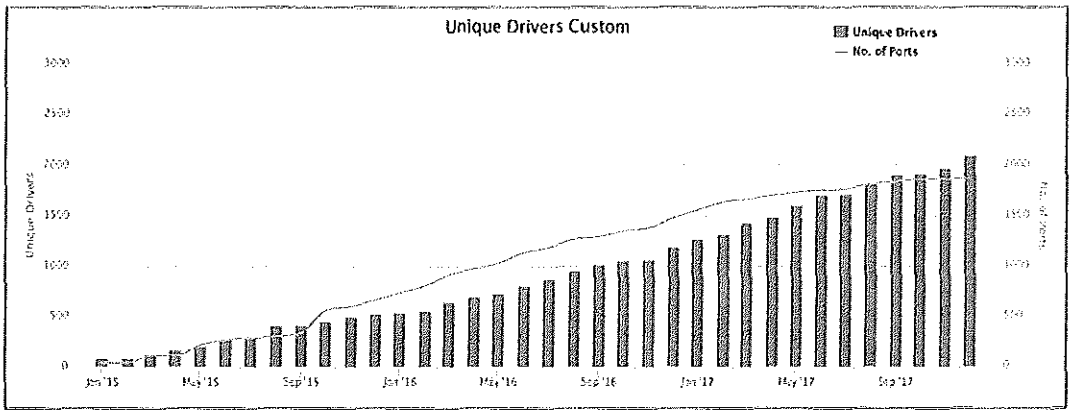
Jurisdiction	YE 2014	YE 2015	YE 2016	Q2 2017
KCP&L-GMO	139	195	304	386
KCP&L-MO	265	388	641	842
KCP&L-KS	401	556	909	1,176
Total	805	1,139	1,853	2,403

Q. How were these estimates developed?

A Under KCP&L's participation in the Electric Power Research Institute's ("EPRI") Transportation Electrification research program, KCP&L receives monthly report of the number of vehicles registered by type for each Company jurisdiction. EPRI uses monthly county level 'new vehicle' registration data and quarterly zip-plus4 vehicle registration data to develop the vehicles in operation for each service territory.

Q. What has been the growth in the number of electric vehicle drivers using the Clean Charge Network?

A. The number of unique EV drivers using the CCN has increased, as illustrated in the following graph, from 86 in January 2015, to 2,092 as of December 2017, a compounded average annual growth rate of 190%.



Q. Are there additional metrics to illustrate the growth in the use of the Clean Charge Network?

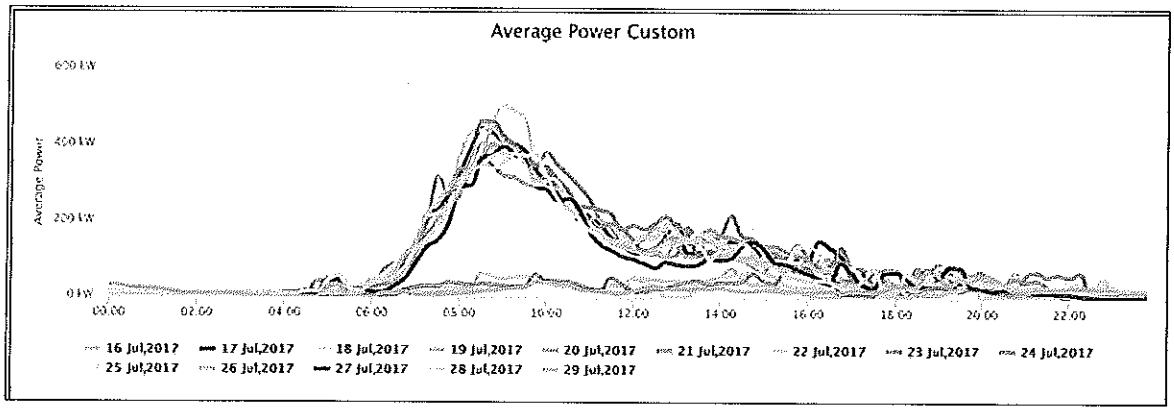
A. Yes, in addition to the number of unique drivers using the Clean Charge Network, the number of charge session and the energy dispensed are metrics that illustrate the growth in use of the Clean Charge Network. Over the same three (3) year period, the number of monthly charge sessions has grown steadily from 513 to 16,162 for a 216% compounded annual growth rate and the energy dispensed monthly has increased from 4,028 kWh to 117,355 kWh (208% compounded annual growth rate)

