MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2018-0145

DIRECT TESTIMONY

OF

FORREST ARCHIBALD

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
January 2018

1 **Q: Please state your name and business address.**

2 A: My name is Forrest Archibald. My business address is 1200 Main Street, Kansas City,

3 Missouri 64105.

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

5 A: I am employed by Kansas City Power & Light Company ("KCP&L" or the "Company")

6 as Director of Project Controls. The focus of this position is typically oversight of capital

7 investment projects valued more than $100 million.

8 **Q: On whose behalf are you testifying?**

9 A: I am testifying on behalf of Kansas City Power & Light Company.

10 **Q: What are your responsibilities?**

11 A: I was assigned the Project Director role on the One CIS Project in the Spring of 2015.

12 The Project Director role responsible for delivering the One CIS Solution within the

13 confines of the control budget, master schedule and the Project's Guiding Principles as

14 defined by the Project Charter.

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

16 I earned an Associates and Bachelors of Science degree from Park University, majoring

17 in Management and Finance. I hold three professional certifications from various industry

18 accredited sources; PMI-PMP (Professional Project Management Certification from the

19 Project Management Institute), PMI-SP (Professional Planning and Scheduling

1   Certification from the Project Management Institute) and EVP (Professional Earned

2   Value Management Certification from Association for Advancement of Cost Engineering

3   International – AACEi). I have over 20 years of experience in managing various aspects

4   within a Project's lifecycle; including but not limited to: development and

5   implementation of cost tracking systems; forecasting and estimating project costs;

6   developing and maintaining project schedules; contract negotiations (including

7   administration including interpretation and management); and execution of general

8   project management responsibilities. I began my career in Project Management in the

9   early 1990's with Wichita Steel & Precast Erection Company. In 2004, my focus

10   switched to the utility sector as I began providing services to American Electric Power

11   where I was accountable for Project Controls on projects ranging in size from $25 million

12   to $600 million.

13   In 2006, I began my employment at KCP&L in the Construction Management

14   Department. I have held multiple positions during my tenure at KCP&L but all positions

15   have encompassed project management, project controls and/or oversight services on the

16   large capital investment projects managed by KCP&L (e.g. Iatan, Spearville, LaCygne,

17   Transource's Iatan to Nashua and Mid-West Transmission Projects, Corporate

18   Relocation, Wolf Creek, Jeffrey Energy Center, etc.).

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

4 A: Yes, I testified in the 2010 rate cases for KCP&L and KCP&L Greater Missouri

5 Operations Company ("GMO") (respectively, ER-2010-0355 and ER-2010-0356) and

6 2014 GMO rate case (ER-2014-0370).

7 **Q: On what subjects, will you be testifying?**

8 A: I will be testifying on the implementation of the One CIS Solution Project. My

9 testimony serves five purposes. First, I speak to the definition and importance of a

10 utility's Customer Information System (CIS). Second, I will discuss how CIS

11 replacements are impacting the utility sector. Third, I will address the reasons for

12 initiating the One CIS Solution Project, including the high-level business drivers that led

13 to the implementation. Fourth, I will speak to the scope of the One CIS Solution Project,

14 including the strategic partners KCP&L selected through the Procurement process.

15 Lastly, I will address the capital control budget and corresponding timeline for the One

16 CIS Solution Project.

17 Q: **What is a Customer Information System (CIS) and why is it important to a utility?**

18 A: A customer information system is a critical component of the meter-to-cash value chain

19 for any meter based delivery type utility. The CIS interlinks the customer information to

20 the consumption and metering processes, via the MDM (Meter Data Management

21 system) all the way through to payments, collections and other downstream processes

22 that affect a utility's ability to support state commission requirements and report revenue.

