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Witness:	William P. Herdegen, III
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Kansas City Power & Light Company
Case No.:	ER-2009-____
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2009-____

DIRECT TESTIMONY

OF

WILLIAM P. HERDEGEN, III

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
September 2008

DIRECT TESTIMONY

OF

WILLIAM P. HERDEGEN, III

Case No. ER-2009-____

Q: Please state your name and business address.

A: My name is William P. Herdegen, III. My business address is 1201 Walnut, Kansas City, Missouri 64106.

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, Transmission and Distribution.

Q: What are your responsibilities?

A: My responsibilities include the engineering, design, construction, maintenance, and operation of the transmission and distribution systems of KCP&L and Aquila, Inc. dba KCP&L Greater Missouri Operations Company ("GMO").

Q: What is the distinction between the distribution and transmission systems?

A: The distribution system is comprised of about 8,500 miles of line energized at 34.5 kV and below. The transmission system consists of approximately 1,200 miles of line operating at 69 kV and above. The transmission system is also distinguished from the distribution system by the fact that it falls under the jurisdictions of the Federal Energy Regulatory Commission ("FERC") and the North American Electric Reliability Corporation ("NERC"). Both KCP&L's distribution and transmission systems fall under my management responsibilities.

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

A: I graduated from the University of Illinois, Champaign-Urbana in 1976 with a Bachelor of Science degree in Electrical Engineering, and in 1981, I received my M.B.A. from The University of Chicago. I was first employed at KCP&L in 2001. I have over 30 years of experience in the electric utility industry. Prior to joining KCP&L, I served as chief operating officer for Laramore, Douglass and Popham, a consulting firm providing engineering services to the electric utility industry. Additionally, I was vice president of Utility Practice at System Development Integration, an IT consulting firm focused on development and implementation of technology systems. I began my utility career at Commonwealth Edison and over a course of more than 20 years, held various positions, including field engineer, district manager, business unit supply manager, operations manager and vice president - Engineering, Construction & Maintenance.

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

A: Yes, I have previously testified before both the Missouri Public Service Commission ("MPSC" or "Commission") and the Kansas Corporation Commission.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to discuss the progress made, as well as the goals and objectives of KCP&L's Asset Management Plan, including distribution and transmission investments and automation projects. I will address price sensitivity impacting transmission and distribution construction and maintenance costs. I will discuss the incremental expenses as KCP&L integrates current operations with the Commission's newly adopted rules relating to vegetation management, reliability and infrastructure.

Finally, I will discuss the Company's proactive storm response processes, operational performance and safety of KCP&L's distribution business.

I. ASSET MANAGEMENT PLAN - DISTRIBUTION

Q: What are the goals and objectives of the Asset Management Plan?

A: The Asset Management Plan at KCP&L and Comprehensive Energy Project ("CEP") are the structured and disciplined processes to develop the program of work for system expansion, system improvements, and maintenance—both corrective and preventive. Our objective is to provide a scope of work to achieve three key strategic goals at the most optimal cost: (i) mitigate risks of major outage events to our customers; (ii) minimize the System Average Interruption Duration Index ("SAIDI") as it relates to the duration and frequency of outages to our customers; and (iii) minimize the number of customers with multiple interruptions.

Q: What are the expected results?

A: By implementing this plan, we expect to manage asset replacement schedules and address our aging infrastructure. We will also optimize system maintenance programs, improve system design for better long-term performance, and optimize strategic capital and operations and maintenance ("O&M") investments while maintaining Tier 1 reliability performance. Since the Asset Management Plan includes implementation of new technologies to achieve these results, the plan integrates directly with KCP&L's SmartGrid initiative. The SmartGrid initiative is discussed in the Direct Testimony of Company witness Mr. Edward C. Matthews.

Q: What are the different programs that comprise the Asset Management Plan for distribution?

A: The plan includes a number of distribution projects and programs, including the following:

- High Outage Count Customer Program;
- Distribution System Inventory Program;
- Condition Assessment Program;
- Proactive Underground Residential Distribution (“URD”) Cable Replacement Program; and
- URD Cable Injection Program.

Q: What progress has been made with respect to the Asset Management Plan?

A: To date, significant progress has been made on the five projects comprising the Distribution Asset Management Program. The projects are all designed to improve system reliability.

Q: Please describe the High Outage Count Customer Program.

A: The High Outage Count Customer Program focuses on proactively rebuilding and replacing poor performing assets in areas where customers are experiencing multiple outages. Corrective action includes tree trimming, pole, equipment and hardware replacement, and line re-conductoring. Additional areas requiring improvements are identified from worst-performing circuit and lateral lists.

Q: What progress has been made with respect to the High Outage Count Customer Program?

A: KCP&L has identified and addressed laterals and circuits that had poor performance in 2005, 2006 and part of 2007 under this program. Poor performing circuits have been inspected to identify conditions affecting reliability along with a review and corrective actions to vegetation conditions. Through the end of second quarter 2008, nineteen improvement projects have been completed in addition to individual repairs. Two projects are presently being designed and additional analysis is being performed on poor performing areas from 2007.

Q: Please describe the Distribution System Inventory Program.

A: This program involves conducting a full system field inventory to collect distribution system information at the component level. Based on the inventory data, the Asset Management and Engineering group conduct targeted asset management and reliability studies focused on reducing outage minutes caused by problem or failure prone equipment, wildlife, lightning, overhead wire issues, and inadequate line design and construction. Benefits resulting from the studies and resulting system improvements include improved reliability and customer satisfaction due to reduced outages.

A pilot inventory of 5% of the overhead electrical system was performed and completed by INTEC Services, using EDM collection software, by year-end 2005. Data and lessons learned from the pilot were used to improve the process for the system-wide inventory. The system-wide inventory was planned and launched in 2007.

Q: What progress has been made on the Distribution System Inventory Program?

A: The pilot inventory was completed in 2005. Contracts were awarded for the system-wide inventory in early 2007. Activities in 2007 consisted of extensive planning, data transfer and data integrity testing, field testing of data collection, testing of process and quality controls, mobilizing and training of the contractor's field personnel, and commencement of the in-field inventory and condition assessments.