Q. What has the Company learned about driver charging patterns impact on the electric system?

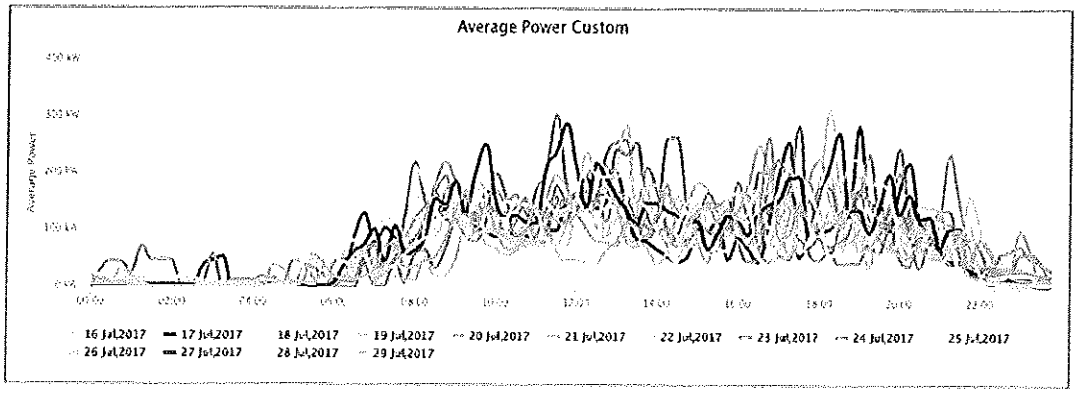
A. One of the objectives of the CCN was to gain a better understanding of EV driver charging patterns. As discussed previously EVCS have been installed at a wide variety of host site locations, but all host locations generally fall within three broad host classifications: 1) Workplace, 2) Retail/PublicVenue, and 3) Multi-family.

Approximately 50 percent of the EVCS have been installed at locations that primarily support driver workplace charging. The following figure illustrates the aggregated daily charging pattern of workplace charging for the last two weeks in July

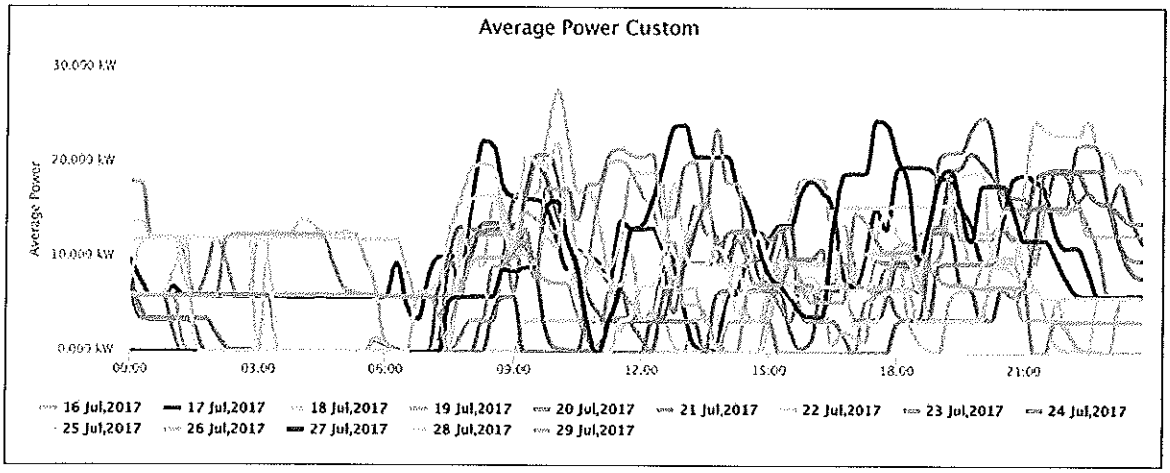
2017. The figure illustrates a very consistent weekday charging pattern that begins early in the morning, reaches a peak by mid-morning, and is significantly reduced by noon. This charging pattern is very complementary to both the system and commercial distribution feeder load profiles.



Approximately 42 percent of the EVCS have been installed at retail/public venues locations that primarily support more transient or opportunistic driver charging. The following figure illustrates the aggregated daily charging pattern of retail/public venue charging for the last two weeks in July 2017. The figure illustrates a very random daily charging pattern that begins in the morning and continues through the remainder of the day. The figure illustrates some potential contribution to system peak during the 4-6 pm hours.



Only 8 percent of the EVCS have been installed at multi-family locations to primarily support apartment and condominium home charging. The following figure illustrates the aggregated daily charging pattern of the multi-family locations for two weeks in July 2017. The figure illustrates a very random daily charging pattern and very little can be determined at this time due to the fact that many of the multi-family installations are relatively recent and to date service very few drivers.



Q. What are the benefits of the Clean Charge Network?

A. Beneficial Electrification: EVs increase electricity sales during off-peak times. Increased electricity sales help spread the costs of maintaining the grid over more kilowatt-hours, helping keep rates competitive for all customers. Off-peak usage also reduces the need for additional generation and grid upgrades to keep up with demand.