23 Customer information systems can include multiple sub-systems depending on the

1		regulatory and operational requirements but at a minimum are inclusive of the metering
2		and consumption (MDM), billing, and collections functions and online portals for
3		customers to perform self-serve functions like bill payment and energy usage awareness,
4		among others. For example, in our new One CIS Solution, the MDM will hold all the
5		consumption data for consumers and will play a key role in consumption analysis and
6		billing; unlike our current legacy systems.
7	**Q:**	**Are other utilities needing to replace their CIS?**
8	A:	Absolutely. The customer information systems are so crucial in ensuring the continuity in
9		the meter-to-cash process, utilities share one common trait across the nation, regardless of
10		geographical borders; their CIS systems were implemented during the 1980's and early
11		1990's. This common trait leads to one overarching theme: the technology implemented
12		during those times cannot incorporate the complexities driven by modern rates and
13		programs nor enable a modern customer experience expected by customer in the 21st
14		century. Industry studies show that as of 2015, 48% of surveyed utilities nationwide
15		anticipate replacement of their CIS within the next four years.
16	Q:	**Why is the Company replacing its CIS system?**
17	A:	The Company's legacy CIS Plus Systems were implemented almost two decades ago,
18		which in the technology sector, is virtually pre-historic. For comparison purposes, twenty
19		years ago, both personal computer ("PC") ownership and the internet were in their
20		infancy stages. Industry surveys of households reflect that PC ownership ranged from
21		approximately 25-40% in the early 1990's; with less than 20% of those households
22		having internet access capabilities. Today, more than 85% of households now own at

least one PC (not counting any smart devices e.g. smartphone, tablets, etc.) and almost 80% now have access to the internet.

In terms of internet and processing speeds; dial-up, which used pre-existing telephone lines to connect to the internet, was the primary internet technology throughout the 1990s. It had a max speed of 56 kilobits per second which to the non-technical individual meant you could download a single song, depending on the length, in anywhere from 10-30 minutes; assuming you were not interrupted by any incoming telephone calls as they would disconnect you from the internet service.

The customer's choices were limited based on the technology of that time. The by-product of this was two-fold:

1. The Customer's expectations around customer service and customer experience were low;

2. The infrastructure and software requirements to support the functionality available almost two decades ago was significantly less than that required today. This is a direct reflection of the complexities driven by regulatory policy (including corresponding rate designs) coupled with the dynamics of having multi-state, multi-jurisdiction, and multi-legal entities; embedded within today's public utilities.

Twenty years ago, billing customers for utility service was more straight forward as it only contained a few rate options. A meter reader had to physically go to a customer's premise and manually collect meter usage from the customer's meter monthly. A relatively simple rate calculation was applied to the usage to generate a customer's bill. For most of the utility sector, during this timeframe, automated meters and demand

1   response were just buzz words or in their infancy stages. The thought of a Commercial

2   customer, let alone, a Residential, having access to interval data on energy usage was just

3   a vision because of the technological limitation of that era. It wasn't until Meter Data

4   Management (MDM) coupled with smart meter technology (e.g. AMI) was brought to

5   market, that this vision became a reality.

6   Today's customer expects more. We expect better customer service with a

7   plethora of options. Why? Simple, because we are offered more choice options, on a

8   more frequent basis, within each daily interaction we experience; e.g.

9   telecommunications services, cable service, financial institutions, convenience stores,

10   coffee shops, etc.

11 **Q:** **Are there other reasons to replace the CIS system?**

12   A: From a technology lens, the legacy CIS Plus systems are no longer supported by their

13   respective vendors from a technical, business, or security aspect. This increases the

14   security and performance risk of the legacy systems exponentially because to stay in

15   compliance with either regulatory, security, or operational standards customized coding

16   must be designed and implemented. This customization further degrades the integrity of

17   the existing legacy systems while increasing annual maintenance costs to the Company

18   and its customers.

19   Additionally, the legacy CIS Plus systems do not provide functionality that

20   supports the regulatory structures and programs necessary to efficiently serve our

21   customers. Some examples of those functionalities are:

22   1. Flexible Rate Structures

23   2. Real-Time Payments

1   3. Expansion of Customer Self-Service (CSS) capabilities and customer engagement

2   capabilities such as alerts and notifications preferences, mobile information, and

3   enhanced payment options

4   The One CIS Solution Project will enable KCP&L to take advantage of the above

5   functionalities and more. Additionally, as a configurable platform, it provides the

6   necessary foundation for the future to meet the new challenges created by the pace of

7   technological and regulatory change our society and industry is experiencing.

8   The technological limitations of the legacy CIS Plus systems limit the Company's

9   ability to have a true 360-degree view of the customer and realize the customer facing

10   enhancements that are described in the Direct Testimony of KCP&L witness Charles A.