Through the end of second quarter 2008, the contractor has completed the inventory of over 137,000 poles in the field, 119,000 of these records have been delivered to KCP&L, and KCP&L has completed quality assurance verification on over 104,000 poles. This includes capturing GPS coordinates of the poles and corrections to our GIS maps. This work completes the inventory within the territory of our Northland and F&M (Front and Manchester) Service Centers. The full system field collection process is targeted to complete in second quarter 2009.

Since the field inventory of the Northland and F&M Service Center territories is completed, early stage engineering studies are using this data for initial modeling.

Q: Please describe how map attributes and map accuracy are verified.

A: When KCP&L digitized our distribution maps, several digital data points in the system were created and replicated by applying logical algorithms to estimate these mapping "attributes". These map attributes and general map accuracy are being verified during the field inventory as well as capturing additional attribute information to improve our GIS map model. To date, over 7.5 million mapping attributes have been field reviewed. Of these, over 2.5 million existing attributes have been updated and over 500,000 new attributes have been added to the GIS map database. Some examples of attributes include:

- Poles: age, height and type of pole;
- Primary Conductors: size and material type;
- Guy Wires: number present, type; and
- Capacitor Switch Type: oil or vacuum insulated.

Q: Please describe the Condition Assessment Program.

A: INTEC Services performed a condition assessment in tandem with the pilot system inventory in 2005 in order to identify corrective actions that will maintain and improve system reliability.

A condition assessment of KCP&L's overhead distribution system is being performed in tandem with the Distribution System Inventory Program previously discussed. The purpose of the condition assessment is to evaluate the health of individual assets as well as the health of systems and sub-systems. Repairs are made to conditions requiring immediate corrective action. Other conditions will be incorporated in the System Inventory's engineering studies in order to prioritize and optimize system maintenance. This should allow for "bundling" of individual repairs into packages or programs of work, thus avoiding sub-optimal or multiple trips for individual repairs.

Q: What progress has been made on the Condition Assessment Program?

A: All 413 corrective action repairs have been completed from the pilot assessment. The Condition Assessment program is performed concurrently with the Distribution System Inventory Program and shares the same completion status of second quarter 2009**.**

Over 23,000 poles have had maintenance conditions identified for use in the studies. A process is also in place to review and correct conditions that merit immediate review by KCP&L personnel and possible immediate repair. This is called the Problem Action Resolution ("PAR") process and over 250 PAR conditions have been reviewed with approximately 225 repairs being made by KCP&L field personnel.

Q: Please describe the Proactive URD Cable Replacement Program.

A: KCP&L initiated the Proactive URD Cable Replacement Program to maintain and improve URD cable system reliability and increase customer satisfaction. The program takes into consideration the type, age, design, number of failures experienced, and failure impacts on customers. This provides a means to perform intelligently targeted proactive cable replacement before failure. Cables targeted for the URD Cable Injection Program (discussed later in my testimony) that cannot be successfully injected due to field conditions may also be replaced under the Proactive URD Cable Replacement Program.

Q: What progress has been made on the Proactive URD Cable Replacement Program?

A: In 2006, 34 cable segments, totaling 8,500 feet, were replaced. In 2007, 82 cable segments, totaling 19,000 feet, were replaced. Through the end of second quarter 2008, 29 additional cable segments, totaling 9,350 feet, have been replaced. This brings the total for the program to 145 cable segments totaling 36,850 feet.

Q: Are there other URD cable reliability improvement programs?

A: Yes, KCP&L initiated the URD Cable Injection Program to maintain and improve URD cable system reliability, increase customer satisfaction, and extend the useful life of existing URD cable. The injection process involves a pressure injection of an insulating solution through the stranded conductors to restore the insulation to near new condition. The program takes into consideration the type, age, design, number of failures experienced, and failure impacts on customers. Costs for cable injection are roughly one-third of the cost of cable replacement. In the event cables targeted for injection cannot be injected due to field conditions, they may become candidates for the Proactive URD Cable Replacement Program.

Q: What progress has been made on the Proactive URD Cable Injection Program?

A: In 2006, 29 cable segments, totaling 10,000 feet, were injected. In 2007, 96 cable segments, totaling 38,000 feet, were injected. Through the end of second quarter 2008, 25 additional cable segments, totaling 8,800 feet, have been injected. This brings the total for the program to 150 cable segments totaling 56,800 feet.

Q: Are there other programs related to distribution automation that KCP&L has started?

A: KCP&L initiated projects under the Distribution Automation Strategic Intent Initiative.

Q: What projects make up the Distribution Automation Strategic Intent Initiative?

A: The five projects initiated are:

- Network Automation;
- 50 C.O. relay automation;
- 34 kV switching device automation and fault indication;
- “Integrated Circuit of the Future”; and
- Dynamic Voltage Control.

Q: Please describe the Network Automation Program.

A: The Network Automation Project involves monitoring of KCP&L’s underground (“UG”) network. Prior to the Network Automation Project, KCP&L had no means to monitor the activity of this network. During annual inspections conducted by the UG department, network protectors were found that had excessive operations, and some were in a state of disrepair and had to be replaced. The new system allows KCP&L to track the causes associated with such issues so that action can be taken to address the symptoms and mitigate a malfunction on the UG network. Due to automation of the network, engineers, dispatchers, and the underground workers are alerted to abnormal situations that could potentially cascade if left unchecked. Automation of the UG network has resulted in a better understanding of the causes associated with excessive operations. As a result of being able to proactively manage the network, premature failures have already been averted and it is anticipated that the lives of transformers and network protectors will be extended, thereby postponing the replacement of such expensive equipment. The ability to retrieve important data from the UG network and to convert this data into useful information will greatly improve the ability to troubleshoot issues related to the network system.

Q: What is the progress on the Network Automation Program?

A: Through the end of second quarter 2008, of the initial 103 targeted protectors, 95 network protectors have been automated. Other monitoring and communications systems have been installed or upgraded as part of this project. Completion of final stages of the project has been slowed by limited access due to heavy construction in downtown Kansas City, Missouri. The construction phase of the project is expected to be completed in 2008.