Environmental Benefits: EVs will reduce ozone-reducing pollutants and carbon dioxide from tailpipe emissions thereby providing environmental benefits. Based on 2014 emissions data for the Southwest Power Pool (SPP), EV emissions are equivalent to a 46 MPG[3] conventional vehicle. This is lower than some gasoline powered vehicles, but

[3] http://blog.ucsusa.org/dave-reichmuth/new-numbers-are-in-and-evs-are-cleaner-than-ever

is significantly above the 2017 model year vehicle average of 25.2 MPG[4]. The 46 MPG equivalent rating, is an improvement of 10 MPG from just 5 years ago and reflects the environmental controls and increased renewable generation in the SPP fleet. And since 2014, KCP&L's generation fleet has continued to reduce emissions as coal plants are retired and more renewable generation resources are added.

Economic Benefits: A forward-thinking community attracts businesses and talent, especially in competitive categories. EV owners spending less on fuel and maintenance spend more money on other products, and often do so locally. In addition, there is potential growth in the auto, EV, battery and charging industries within the Kansas City region. As a result, there is direct and indirect job creation from charging station deployment, EV sales and servicing.

Customer Programs: The KCP&L Clean Charge Network provides vital data that helps us develop future new customer programs for DSM, time-of-use (TOU) rate, and EV charge management and vehicle-to-grid battery storage/discharge.

Q. How will GMO's non-EV driver customers most directly benefit from GMO's investment in the Clean Charge Network.?

A. All GMO customers will benefit from the increased electricity sales during off-peak times from increased EV adoption. Increased electricity sales help spread the costs of maintaining the grid over more kilowatt-hours, helping keep rates competitive for all customers. Off-peak usage also reduces the need for additional generation and grid upgrades to keep up with demand

[4] http://www.umich.edu/~umtriswt/EDI_sales-weighted-mpg.html; accessed January 20, 2018

Q. What is the Company's vision for the Clean Charge Network?

A. The number of EVs in the country is growing each year at a faster and faster pace and this trend is expected to continue. The environmental benefits of EVs, the support for the industry by elected officials and policy makers, coupled with the decreasing costs of a growing number of EVs and plug-in hybrid electric vehicles (PHEVs) on the market as well as the economic savings to EV owners, all support a thriving industry over the next decade.

However, the industry can only advance if there are adequate charging stations throughout the country, similar to what we now have for gasoline-powered vehicles. The lack of EVCS infrastructure presents a barrier to EV market penetration at scale in the industry and the lack of a standardized financial transaction infrastructure also inhibits the industry's growth. The CCN has helped alleviate this barrier in our service territory and is providing KCP&L with data to better understand the charging needs and behaviors of our EV driver customers.

The CCN is part of our strategy that 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 edge-of-grid 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.

ONE CIS PROJECT

Q: How will the customer portals change in the One CIS Project?

A: As part of the One CIS project, KCP&L will replace all four of its online authenticated customer portals. KCP&L will utilize Oracle Customer Self Service as a Web portal platform that will give customers online options for paying bills, requesting service and managing their account which includes monitoring their energy usage. The CSS project is part of the broader One CIS initiative, and it focuses on enhancing the Customer Self-Service experience while standardizing on a single technology platform. The CSS environment currently uses multiple platforms to support the four different portals used by the various KCP&L customers. The CSS project will enhance and replace each of the four portals with a new version, sharing a common infrastructure, with the goal of empowering the KCP&L and GMO customer base to fulfill their needs online, with zero-to-minimal interaction with customer service representatives.

Q: Why did the Company decide to replace all four online authenticated customer portals?

A: All four are tightly coupled with sending transactions and receiving information from the CIS billing system. All four are interrelated and if one portal is replaced, all of the portals must be replaced.

Q: Could the existing portals be used with the Oracle CCB billing system?

A: The foundational architecture for the existing portals was built using ColdFusion, a programming language which is waning in popularity, now widely considered a legacy method for web programming. It does not provide a foundation for new capabilities for

the Company's customer portals. More importantly, with the obsolescence of ColdFusion, ColdFusion programmers are becoming more scarce

Q: What limitations hindered keeping the current portal structure in place while implementing CCB?

A: The current architecture for the portals requires that all CIS billing data (both GMO and legacy CIS) must be replicated into shadow databases on a nightly basis. These databases are used for customer external access. It supports only limited real-time customer data access of CIS billing information. Another primary concern would be the ability for the portals to interact directly with CCB and process transactions real-time (such as payment processing). The interaction into CCB would have to be accomplished by creating a brand new "handshake" between the portals into a brand-new middleware programming language that accepts a digital transaction from the portal and transmits it to CCB. Given the uncertain future of ColdFusion as a viable platform for interactive websites, it would not be prudent to invest the effort to rely on it as a primary tool for critical interfaces to the new billing systems and the many associated systems involved in the One CIS effort.