11   Caisley. The One CIS Solution Project not only replaces an aging billing system that was

12   no longer supported by the vendor or robust enough to handle today's regulatory

13   environment; but enables the Company to improve the way we interact with our

14   customers, introduce better business processes, and enhance customer knowledge through

15   data access, analytics and data sources. The forward-thinking customer engagement

16   capabilities that are described within the Direct Testimony of KCP&L witness Charles A.

17   Caisley are a necessity for the Company to serve customers efficiently and effectively.

18   These capabilities can only be enabled through the One CIS Solution Project.

19   The One CIS Solution project enhances and integrates our existing MDM and

20   AMI network into the One CIS Solution, now providing our customers with over 2,800

21   interval data points on energy usage, to help educate them and assist in managing their

22   consumption more efficiently.

7

1 **Q: Were there specific business drivers for the One CIS Solution?**

2 A: Yes. In developing the business case for replacing the Legacy CIS Plus Solution, the

3 Company identified three overarching business drivers for the One CIS Solution.

4   1. Provide an enhanced customer experience

5   • Enable advanced interaction with customers and their needs

6   • Provide new products, technology and choices

7   • Provide enhanced levels of customer care which will increase satisfaction

8   through personal and online interactions

9   2. Improve operations

10   • Allow flexibility in business operations (rates, process improvements)

11   • Enable connected grid operations (MDM, AMI, Outage Management, Energy

12   Efficiency devices)

13   • Enhance customer knowledge through data access, analytics and data sources

14   • Combine two highly customized systems into one configurable Customer

15   Information System (CIS).

16   3. Reduce risk and cost to the Company and Customers

17   • Eliminate aging technology that puts revenue stream at risk

18   • Reduce costs of maintaining two legacy systems

19   • Minimize risk due to retirement eligibility of over one half of CIS support

20   team which jeopardizes operational support of legacy systems

21 **Q: What is the scope of the One CIS Solution Project?**

22 **A:** The One CIS Solution Project scope is significantly larger than just consolidating two

23 obsolete CIS plus databases that are approximately two decades old onto a modern

customer-centric database platform. The new Solution also encompasses and interfaces

with the following eight (8) main sub systems and four (4) ancillary sub systems:

1. Meter data management (MDM)

   a. The Meter Data Management system (MDM) (also known as an Operational Data Store (ODS) in some markets) manages meter information and consumption and is the system of record for information coming from the meter. MDM integrates the AMI network and is a critical building block to enable utilities to understand their customers' usage, the health of the Company's customer serving assets, and the state of their metering system. In the Advanced Metering Infrastructure (AMI) environment, increased data volume and complexity as well as the need for more involved data analysis have introduced the need for an MDM to address the efficient storage, auditing and processing of large quantities of meter data. MDM is critical to the billing process as it integrates with CC&B to provide consumption data and therefore is a key component to CIS. In the new One CIS environment for KCP&L, MDM plays multiple key roles through various systems as noted below.

   b. Operational Device Management (ODM)

      i. Oracle Utilities ODM provides comprehensive asset management of smart grid devices through change and configuration management as well as strict inventory

1. management of secured devices. ODM is a key technology

2. that supports the rollout of KCP&L AMI and serves as the

3. system of record for meter attributes.

4.   c. Smart Grid Gateway (SGG)

5.   i. The SGG leverages a common connection for two-way

6.   messaging among utility enterprise applications and smart

7.   grid devices to reduce the cost and complexity of

8.   introducing new devices, data streams, and business

9.   processes by providing a single point of connection for all

10.   devices and applications. SGG serves as a part of MDM

11.   and is an essential integration component for AMI meters

12.   with KCP&Ls Outage Management System (OMS).

13.   d. Service Order Management (SOM)

14.   i. Oracle Utilities SOM delivers the first of its kind solution

15.   for service order automation designed specifically for

16.   utility process optimization in the age of smart meter

17.   technology. Also, a part of MDM, SOM becomes the

18.   orchestrator of customer requests and completion of meter

19.   activities, whether through automation, or delivery of

20.   service orders to our Mobile Workforce Management

21.   system, PCAD.