Q: Please describe the 50 C.O. Automation Project.

A: The 50 C.O. Automation Project allows remote control enabling or disabling of overcurrent relays ("50 C.O.") installed at substations. 50 C.O. relays are overcurrent protection relays designed to trip open before lateral fuses blow--preventing sustained outages. The automation of these devices allows dispatchers to turn these relays on or off remotely from their desktops. It was estimated that the ability to turn the relays off on fair weather days will result in a reduction in momentary interruptions by 40-50 percent, which will greatly improve reliability and customer service. In addition, this system will save fuses during storms to reduce outages, and the monitoring capability will allow dispatchers to check the status of the relay.

Q: What is the progress of the 50 C.O. Automation Project?

A: Through the end of second quarter 2008, 53 buses have been automated of the program target of 113 buses. A study performed in 2007 showed a reduction in momentary outages of over 60 percent on buses equipped with this automation.

Q: Please describe the 34 kV Switching Device Automation and Fault Indication Project.

A: The 34 kV Switching Device Automation and Fault Indication Project involves installation of automated switching devices and remote monitoring. The rural circuits in the East and South Districts on KCP&L's 34 kV system are quite lengthy, and therefore, when there is an outage, locating the cause of the outage can be time-consuming, resulting in longer duration outages. Also, because the 34 kV feeders serve various 12 kV substations and municipalities, the number of customers affected is significant. The installation of remote monitoring will greatly improve dispatchers' ability to troubleshoot the causes associated with an outage. In addition, the automated switching devices will allow faster power restoration to customers because linemen will not be required to drive to a switch and manually operate it. The combination of these technologies will result in shorter outages and improved reliability and customer service.

Q: What is the progress made on the 34 kV Switching Device Automation and Fault Indication Project?

A: Through the end of second quarter 2008, of the 45 targeted switches, 34 switches have been installed with 25 of these commissioned into service.

KCP&L engineers are working closely with the switch manufacturer and 2-way communication providers to design schemes that allow the switches to automatically restore un-faulted sections of line during a fault event without human intervention. Should this be successful, it will provide the 34 kV system with a “self-healing” mechanism.

The 34 kV switches were utilized extensively during the 2008 spring storm season to automatically isolate faults, reduce the number of customers impacted and the time required to identify faulted sections of line. In addition to their automated fault sensing and isolation features, the switches have proven instrumental to our operations department because of the ability to operate the switches remotely from the desktop of employees in our dispatch center.

Q: Please describe the Integrated Circuit of the Future Project.

A: The “Integrated Circuit of the Future” Project involves integration of various pieces of distribution system automation technologies, engineering applications, and software in order to support KCP&L's vision of implementing a smarter distribution grid. KCP&L expects the future delivery system to have the ability to support two-way power flows along with associated real-time information flows. In essence, the distribution network will evolve to more closely resemble the transmission grid. This vision incorporates the integration of control level data and applications from various devices on the circuit, enabling the concept of a "self-healing grid," which will reduce power outages and mitigate momentary interruptions. The real-time integrated input of data from monitoring devices will help manage system load and losses, while also helping to maintain voltage quality to our customers. The implementation of a smarter distribution grid will require an incremental approach to fully develop and deploy, and will require extensive collaboration among many industry parties.

The initial phase of this project includes the installation of radio-controlled switching devices with sophisticated automation and configuration schemes. These devices are capable of remote commands to reconfigure the system as needed to help minimize power outages and momentary interruptions. Radio-controlled faulted circuit indicators are also being piloted to assist in pinpointing system fault locations supporting prompt diagnostics for service restoration. KCP&L will also be installing new substation relays that can be remotely configured to help minimize momentary power interruptions during varying system conditions. KCP&L is also installing automated capacitors along with remote voltage and current sensors, all of which are expected to help KCP&L manage and improve customer power quality while limiting our system losses.

The Dynamic Voltage Control ("DVC") program was piloted under the umbrella of the Integrated Circuit of the Future project by utilizing the identified automation devices/technologies along with real-time system data. The DVC pilot was implemented for proof of concept of KCP&L's ability to optimize system load and power quality via automation technologies. The pilot proved the concept and DVC implementation has been accelerated. I will address DVC later in my testimony.

Currently, the "Integrated Circuit of the Future" is considered a pilot level effort to provide continued proof of concept as all the mentioned technologies are integrated into selected distribution circuits. During this pilot, our goal is to validate the expected benefits of implementing these technologies, and then execute a full-scale system deployment plan.

Q: What is the status of the Integrated Circuit of the Future Program?

A: Line monitoring, capacitor automation, 50 C.O. relay automation, and DVC have all been installed and successfully piloted under the Circuit of the Future Project. Extensive design work has progressed with manufacturers and communication providers on 2-way communicating Faulted Circuit Indicators, but none has been successfully deployed as yet. It is anticipated that the first units will be installed in third quarter 2008. Manufacturer design delays have continued to delay progress for piloting new technology for automated switches that test the line for faults before reclosing to restore power. KCP&L anticipates delivery of the first units in third quarter 2008 with possible installation of the first units by the end of 2008, or early 2009.

Q: How does the Integrated Circuit of the Future Program integrate with the Advanced Metering Infrastructure/Advanced Metering Reading ("AMI/AMR") and other SmartGrid initiatives discussed in the testimony of Mr. Matthews?

A: The Integrated Circuit of the Future Project acts much like an incubator for KCP&L's SmartGrid initiative. The Integrated Circuit of the Future Project provides a real-world test bed for new technologies that will enable the future SmartGrid. Many of the SmartGrid technologies will be piloted under the Integrated Circuit of the Future program to verify expected results prior to large-scale deployments.

Q: What is one of the key foundational drivers of the Distribution Automation environment?