Q: Did the Company buy a new software program to replace the portals?

A: No, there is no viable off-the-shelf program available in the market place that can provide the breadth of functionality and flexibility that our current websites give KCP&L customers today. We had a guiding principle that we would not to take away current functionality that our customers are using and enjoy. Thus, we decided to build the sites using Sitecore platform.

Q: What programming language was used?

A: The primary coding language is Microsoft .Net. That's supplemented with other web coding and scripting tools like HTML, HTML5, Javascript, CSS (Cascading Style Sheet, not to be confused with Customer Self Service). Another software component is a CMS (content management system) which is Sitecore, another .Net tool.

Q: Why is a content management system necessary?

A: Sitecore is a customer experience management company that provides web content management and multichannel marketing automation software. The Sitecore software is used on kcpl.com for our public company website. By using the same software, we can leverage the same content to have a consistent look and feel across the public site through to the authenticated portal site. We will be able to leverage our employee workforce to provide content for both sites.

Q: What are the components of the authenticated customer portals?

A: The Company maintained the same set of four portals, My Account, AccountLink Advantage, ApartmentLink and AgencyLink. These portals serve all our residential, commercial, Tier 1 and Tier 2 customers. Additionally, they service property management companies and landlords. Finally, we provide a portal for social service agencies that support our customers needing energy assistance.

Q: What was the final components of the portals?

A: At its core, the CSS portals rely on three layers:

- User Interface: The UI is based on Sitecore and it's needed to interact with the user and the exposing of various functionalities. The UI layer relies on several services to properly render the required functionality.

- Integration Layer: A service layer responsible for relaying information back and forth, from the UI to the OUAF family of applications. The integration layer also serves as a bridge to all integrations with 3rd party services.
- OUAF Core services: The OUAF (Oracle Utilities Application Framework) layer is made up of CCB, as the core billing platform integrated with MDM and OMS to support all meter and network functionalities. These together, along with enterprise business services, act as the hub of the CSS architecture.

Q Did the Company have a goal in mind for scope of functionality for the customer portals?

A: We had a team of analysts that documented every functional requirement in our customer portals. Each requirement was used as the foundational requirement in the RFP's that were sent to qualified vendors. Each requirement was tracked in a Requirements Traceability Matrix (RTM) to ensure the functionality was part of the delivered scope of the new portals. The requirements went through an evaluation process to determine customer benefit, efficiency and usability, and based on that the original scope of the project was established and estimated. Any new requirement will be required to go through the same rigorous vetting process before it can affect the project scope. Once the scope is fully accepted, a change request (CR) will be required to support any additional work.

Q: How did KCP&L determine the scope of functionality for the customer portals?

A: Our baseline for the new portals was to recreate current functionality. Exceptions to this rule were additional functionality provided by tight integration with CCB (such as Budget Billing enrollment, payment plans and real-time payments) and features enabled by other

project integrations (for example, detailed energy data from interface with MDM). Other guiding principles included providing equivalent features across both divisions (GMO and KCP&L) and ensuring the website is fully responsive and optimized across devices (pc, laptop, tablet, mobile device), operating system (Windows, iOS, Android) and browsers (Internet Explorer, Chrome, Safari).

Q: How can you be sure your investment will yield a platform for the future of customer self service enhancements?

A: We believe the .Net platform and Sitecore content management system is a sound platform and will provide years of growth and customer benefits. These platforms have an abundant workforce in the metro area to hire directly or to work with 3rd party vendors to provide resources. Finally, since this is a popular platform this will support expanding our services to our customers as we work with 3rd party vendors to offer customer programs.

Q: Did you use any KCP&L employees to design and implement the new portals?

A: We simply did not have the number of resources that were needed to rebuild these portals. We are staffed with resources to support our operations and controlled upgrades to the portal. A complete overhaul, such as the One CIS project, required outside resources to accomplish this in the project timeframe.

Q: What was the project timeframe?

A: The project timeframe is discussed in the Direct Testimony of Forrest Archibald.

Q: Who did you choose as your partner to write the software?

A: Through the RFP processes we found 3 viable candidates. They were PWC, Oracle and DEG. DEG is a local company and they are a long-term partner with KCP&L working

with us on the public .com website. DEG, a low-cost bidder, was the likely and preferred source (because of their proximity and ability to support the portals long-term) to do this work. However, DEG's lack of knowledge about CCB and the middleware connection to CCB made it a challenge for them to bid the entire project. DEG bid was for the front-end customer facing functionality. Between Oracle and PWC, we chose PWC and the middleware and backend integrator for the portals. This was the likely choice because they were the system integrator for CCB. They had all the knowledge about the new processes and had all the knowledge about the implementation methodology and timelines. While working with two different vendors provided a unique challenge for governance, the partnership with DEG, PWC and KCP&L provide to be the best choice.