22.   2. Customer Self-Service (online authenticated customer facing web-portals -

23.   CSS)

1   a. Used for online interactions with customers such as bill

2   presentment and payments, online energy management and other

3   self-service applications. A more comprehensive explanation of the

4   CSS can be found in the Direct Testimony of KCP&L witness

5   Caisley.

6   3. Customer Relationship Manager (CRM)

7   a. Oracle CRM is used to support business processes for energy

8   efficiencies, demand response, etc. A more comprehensive

9   explanation of the CRM can be found in the Direct Testimony of

10   KCP&L witness Caisley.

11   4. Marketing Automation Platform (MAP)

12   a. Oracles MAP interfaces with Customer Care & Billing (CC&B) to

13   orchestrate the proper communication channels preferred by our

14   customers. A more comprehensive explanation of the CRM can be

15   found in the Direct Testimony of KCP&L witness Caisley.

16   5. Knowledge Management Tool (KMT)

17   a. Verint KMT software acts as a real-time training and knowledge

18   repository to help customer service representatives interact daily

19   with customers. This system will warehouse all the new processes

20   generated from the One CIS Solution Project.

21   6. Network Management System (NMS)

22   a. Oracle Utilities Network Management System provides operational

23   visibility across the electric grid and shortens outage durations by

1   providing access to real-time data when managing outages

2   dispatching crews.

3   7. Mobile Workforce Management System (PCAD)

4   a. Also, referred to as Pragma Computer-Aided Design or PCAD is

5   the system used to coordinate the service orders from CC&B to

6   dispatching to mobile units within the field.

7   8. Reporting and Data Analytics Warehouse (OBIEE/OUA)

8   a. KCP&L has built a Tier One Customer Data Mart utilizing Oracle

9   Business Intelligence Enterprise Edition (OBIEE) for enterprise

10   reporting and analytics. The Company installed and configured

11   out-of-the-box CCB Oracle Utility Analytic (OUA) products to

12   provide answers for most commonly requested reports. KCP&L is

13   also extending the delivered CCB analytics to include integration

14   to MDM and other ancillary sub systems to satisfy the businesses

15   requirements for Accounting, Tax, Regulatory, Treasury and

16   Marketing and Public Affairs.

17   Additionally, the One CIS Solution includes over 100 additional interaction points

18   (interfaces and extensions) between the core systems and the ancillary 50 plus edge

19   applications with over 25 external vendor partners (e.g. Bill Print, Credit & Collections,

20   POS ID, etc.) required to provide exceptional customer service.

21 **Q: Did the Company engage any outside vendors for assistance?**

22   A: Yes, while there were multiple vendors involved, there were six (6) key areas

23   identified in which strategic partnership would provide value and increase the project's

chances for success. Those areas were: Software, System Integrator, Organizational Change Management (OCM), Knowledge Management, Meter Data Management, Oversight/Quality Assurance

1. Software:

    a. The billing system KCP&L selected through the procurement process was Oracle's Customer Care and Billing System or "CC&B". Additionally, Oracle provided technological oversight as our independent Solution Architect. This structure elevated KCP&L in a favorable position by giving KCP&L direct input into the Oracle Utilities Product Roadmap(s). Thus, any gaps that KCP&L finds in the product(s) may be alleviated through modification or enhancement of the base product (by Oracle) which will become part of any future product release(s).

    b. For CSS, once the requirements were finalized and the procurement process completed, KCP&L realized that here was not a software on the market that met the business requirements nor supported the existing project timeline. So KCP&L opted for DEG, a Kansas City based digital services company to design, develop, and implement the Customer Self Service online portals. KCP&L has worked with this firm in the past and DEG has familiarity with the foundational technology the CSS will be built upon. Additionally, having a local firm provides additional oversight and executive sponsorship not typically found with a non-local firm.

2. Organizational Change Management (OCM)

    a. Any significant transformation requires a change management strategy to help increase the likelihood of successful adoption of the new Solution and corresponding Business Processes. KCP&L awarded this scope to PwC since the SI contractual owned accountability for Operational Readiness.

3. System Integrators:

    a. KCP&L selected two System Integrators. One primary who has accountability for implementing Oracle's CC&B software and interfacing with the ancillary subsystems or edge applications. KCP&L awarded this scope to PriceWaterhouse Coopers as they had more competitive bid package coupled with having the more experience implementing Oracle's CC&B than any other bidder which gave KCP&L the confidence that they would make the best strategic partner.

    b. The second SI was the Kansas City firm, DEG, as described under the Software section above and in more in the Direct Testimony of KCP&L witness Caisley.