A: Two-way communication is a key component for many anticipated new Distribution Automation applications that will be piloted under the Integrated Circuit of the Future project. Once the proof of concept testing is completed, it is anticipated that the AMI discussed in Mr. Matthews' testimony, will provide a robust communication infrastructure that will be leveraged for large-scale deployments. This same communication infrastructure will be leveraged for customer-based efficiency and load management programs that will integrate with the other technologies as part of the overall “smart grid”.

Q: Would you also describe KCP&L’s DVC Program?

A: The project includes the installation of substation voltage regulating controls with intelligent electronic devices (“IEDs”) that will support state-of-the-art communication protocols. In addition, intelligent substation Remote Terminal Units with remote communication capability will be installed to allow integration and connection of these regulation control IEDs. The project will also install remote voltage monitoring devices at strategic points throughout the system to identify circuits or areas that need additional capacitors to support the voltage during an event when the DVC system is called upon to optimize system voltage and reduce system loading.

Q: Is KCP&L accelerating the implementation of the DVC system?

A: As a result of successful testing of the DVC system on the Integrated Circuit of the Future in the latter half of 2006, KCP&L accelerated implementation of the DVC system to all 203 metro Kansas City substation buses. This is an increase of 65 buses from the 138 buses originally planned for the DVC program, along with schedule compression down to 1 ½ years versus the original schedule of approximately 4 years.

Q: What is the status of the implementation of the DVC system?

A: A total of 105 buses were completed prior to summer 2007 and the system was successfully utilized to reduce demand on the KCP&L system. Through the end of second quarter 2008, all 203 buses have been automated of the project target of 203 buses. All 203 buses were completed and ready for operation during summer 2008 peak conditions.

III. ASSET MANAGEMENT PLAN - TRANSMISSION

Q: What are the programs that comprise the Plan for transmission?

A: The Transmission Asset Management Program also includes CEP projects and programs that address broader initiatives of infrastructure improvement and reliability. The plan is structured to manage the transmission and substation assets to insure reliability to our customers as well as compliance with reliability standards and criteria at the national and regional levels. The program involves system improvements and replacements both corrective and preventive. Currently, the Plan includes nineteen projects and programs, with fourteen relating to the CEP and the balance relating to the broader infrastructure improvement and reliability initiatives. The Transmission Asset Management Programs include the following CEP programs:

- Distribution Breaker Replacement;
- Remote Terminal Unit (“RTU”) Replacement;
- Wood Pole Replacement;
- McGraw Edison PSD Breaker Replacement;
- 161 kV Transmission Arm Replacement;
- 345 kV Transmission Arm Replacement;
- Montrose ABCD Line Pole Top Replacement;
- Transmission Substation Disconnect Switch Replacement;
- 345 kV SF6 Breaker Replacements at Substations 16 and 81;
- SF6 Breaker Replacements at Substation 72;

- 34 kV and 69 kV Circuit Breaker Replacement;
- Transmission Shield Wire Replacement;
- Rebuilding portions of the Shawnee-Greenwood line; and
- Replacement of S&C Mark II and Type G circuit switchers.

The following programs support KCP&L's broader infrastructure improvement and reliability initiatives:

- Hawthorn – Moberly Structural Member Replacement;
- Replace/Refurbish Reactors at Hawthorn;
- Replace GOAB Switch at Higginsville;
- Replace GOAB Switch at Corder; and
- Replace Allis Chalmers 15 kV Breakers.

Q: Describe the Distribution Breaker Replacement Project.

A: Some distribution breakers throughout KCP&L's system are at the end of their life cycle. The estimated life of this type of breaker is 20 years. In 2005, KCP&L had approximately 180 General Electric distribution breakers averaging 37 years old. These breakers are decreasing in reliability and causing more unplanned outages and increasing maintenance cost. Also, as the breakers become less reliable, safety potentially becomes an issue with faults not clearing as they should. The breakers reaching the end of their life cycle will be replaced with completely rebuilt breakers, including new bearings and linkages, refurbished or replaced trip and closing mechanisms and arc shoots. Through second quarter 2008 a total of 84 breakers have been replaced under this project. The Plan anticipates the replacement of all 180 breakers.

Q: Please describe the RTU Replacement Project and its current status.

A: RTUs are part of every substation in the Kansas City metropolitan area. The RTU informs our control center of the system's condition, including voltage, line loading, breaker and alarm status. Also, the RTU allows for remote operation of substation equipment. In 2005, the Company had 37 obsolete RTUs and spare parts were no longer available. Replacement of ten of the RTUs will provide spare parts for the remaining units and provide additional functionality on the new units. Six RTUs were replaced through second quarter of 2008.

Q: What is the status of the Wood Pole Replacement Project?

A: This project involves accelerated replacement of wood poles that have deteriorated due to decay, insect and woodpecker damage. Replacement limits the impact of pole structural failures on system reliability. Through second quarter 2008, a total of 114 wood poles have been replaced. The current Plan anticipates replacing a total of 120 poles.

Q: Please describe the McGraw Edison PSD Breaker Replacement Project.

A: In 2005, KCP&L had 36 McGraw Edison type PSD breakers left on the system. These breakers are hydraulically operated and have a history of issues that lead to decreased reliability and increased maintenance cost. As the breakers become less reliable, safety potentially becomes an issue with faults not clearing as they should. Through second quarter 2008, 24 PSD breakers were replaced with new vacuum style breakers. The current Plan calls for replacing all 36 PSD breakers.

Q: Describe the 161 kV Transmission Arm Replacement Project and its current status.

A: Of the 3,324 wood cross arms on KCP&L's system, many are untreated--no wood preservatives--and are between thirty and fifty-seven years old. Installing new arms reduces the risk of structural failure due to decay, insect and woodpecker damage; and thereby improves system reliability. The current Plan calls for replacing 177 of the worst arms. Forty-seven arms were replaced through second quarter 2008.

Q: Is there also an arm replacement project on the 345 kV transmission system?

A: Yes, there were 1,937 untreated wooden double cross arms over thirty-eight years old on the 345 kV system. The current Plan calls for replacing 126 of the worst arms. Through second quarter 2008, 44 arms have been replaced.

Q: Please describe the Montrose ABCD Line Pole Top Replacement Project and its current status.