Q: Did KCP&L employees participate in the development of the portal?

A: Yes, the portal component of the project was called CSS. This stands for Customer Self Service. KCP&L had a CSS project lead, CSS IT technical lead, CSS business lead and a CSS testing resources throughout various stages of testing. The project team also used resources from the Customer Experience and Marketing Communications team to provide oversight to the content and look and feel of the portals. The CSS business lead has been the manager of the existing authenticated portals for 20 years. We were guided by our business stakeholder, Sr. Director Customer Experience and Marketing Communications throughout the entire construct, implement, operate and review process.

Q: How did the development approach connect to the One CIS project and CCB functionality?

A: The CSS development approach mirrored the One CIS approach, with some minor changes to account for the heavy dependency on service integration to render key

functionalities. The development phase required the collaboration of three separate vendors, who are each responsible for producing clean, tested, and executable code—a code base which is integrated, based on a common methodology.

Q: How can you be sure they will function properly when you go live and your customers will not experience any downtime?

A: KCP&L chose another vendor, Veracity, to lead our testing efforts. They could provide local resources as well as an experienced testing lead. Veracity as also an independent partner from DEG and PWC and could provide oversite guidance to our CSS leads. Part of the scope for PWC, DEG, Veracity and KCP&L was to develop test cases that aligned with each of the requirements. We had more than 7,000 test cases. Often these were tested over and over during the various testing phases of the project. These test cases spanned several internet browsers and hardware.

Q: What other testing strategies ensured the functionality?

A: The CSS testing strategy is dependent on the overall One CIS testing strategy--and follows the same methodology and schedule. We had different environment to test the software in. The environments spanned from development, System Integration Testing (SIT) environment and User Acceptance Testing (UAT) environment. The UAT environment was built on production servers and operating systems. Code delivery migrated through all environments. Other quality assurance methods included nightly triage for defects in the CSS portals. Morning triage meeting spanned the overall One CIS project team which included all products such as CCB, MDM, CRM/MAP and CSS. Testing metrics such as number of defects and estimated fix dates were monitored by project team leads, PMO and QA leads.

Q: Did you have a goal in mind for customer service metrics for the customer portals?

A: Customer Service Metrics: These are standard metrics that the industry uses to measure and benchmark how utilities interact and transact business with customers. This includes measuring and working to see improvements in our electronic portals. Our goal is to be top quartile among utilities nationwide and to see continual improvement in these metrics as well as continual streamlining in our customer processes. This is an ongoing process. We use Foresee to help maximize the customer experience on our online / digital platforms.

Q: Can you describe KCP&L's efforts around its online presence with electronic transactions. How does this impact customer experience?

A: KCP&L was an early adopter of electronic portals and has seen the importance of a strong digital platform for more than a decade. As stated previously, all customers are different. Some customers prefer talking to a representative on the telephone and paying their bill through the mail. However, a growing segment of customers prefers to find information on the internet and to conduct business online. To accommodate those customers, KCP&L has had a robust digital and online strategy for nearly a decade. Our focus here is to provide online and mobile solutions that work for our customers.

Currently, KCP&L has a mobile-optimized website as well as highly-utilized authenticated electronic transaction portal called MyAccount. As of the end of 2015, more than 55% of KCP&L's customer transactions now occur on online sessions. And KCP&L's customer satisfaction with these portals is industry leading.

Q: How does KCP&L approach customer service with business customers?

A: A separate team of employees works with business customers. Typically, business customers have more complex requirements than residential customers. Their bills are generally more complex. Business customers often have higher voltage service, more complex bills with multiple accounts associated with one customer as well as various adjustments to their tariffed rates, such as an economic development rider. To serve the digital customer we have a separate portal called, AccountLink Advantage (known as ALA). This is reserved for Tier 1 and Tier 2 customers to interact by viewing their energy usage, paying their bills, consolidating information across a customer's business and multiple accounts and overall managing their accounts.

Q: How does implementing the new portals during this timeframe leverage the Oracle CCB product?

A: When it comes to our business customers (ALA) our customers cannot set up/modify banking data directly. The other big strategic win for our ALA customers is the ability to be able to view interval data. Our sophisticated business customers want to be able to manage their energy and understand when and how their energy is being used. The new portals unlock the potential the AMI/MDM systems for both residential and commercial customers by being able to access this data at various levels (yearly, monthly, hourly and 15 minute intervals). This data is displayed graphically and can be downloaded for further analysis. Both our residential and commercial customers will enjoy the same functionality across our service territory. Today some limitations exist for the GMO customers.