4. KCP&L awarded the scope of interfacing to MDM to Red Clay Consulting, an Atlanta based firm whom Oracle recommended Red Clay as their partner of choice for the initial implementation. KCP&L could leverage our existing strategic relationship to ensure we utilized the same resources and bench-strength to maintain continuity from a knowledge transfer aspect.

1   5. KCP&L partnered with Ernst and Young for Project Oversight and Quality

2   Assurance functions. This function provides quarterly reporting by way of

3   executive dashboards and recommendations. This selection allowed us to

4   maintain continuity, leveraging the same oversight resource from project

5   conception through completion.

6 **Q:** **What was the capital control budget and corresponding project timeline for the One**

7   **CIS Project?**

8 A: The original capital control budget for the One CIS Solution was $118 Million. The

9   major cost categories and their corresponding values are reflected below. The project

10   timeline was originally sized to be 38 months in duration; September 2015 through

11   October 2018, which includes the warranty period. The project is still projecting to be in-

12   service sometime during the second quarter of 2018, however; the project is refreshing

13   both the timeline and corresponding financials based on the accomplishments to-date and

14   remaining scope to be completed. The results of these two deliverables will be filed with

15   the Commission after they have been finalized, sometime towards the end of the first

16   quarter 2018.

17 **Q:** **Does the control budget encompass only CC&B?**

18 **A:**   No. At a high-level, the $118 million capital control budget can be segregated into five

19   overarching categories:

20   1. CC&B

21   a. This category represents all direct costs associated with Customer Care & Billing

22   assessment, design, construction, implementation, operation & review. This

1			includes software and hardware costs associated with the implementation services
2			with the One CIS Solution Project.
3			i. Original Control Budget valued at $52 million or 44% of the $118 million
4	2.	Interfaces	
5		a.	This category represents all direct costs associated with interfacing the CC&B
6			database to the edge applications to provide the functionalities required by the
7			One CIS Solution Project (e.g. Bill Print, Credit & Collections, POS ID, etc.).
8			i. Original Control Budget valued at $2 million or 1% of the $118 million
9	3.	CSS	
10		a.	This category represents all direct costs associated with Customer Self Service
11			(CSS) including assessment, design, construction, implementation, operation &
12			review.
13			i. Original Control Budget valued at $6 million or 5% of the $118 million
14	4.	Indirects	
15		a.	Indirects are resources and ancillary costs that are required to support the activity
16			or asset but that are also associated with other activities and assets.
17			i. Original Control Budget valued at $40 million or 35% of the $118 million
18	5.	Contingency	
19		a.	The contingency is an amount added to an estimate to allow for items, conditions,
20			or events for which the state, occurrence, and/or effect is uncertain and that
21			experience shows will likely result, in aggregate, in additional costs."
22			i. Original Control Budget valued at $18 million or 15% of the $118 million.

1   **Q:**   **Does the $118 million represent all of information technology requests in the rate**

2   **case?**

3   A: No. Included in adjustment RB-20 (Direct Testimony of Ronald A. Klote) are estimated

4   plant additions through June 30, 2018 which include projects associated with the One CIS

5   Solution, informational technology projects that are required to support or enable the One

6   CIS Solution, and other informational and operational technology projects.

7   **Q:**   **Did you keep the Staff of the Missouri Public Service Commission and the Office of**

8   **the Public Counsel informed of the scope and progress of the One CIS Solution?**

9   A: Yes. I and a few of my project team met with Staff and OPC periodically from 2016 to

10   2017 to discuss the project. Additionally, we offered to provide as many face-to-face

11   status updates as requested, at a location and periodicity specified by the Staff.

12   **Q:**   **Does that conclude your testimony?**

13   A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light)
Company's Request for Authority to Implement) Case No. ER-2018-0145
A General Rate Increase for Electric Service)

AFFIDAVIT OF FORREST B. ARCHIBALD

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

Forrest B. Archibald, being first duly sworn on his oath, states:

1. My name is Forrest B. Archibald. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Director Project Controls.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Kansas City Power & Light Company consisting of __seventeen__ (_17_) 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.

                              _____
                              Forrest B. Archibald

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

                              _____
                              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