A: A number of the original wood structural members in these four, forty-plus year old, 161 kV lines have deteriorated and need replacement to avoid structural failure. This project accelerates the replacement of the worst arms and incidental poles. There are approximately 1,400 total structures in these lines. The current Plan anticipates replacing deteriorated members on the 272 worst structures. Through second quarter 2008, 97 arms and 20 poles have been replaced under this project.

Q: Describe the Transmission Substation Disconnect Switch Project.

A: Many disconnect switches on KCP&L's transmission system are forty or more years old. The failure rate on these switches has been increasing in recent years. The current Plan calls for replacing 28 of the worst performing switches. Eleven disconnect switches have been replaced through second quarter 2008.

Q: Please describe the 345 kV SF6 Breaker Replacements Project at Substations 16 and 81 and its current status.

A: Some of the 345 kV SF6 (sulfur-hexafluoride) breakers at Substation 16 and 81 were in need of significant maintenance and repairs had been unsuccessful. The cost of rebuilding the breakers grew to almost equal the cost of a new breaker. Installing a new breaker eliminated the need to constantly maintain the breakers and reduced risk of failure. The Plan called for replacing one breaker at both Substation 16 and Substation 81. The project was successfully completed in 2007 with the replacement of two breakers.

Q: Is Substation 72 another SF6 Breaker Replacements Project?

A: Yes. The Plan called for replacing two breakers at Substation 72. The project was successfully completed in 2006.

Q: Describe any other circuit breaker replacement programs KCP&L has planned.

A: Many of KCP&L's 34 kV and 69 kV Oil Circuit breakers are over fifty years old. Parts are scarce or unavailable and the breakers are requiring frequent maintenance to keep them performing reliably. We have established the 34 kV and 69 kV Circuit Breaker Replacement program, replacing 15 of the worst-performing breakers. Through second quarter 2008, nine circuit breakers have been replaced.

Q: Please describe the Transmission Shield Wire Replacement and its current status.

A: The galvanized steel shield wire on some of KCP&L's forty-plus year old transmission lines is suffering increasing breaks due to vibrational fatigue, lightning embrittlement, and corrosion. Replacement will limit circuit outages, improve reliability, and curtail secondary damage to the distribution circuits and other attachments along these line sections. The current Plan selects different sections of shield wire, and is expected to eventually replace approximately 20 miles of shield wire. Through second quarter 2008, 5.6 miles have been replaced.

Q: What does the rebuilding of portions of the Shawnee-Greenwood line require?

A: This forty-two year old, 161 kV line exhibits signs of deterioration of its untreated wood arms and wood poles, increasing the opportunity for service interruptions. Through first quarter 2008, five deteriorated structures were replaced. The Plan anticipates replacing five to eight structures. KCP&L is currently evaluating the possibility of replacing one or two additional structures in 2008.

Q: Describe the Replacement of S&C Mark II and Type G circuit switchers project and its current status.

A: The S&C Type II and Type G circuit switchers are obsolete and parts are no longer available. These forty-plus year old switchers are becoming more unreliable, the interrupters are starting to leak and maintenance costs are increasing. This project accelerates the replacement of the worst switchers. The Plan calls for replacing six of the most problematic switchers over the next three years.

This completes my testimony on Transmission related CEP projects.

Q: You previously mentioned KCP&L is also engaged in projects that support its broader infrastructure and reliability initiatives. What does the Hawthorn – Moberly Structural Member Replacement project involve?

A: Many of the original untreated wood structural members in this 102-mile long line, built in 1951, have deteriorated significantly and need replacing to avoid structural failure. The project accelerates the replacement of the worst locations and anticipates replacing deteriorated members at 145 structure locations. Through second quarter 2008, 97 members have been replaced.

Q: Describe the Replace/Refurbish Reactors project at Hawthorn.

A: The forty-plus year old, 13.8 kV reactors (inductors) at Hawthorn Generating Station have deteriorated due to age and weather. Recent visual inspections confirm the possibility of compression rod fractures. Refurbishing the reactors is the most cost effective way to substantially reduce the risk of in-service failure. The Plan calls for refurbishment of one - three phase set of reactors in 2009.

Q: Please describe the Replace GOAB Switch at Higginsville project and its current status.

A: By replacing the obsolete and marginal group operated pole mounted 69 kV switches with new and reliable switches, outage durations will not be extended due to the failure of these sectionalizing two way switches. This GOAB switch was replaced in 2006, thereby completing the planned work.

Q: Have you completed the GOAB Replacement Switch project at Corder?

A: Yes, the replacement of the obsolete and marginal group operated pole mounted 69 kV switches with new switches was completed in 2006.

Q: What is the Allis Chalmers 15 kV Breaker Replacement project?

A: KCP&L uses 38 Allis Chalmers type FC Air Circuit Breakers that were manufactured in the 1960's. Replacement parts have become increasingly more difficult to find. More importantly, the FC breaker design requires the switchman to be inside the breaker cubicle to connect or disconnect it from the bus, increasing the risk of bodily injury in the event of a breaker failure. The replacement breakers improve safety by allowing switchmen to connect and disconnect the breakers with the door closed. The Plan calls for replacing twelve of the FC breakers in 2010. The removed breakers will be used for parts.

IV. PRICE SENSITIVITY

Q: Are there specific areas exhibiting price sensitivity that are impacting transmission and distribution construction and maintenance costs?

A: Yes. Since 2003, world markets continue to experience dramatic price increases on commodities driven by increased demand, investors hedging against inflation and the weakness of the U.S. Dollar. Fuel, oil, steel, copper, and aluminum are commodities that have been and continue to exhibit price sensitivity at a national and global level due to increased worldwide demand--specifically in China and India. Also, the weakness of the dollar puts upward price pressure on these specific commodity prices.

Q: How do the rising commodity prices directly affect KCP&L?