Q: Are there additional ways KCP&L has improved their customer experience because of the new portals?

A: Yes. Customer expectations continue to evolve and to increase. Customers do not judge their utility's customer service relative to other electric utilities across the country. Rather, customers compare their electric utility to other companies they do business with every day, like their bank or their credit card company. These types of companies – and others the Company is compared to like Amazon and Wal-Mart – provide customers smooth online experiences that allows them to quickly and easily conduct their business then move on. The new portals bring the Company in line with what customers expect to experience when they come online to start service, pay their bill or better understand their energy usage and costs. Customers also expect to be able to tell the Company how they'd like to be kept up-to-date with their account, through messages like paperless billing notifications, bill reminders and more. And they expect to be able to receive those messages via email, text message or both, depending on their preferences. With the new portals, the Company has created a preference center and expanded the number of notifications customers can receive.

Q: What types of communications preferences can customers set within Customer Self-Service, why is that important and how does it benefit customers?

A: The Company wants to offer customers appealing options and control over what information they receive, how and when. This increases customer satisfaction.

With the new Customer Self-Service, the Company provides nine different overall options for telling the Company how they'd like to be communicated with. These options allow them to select the types of information they want to receive and indicate which

channel they prefer – email or text message. Customers also can opt out of communications, if they wish.

One of the business requirements the team specified for this functionality is the ability to store and manage customer preferences in a way they can efficiently and effectively be utilized across the organization, allowing the Company to serve customers better in every channel. For example, customers can speak with a Customer Service Representative over the phone to change their preferences and they can select preferences themselves through the online portal. Both interactions will work seamlessly for the customer because of the systems selected to manage this interaction.

Q: What systems were selected to manage customer communication preferences?

A: Several systems working together provide customers appealing potions and control over what information they receive, how and when. These systems also orchestrate the delivery of the more than 13 million messages that are delivered annually as a result of these customer requests.

Customer Self-Service (CSS) provides the preference selection capability to customers online. Customer Care & Billing (CC&B) stores these preferences, ensuring they are up-to-date, tied to the appropriate accounts and visible to Customer Service Representatives. Oracle Eloqua is a system that creates and stores the templates for all the message types and variations, receives triggers from CC&B and delivers the appropriate messages to individual customers via email and text message. Eloqua also ensures compliance with applicable regulations, such as the CAN-SPAM law, and reports back to CC&B text message payments, message delivery confirmations and updates to customer preference information, such as email opt-outs.

Q: What improvements have you made to the types of account notifications customers receive because of their completion of a task on a Customer Self-Service portal?

A: Currently, the Company offers a smaller set of more basic transactional notifications for customers through email and text messages. For example, when a customer pays their bill online through the current Customer Self-Service portal, they receive a confirmation email letting them know their payment was submitted. Several improvements are being made to these notifications.

First, the Company will now offer more of these notification options. J.D. Power and Associates indicates that the more account notifications customers have available to them, the higher their satisfaction. The Company's current offering includes 26 notification types with 81 variations of those messages, depending on transaction details and customer type. With this initial go-live of the redesigned Customer Self-Service portals and Eloqua, the offering increases to 42 notification types with 238 variations accommodating transaction details and customer type. Seventy-two of the variations are enhancing existing notification types by adding additional personalization not available in the current state offering.

Second, the Company is adding more functionality to its text messaging account management offering. Currently, KCP&L's text messaging offering allows customers to receive billing alerts via text message and to pay their bill via text. KCP&L was among the first five regulated investor-owned utilities to offer this type of service to residential customers in 2011. Based on customer feedback and continued learning around industry best practices, the text messaging program is being expanded to offer several new features.

First, several new notification types are being offered around payments and due dates. In terms of payments, the Company has added a scheduled payment cancellation notification, a confirmation of enrollment into a payment plan, and a "last payment" feature that allows enrolled customers to text keyword LAST to view the date and amount of their last payment made. There are now also five variations of text notifications for payment failures, depending on the details of why a payment has failed. In terms of due dates and reminders, the Company has added a bill overdue notification and a payment plan due notification.

Second, the Company is offering customers enrolled in the text messaging account management program the ability to avoid pending disconnection by texting the keyword MIN. This will automatically pay the minimum amount due to avoid disconnection in real time.

The Company also has added the ability for a user to manage multiple accounts through one phone number in the text messaging program. Previously, there could only be one account per phone number. This is a vast improvement to the user experience for customers who have multiple accounts.

Q: Why is it important that the Company have a system like Oracle Eloqua to deliver email and text messages?