A: The cost of transformers, overhead distribution equipment, switchgears, and cable used to operate and maintain KCP&L's transmission and delivery systems are all highly sensitive to the cost of oil, enclosure steel, silicon steel, copper, and aluminum. For example, in May 2004, a 161/13.2 kV sub-station transformer cost $340,000, while today the same transformer costs $907,000. In addition to the higher costs, delivery times have now been stretched from twenty-eight weeks in 2005 to sixty weeks in 2008.

KCP&L also has experienced an unprecedented rise in fuel prices, thereby greatly increasing the cost to operate our large fleet of vehicles. Even beyond the direct impact of higher fuel prices, the indirect impact of higher fuel prices is now reflected in the cost of goods and materials KCP&L uses to operate and maintain its transmission and distribution system.

Q: What changes have you seen in supplier contracts with KCP&L?

A: The greatest change KCP&L has seen in supplier contracts rests in an unwillingness to provide long-term, fixed price terms. As contracts are renewed, suppliers are requiring monthly or quarterly commodity related price adjustments to the contracted price.

Q: How does the change in supplier contracts affect KCP&L?

A: It greatly affects our ability to manage operational costs and plan construction and maintenance projects. A sudden and unexpected rise in cost for materials can require either postponement or cancellation of projects.

Q: What do you project as the future increase in these costs?

A: While future increases are difficult to predict, we can look at the trend since 2003 and the prevailing forecasts throughout the commodity industry as an indicator. Transformer oil is up 500%, enclosure steel is up 147%, silicon steel is up 153%, copper is up 400%, and aluminum is up 161%. Total 2007 fuel costs were $2.4 million including $2.0 million in bulk fuel and $400,000 in fuel card purchases compared to a 2008 year end forecast of $3.6 million, allocated between $3.1 million bulk fuel and $500,000 fuel card purchases. In January 2007, we paid $2.60 for unleaded gasoline, $2.38 for E85, $2.77 for diesel fuel. In July 2008, we were paying bulk fuel prices of $3.81 for unleaded, $3.52 for E85, and $4.53 for diesel.

Q: You cite prices for “green” fuels such as E85. How do they affect your costs?

A: In 2007, KCP&L was able to voluntarily offset its fossil fuel consumption by 20% in our Kansas City Metro area fleet by utilizing locally produced ethanol and biodiesel. In 2007, sourcing from these local processors worked to our advantage in helping to mitigate rising fuel costs as many times biodiesel was less expensive than diesel.

However, as many States begin mandating B2 or B5 Biodiesel for all public fueling, the supply and demand may effect our pricing negatively.

Q: What strategies does KCP&L use to help mitigate expected future price increases?

A: KCP&L aggressively pursues multi-year contracts and develops alliance relationships with its major suppliers that are based on competitive bids reviewed by multiple internal business owners. Utilizing a strategic sourcing matrix, we assign our contracts accordingly based on the use of specific factors like how critical an item is to operations or the amount of leverage we may have in a given supply stream. The matrix also helps the Company to identify and decide which areas to further develop, manage and grow a supplier . These relationships allow us to benefit from stable pricing during contract years while pricing has increased on the open market. Even as many suppliers are adding monthly and quarterly price adjustments to our contracts, we have had some success with our longer term contracts--enabling our suppliers to source raw materials further out and helping reduce price volatility while ensuring product availability as opposed to buying on the open market with higher prices.

We cultivate relationships with our Alliance suppliers. Typically, these companies supply high business impact items and/or have a high supply market complexity like complex engineered and manufactured products. Working with our Alliance suppliers helps to identify shared risks and shared rewards. Additionally, we hold quarterly meetings with our Alliance suppliers seeking other value-added alternatives such as comparing and aligning KCP&L's specifications with others in the industry to help lower overall costs.

Q: Do you have an example of how these supplier relationships helped to mitigate costs?

A: Yes. Last year we worked with one of our suppliers, along with six of their other customers, to develop a conduit more acceptable to the industry that also saved KCP&L $100,000 per year. We continue working with this group, looking for other opportunities for combined commodity savings as well as creating a larger pool of readily available material that can be jointly used in times of emergencies.

Q: Are you requesting an adjustment based on these higher costs for materials and fuel?

A: We normalized transmission and distribution maintenance expense, excluding the impacts of "New Rules" discussed later in this testimony, based on a five-year average (2003-2007) indexed for price escalations. The index used was the Handy-Whitman index, a highly recognized independent source of historical escalation factors. We projected the Handy-Whitman index used in this normalization process through January 1, 2009 to take into consideration the price sensitivity issues discussed above. The resulting adjustments, Adj-26b and Adj-26c, are included in Schedule JPW-2 attached to the direct testimony of KCP&L witness John Weisensee. As part of the true-up process in this rate proceeding we will utilize the most currently available Handy-Whitman index information.

V. NEW RULES

Q: Has KCP&L requested an adjustment to test year distribution and transmission operation and maintenance expense associated with the Commission's new vegetation management, infrastructure and reliability rules?

A: Yes. An adjustment of $6,712,480 is included on Schedule JPW-2, Adj-48, attached to the Direct Testimony of KCP&L witness Mr. John Weisensee.

Q: Please explain the requested adjustment.

A: The adjustment is to recover incremental transmission and distribution operations and maintenance costs for compliance with Missouri's newly published rules regarding vegetation management, infrastructure and reliability. The amount represents costs not included in the test year but that we have begun to spend in 2008 and will be required to spend in 2009 and future years on an on-going basis.

VI. VEGETATION MANAGEMENT

Q: Describe KCP&L's plans regarding initiating the newly published vegetation management rules.

A: KCP&L filed its Vegetation Management Compliance Plan with the MPSC on July 1, 2008, and is waiting for Commission review and approval of the plan. KCP&L's plan addresses and incorporates the changes required under the vegetation management rule.

Q: What are some of the changes that will be made?

A: KCP&L has hired a manager to oversee the vegetation management program. The manager's focus is to ensure compliance with the vegetation management rules for both the transmission and distribution systems. Other changes will include improved customer communications, increased patrols, development of a mid-cycle patrol program for urban laterals and rural lines, annual reporting to the Commission on vegetation management status, and maintenance on minimum 4-year cycles for urban locations and 6-year cycles for rural locations.

Q: How is KCP&L improving communication with customers regarding vegetation management?

A: We continue our established practice of arborists and foresters planning work in advance of the crews, allowing customers the opportunity to discuss any concerns regarding their trees. In addition to our current practice, information is now placed on KCP&L's website. Also, a dedicated e-mail address for vegetation management questions and concerns has been established, vm@KCPL.com. Additionally, door-hangers now provide information on how to directly contact the manager of vegetation management. Furthermore, a contact list with cities and counties has been developed and used to inform municipal stakeholders of vegetation management activities affecting their jurisdictions.

Q: What adjustment expense is KCP&L requesting for the vegetation management rule?

A: The request of $2,204,980 reflects additional costs relating to implementation of the Missouri vegetation management rule and stemming from:

1. A greater duty to remove dangerous trees that indicate an imminent threat to reliability—including trees that are out of the right-of-way;
2. An expanded scope of mid-cycle inspection to KCP&L's entire system—including laterals and rural circuits;
3. Increased spot trimming resulting from expanded mid-cycle inspections;
4. A more stringent debris removal standard;
5. Broadened notification requirements to include county and municipal entities;

6. Shortening of the urban/metro lateral lines vegetation maintenance cycles from 5-years to 4-years;

7. More rigorous standards requiring consideration of additional removal of overhang on backbone; and,

8. Increased reporting and recordkeeping requirements.

Q: Is the adjustment for Missouri customers only?

A: The requested expense adjustment is exclusive to KCP&L's Missouri operations.

Q: What is the progress of KCP&L's vegetation management program prior to and beyond the newly authorized rule?

A: KCP&L's vegetation management program has been well respected within the industry since the mid-1980's. However, after learning lessons from the experience of the 2002 ice storm, KCP&L investigated and eventually adopted a new approach to address vegetation management while staying mindful of costs. The program is based on three strategic cornerstones: reliability—not just tree trimming, implementing industry best practices and leveraging contractor competition.

Q: What do you mean by "reliability—not just tree trimming"?

A: Our long-term preventive maintenance strategy is based on outage risk and customer impact where we have utilized a 2-year backbone patrol and selective maintenance schedule. The reliability-based trimming means that work is planned based on risk and importance of specific lines, rather than using the same cycle for trees on all lines regardless of potential impact. This approach also includes the incorporation of worst-performing circuits and laterals as part of the scheduling criteria.

Q: Have you seen reliability improvement using this strategy?

A: Yes. For the period from 2003 through 2006, excluding major storm events, tree-related disruptions have decreased, improving reliability nearly 10% over the previous four-year average.

Q: Do you expect the new vegetation management rules to continue to add to your success in the reduction of tree related disruptions?

A: It is difficult to accurately predict the new rule's impact on the reliability of KCP&L's system, but we are confident that with the additional resources devoted to vegetation management and adoption of the infrastructure and reliability rules discussed later in my testimony, we will see continued high levels of reliable service.

Q: What are some of the challenges KCP&L faces regarding vegetation management and effectively managing vegetation management costs?

A: Tree density and accessibility in KCP&L's service area affects vegetation management and its cost. KCP&L's metro area tree density is 115 trees per mile and the rural area is 35 trees per mile. This density is greater when compared to the average Missouri utility at 100 trees per mile or the industry average number of 80 trees per mile. Tree density is defined as trees requiring maintenance per line mile.

Also, the trees in the metro area, about 65%, are inaccessible to bucket trucks as compared to the industry average of 27%. Trees not available for bucket work require manual crews, driving costs 30-40% higher.

Q: What are some of the industry's best practices adopted by KCP&L in its vegetation management program?

A: KCP&L's strategic plan is specific for vegetation management and addresses long- and short-term goals Also, KCP&L's staff consists of degreed foresters and/or ISA Certified arborists. In addition, KCP&L employs prescriptive work selection in advance of crews beginning jobs. Selection of trees for removal and pruning is based on individual tree outage risk. Furthermore, proper pruning techniques are consistent with ANSI standard A-300.

Q: Please describe "leveraging contractor competition."

A: KCP&L uses performance-based contracting and regular performance evaluations with competing line clearance contractors. This approach creates a competitive atmosphere among contractors. KCP&L continually evaluates the success of the contractors meeting vegetation management specifications and their adherence to species-specific clearance guidelines. The competitive environment promotes contractors not only meeting the standards but maintains a downward pressure on price.

Furthermore, KCP&L evaluates the safety performance of its contractors by reviewing monthly OSHA reports and requiring discussion of safety topics at every vegetation management meeting.

Q: How are your vegetation management policies and procedures received by your customers?

A: Customer satisfaction surveys indicate on average that over 90% of affected customers are satisfied with KCP&L's line clearance tree maintenance program.

Q: What do think drives this high satisfaction number?

A: Key to this success is communicating with customers in advance of tree maintenance activities. This allows their questions to be answered and potential problems to be resolved before crews arrive. Also, we gain written permission for removals over 4-inches in diameter; provide plant pest and disease diagnosis and solutions to homeowners; offer a tree replacement program on valued landscape trees; and, assist customers with removal of off-cycle trees.

Q: How do FERC and NERC rules affect vegetation management of transmission lines?

A: As a result of the Energy Policy Act of 2005 and the resulting regulatory authority given to FERC over the reliability of the bulk power system, NERC established standards governing the vegetation management requirements for all transmission owners. NERC Standard FAC-003-1, Transmission Vegetation Management Program, includes a number of specific, measurable and enforceable requirements all utilities must meet in order to maintain mandatory compliance. The rules define inspection schedules, vegetation clearances, flexibility of trimming cycles, required records and documentation.

KCP&L has enhanced its transmission vegetation management program in order to meet obligations and maintain compliance under the NERC vegetation management program standards.

Q: Does the Missouri vegetation management rule affect maintenance of the transmission lines?

A: Although the Missouri rule exempts transmission lines covered by the NERC rule, some of KCP&L's transmission lines do not fall under the exemption. In cases where both the Missouri and NERC rules apply, KCP&L applies the strictest standard.