A: With Eloqua, the Company has a reliable, sustainable message orchestration and distribution platform that can be scaled to grow and evolve with the needs of customers. The Company's current delivery mechanisms for transactional emails and text messages were built upon legacy ColdFusion applications. Those applications are not compatible with Oracle Customer Care and Billing and would not have been sustainable for that

reason and because ColdFusion is a dying computer programming language few developers can support. Therefore, a new system was required to deliver these messages. This new system — Oracle Eloqua — provides a platform for the Company to deliver email and text messages in a way that is highly reliable, automated and significantly easier to maintain. Creating such a platform was essential for the Company to be able to increase the number and types of notifications offered to customers now and in the future. It will allow the Company to encourage even more customers to transact with the Company online, should that meet their preference, and it will ensure there is a solid fountain for additional options to be added in the future more easily than with legacy systems.

Q: Are there other ways the Company will improve customer experience using Oracle Eloqua?

A: Yes. Oracle Eloqua is a type of software called a marketing automation platform, which means it has robust capabilities to deliver the right message to the right customer at the right time.

This capability is essential because customers want to hear from their utility in helpful, relevant ways. They're comparing their utility to companies like Amazon, Wal-Mart, their banks and mobile phone providers that offer standout customer experiences not yet widely found in the electric utility industry. The Company has an opportunity to measure up because they want to learn about electricity-related topics, such as energy efficiency, from someone they trust in that space – their utility.

What specifically do customers want to hear? They want to know about the Company's plans for reliable, sustainable energy delivery. They want notifications when

their bills are due. They want alerts when payment has been received. They want to know how severe weather might impact their service – and how to stay safe during that event. They want information about programs and services that help them save money. They want the tools that help them make informed decisions about their energy usage.

But customers don't want that information randomly – or all at once. Every customer doesn't want that information delivered the same way. And they want to manage the depth and nature of their relationship with their utility.

To meet customer expectations, the Company will deliver the information customers want along three dimensions: content type, audience and timeliness.

First, there are the types of content the Company will deliver. There are four broad categories:

- Account status (e.g., bills due, payment received, enrollment in automatic payments)
- Critical events (e.g., impending severe weather, emergence of scams)
- Educational content (e.g., variety of rate plans available, safety tips, energy-saving best practices)
- Marketing content (e.g., availability of energy-efficiency rebates and programs, availability of community solar and other renewables offerings)

Second, there is the type of customer or audience who will receive the information. These systems allow the Company to target and nuance information for specific customer segments, so the messages they receive are personalized and apply to them specifically. This is determined by such attributes as:

- Customer type (business vs. residential) – The information business customers expect from differs from what residential customers expect. Further, not all programs and account options are available to both customer groups.
- Geography – The Company covers a large geography. Scams and weather events don't impact everyone. Rate jurisdictions and applicable rates vary. What is relevant to people living in St. Joseph, Mo., is not always relevant to businesses in Sedalia, Mo.
- Communities – Suburban, rural and urban customers do not always need or desire the same information at the same level of depth or tone.
- Additional demographics – Whether people rent an apartment or own a home, whether they are a new or long-time customer, whether they prefer to interact with the Company digitally, over the phone or in person – different customer needs and behaviors manifest themselves in these.

The third dimension along which the Company will deliver information customers want, is timeliness. Eloqua can send information to customers timed to coincide with actions they've taken or experiences they've had with the Company. Did they recently start service? Are they facing a high bill? Have they investigated a rebate program but not followed through? Were they looking for information on the Company's website, but appear, based on click behavior, not to have found it?

In each of those circumstances (and many others), the Company has conducted research that indicates what customers expect to hear in that moment and what messages they want to hear. A customer who just started service is responsive to information about

how to sign up for My Account access, if they didn't already, what to expect with their first bill, and other tips that are helpful during the time of settling into a new home. A customer facing an unexpectedly high energy bill, for example, will be much more interested in tips, tools and programs to help them manage their energy usage – as opposed to learning about electrical safety tips.

Q: Does Eloqua achieve these customer experience benefits by itself or are there other systems it is connected to?

A: No. First, Eloqua also has a direct integration with Customer Care and Billing (CC&B) that allows it to send transactional notifications to the right customers, at the right time in the right communications channel. I described this earlier in my testimony.

Eloqua is also supported by a CRM, or customer relationship management system. As part of this initiative, the Company also implemented a CRM called Oracle Sales Cloud. This is standard practice. Companies that have marketing automation platforms like Eloqua also have CRMs like Oracle Sales Cloud. And, the Company is leveraging the standard, out-of-the-box integration between these two specific systems.

Q: What does a CRM like Oracle Sales Cloud do and what customer benefits does it generate?

A: Oracle Sales Cloud helps the Company create more personalized customer interactions by centralizing the data that informs those interactions. Eloqua is the engine that delivers interaction; Sales Cloud is the fuel.

To meet customer expectations by delivering information they want along the three dimensions I discussed earlier – content type, audience and timeliness – various

pieces of data are required. These data are generated from multiple systems and processes across the company.

For example, the Company currently distributes what's known as a Welcome Series – a series of 5 emails spaced roughly 30 days apart over 120 days. These series of emails are becoming more commonplace in the utility industry because they make customers aware of options and programs available to them for their new account, which increases their satisfaction. The current Welcome Series is basic, due to the limitations of the legacy systems for distributing messages and the lack of centralization of data that would allow the messages to be more personalized. Opportunities to be more helpful to customers are left unaddressed because of these limitations. Going forward, the Company will be able to deliver a more customized, personalized Welcome Series to customers.

From a marketing perspective, the combination of Eloqua and Sales Cloud will allow the Company to scale its marketing efforts that have proven ability to reach customers, engage them, secure their participation in energy efficiency programs and increase their satisfaction. The Company spent several years proving the case for more targeted marketing communications by creating smaller, one-time outreach campaigns with manual effort. However, these efforts have not been able to be achieved at scale because of the lack of automation, resulting in manual matching and merging of data sources that has been necessary to achieve this. What used to take several weeks of multiple staff people's time to create, can be created in less than one day using Eloqua and Sales Cloud.

But this is just the first step. The information gathered by these systems will allow the Company to synthesize customer data, to test various scenarios, refine the messaging

and approach, and meet evolving customer expectations. What customers want from their utility will change over time. Based on what will be learned about customers and their behaviors, the Company can meet those expectations more effectively.

Q: Are there other benefits Oracle Sales Cloud provides?

A: Yes. Another capability of CRM systems like Oracle Sales Cloud is that they provide a platform to track and plan face-to-face and other offline interactions with multiple contacts associated with a customer account, which is particularly important and applicable to large business customers, including cities and municipalities. This is important because Customer Care and Billing (CC&B) is a system that tracks only the billing contacts for customer accounts. Because its critical functions are facilitating traditional residential call center interactions and billing, it is not optimized to store ancillary but important information about those customers, such as demographics and digital interaction histories. It's also not optimized to track additional account contacts such as facility managers who, in the case of large customers, don't process and pay the bill, but do manage their facilities and make service and energy efficiency decisions.

Energy Consultants and Community Managers on my team are responsible for interfacing with these contacts day-to-day. They need a centralized platform to capture, store and update contact information for individuals CC&B considers ancillary, and the ability to track their interactions with these individuals so a better customer experience can be delivered. The Sales Cloud platform enables this information to be shared and leveraged within my team, but importantly, it also provides a way this information can be shared more broadly across the Company – such as with the traditional call center -- when the Company decides it is ready to enable that functionality.

Q: Why did the Company decide to take on these customer experience projects now, alongside the Customer Care & Billing (CC&B), Customer Self-Service (CSS) and Meter Data Management (MDM) implementations?

A: There are two reasons.

First, as I explained earlier, the Company's current delivery mechanisms for transactional emails and text messages were built upon legacy ColdFusion applications. Those applications are not compatible with Oracle Customer Care and Billing (CC&B) or Customer Self-Service (CSS). A replacement structure for sending transactional emails and texts had to be identified and implemented. The Company chose to meet this requirement with a set of systems that unlock additional value and benefit for customers.

Had the Company waited for a future timeframe, two undesirable situations would have been created. First, the customer benefits that will be realized now would have been delayed years into the future. Second, the development and data integration work required to implement Eloqua and Sales Cloud would have been greater after a completed CC&B and CSS than it is now. This is because when a company is installing business-critical, enterprise systems that makeover major swaths of business process and operational functions, a unique window of opportunity for efficiency is available to create integrations with other systems, such as Eloqua and Sales Cloud. In other words, if you're renovating a house and you already have the walls open to replace your electrical and plumbing, you're also going to stub the additional bathroom you've needed at the same time, instead of later re-opening the walls again. The bathroom is stubbed and it can be further built out during the coming months and years.

Q: Does that conclude your testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement A General Rate Increase for Electric Service	))))	Case No. ER-2018-0146

AFFIDAVIT OF CHARLES A. CAISLEY

STATE OF MISSOURI)
) **ss**
COUNTY OF JACKSON)

Charles A. Caisley, being first duly sworn on his oath, states:

1. My name is Charles A. Caisley. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Vice President – Marketing and Public Affairs.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of KCP&L Greater Missouri Operations Company consisting of thirty-seven (37) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

C A Caisley
Charles A. Caisley

Subscribed and sworn before me this 29th day of January 2018.

Anthony R Westenkirchner
Notary Public

My commission expires: 4/26/2021

ANTHONY R WESTENKIRCHNER
Notary Public, Notary Seal
State of Missouri
Platte County
Commission # 17279952
My Commission Expires April 26, 2021