VII. INFRASTRUCTURE and RELIABILITY

Q: Describe KCP&L's plans regarding the newly published infrastructure inspection rule.

A: KCP&L filed its Infrastructure Inspection Compliance Plan with the MPSC on July 1, 2008, and is waiting for Commission review and approval of the plan. KCP&L's plan addresses and incorporates the changes required to implement the Infrastructure Inspection Rule.

Q: What adjustment expense is KCP&L requesting for the infrastructure rule?

A: The request is $3,280,500, allocated between distribution and transmission as $2,500,000 and $780,500, respectively. The request reflects additional annual costs relating to implementation of the Missouri Infrastructure Inspection Rule and stems from:

1. New infrastructure inspection cycles on transmission and distribution infrastructure that is not presently being performed;
2. Increases in frequency and/or stricter inspection criteria for infrastructure inspections;
3. Creation and maintenance of systems required to schedule and track infrastructure inspections and repairs;
4. Increases in repairs of infrastructure; and,
5. Increased reporting and recordkeeping required by the rule.

Q: Are these one-time or recurring annual costs for infrastructure inspection?

A: KCP&L's compliance plan and the cost estimates presented here are based on a levelized schedule of inspections and repairs. By "levelized", I mean it is assumed that inspection and repair scheduling and costs are evenly distributed across cycle years such that costs are the same year after year.

Q: Is the adjustment for infrastructure inspections for Missouri customers only?

A: The requested expense adjustment is exclusive to KCP&L's Missouri operations.

Q: What adjustment expense is KCP&L requesting for the reliability rule?

A: The request is $1,227,000, reflecting additional annual costs relating to implementation of the Missouri Reliability Rule and stems from:

1. Addressing the five percent worst-performing circuits required by the rule, and
2. Increased reporting and recordkeeping required by the rule.

Q: **Is the adjustment for infrastructure inspections for Missouri customers only?**

A: The requested expense adjustment is exclusive to KCP&L's Missouri operations.

Q: Does KCP&L have reliability programs other than those required by the newly published reliability rule?

A: Yes.

Q: Please describe those programs.

A: As I discussed previously, several of the programs in KCP&L's Asset Management Plan also address reliability performance. Several of the Distribution Automation projects improve service reliability. In addition to our Proactive URD Cable Replacement Program, KCP&L also replaces URD cable after a section has experienced two faults to prevent future outages. KCP&L plans to perform a pilot program of cable diagnostic testing in the latter half of 2008. The diagnostic testing is intended to assist with assessing the health of feeder/mainline and URD distribution cables. The technology is still in its infancy, but KCP&L desires to use this as another tool to assist with optimizing our cable maintenance expenditures in order to maintain high levels of reliability.

VIII. STORM RESPONSE

Q: What is KCP&L's storm experience for 2008?

A: KCP&L is on pace to have the highest severe storm year since the early 1990's when KCP began keeing storm records —six Class 2 and three Class 3 storms. The chart referenced as Exhibit WPH-1 tracks the number of Class 2, 3 and 4 storms experienced by KCP&L over the last ten years and reflects storm activity as of July 20, 2008. The chart illustrates a large increase in storms since 2003 and indicates KCP&L is averaging six Class 2 storms, two Class 3 storms and one Class 4 storm a year.

Q: Does KCP&L's experience reflect national storm trends?

A: Storms and their frequency are highly regionalized so it is difficult to compare KCP&L's service territory with a national standard. For example, storms in Wisconsin may exhibit greater frequency and severity than Missouri but there may be a lesser number of storms affecting Minnesota.

Q: Has KCP&L implemented any proactive storm response processes since the 2002 ice storm?

A: Yes. Since the January 2002 ice storm we have continued to make various improvements to our systems and processes to achieve additional efficiencies and advance our response and communication capabilities. This includes projects involving facilities, training, system improvements, materials and communication with local leaders.

Q: Has KCP&L broadened its storm response to include emergency preparedness?

A: Yes. There has been a renewed emphasis on emergency preparedness. KCP&L is not content with considering only system damage from a storm. Storm response and emergency preparedness procedures can be applied to other major events. For example, what happens if a Company facility is uninhabitable or 40% of the employees cannot get to work because of widespread illness or a natural disaster impacts one of the communities the Company serves? KCP&L recognizes it has many stakeholders and emergency preparedness training cannot be limited to KCP&L employees, KCP&L seeks to incorporate all emergency response agencies and personnel that service the Company's territory.

Q: Describe how KCP&L has involved other stakeholders?

A: KCP&L is an affiliate member of the Metropolitan Emergency Manager's Committee ("MEMC") and the Eastern Jackson County Emergency Manager's Committee. The State Emergency Management Agency ("SEMA") included KCP&L in last summer's earthquake tabletop exercise. Partnering with these groups greatly improves the communication channels between the entities during a disaster—all with an eye to improving restoration times.

Q: What improvements have been made to KCP&L's systems and processes to improve KCP&L's response to storms?

A: KCP&L opened an Emergency Operating Center ("EOC") in 2005 that features a large meeting room capable of video conferencing, weather and news updates, cable television, and connection to our major computer systems. In addition to the EOC, a mobile command center was designed and built for onsite local and remote command and control capability in the field. It provides on-site command and control in field locations. The center is fully equipped with a generator, computers, telephone and radio equipment. A pickup truck is required to move the mobile center from site to site. The mobile command center has been used by KCP&L when assisting other utilities--most notable were restoration efforts stemming from Hurricanes Gustav and Katrina. The mobile command center was also recently used in response to the Gladstone, Missouri tornadic event.

Q: Have you initiated any training to improve KCP&L's storm and disaster response?

A: Any change in KCP&L's Storm Evaluation and Restoration Program ("SERP") initiates training of affected personnel. In the last couple of years we have sponsored and held seven major training and preparedness drills. Also, we conduct training necessitated by personnel changes or when KCP&L crews are asked to work with other utilities under mutual assistance agreements. Additional drills and training—both classroom and E-learning—are planned for 2008 and on a continuing and regular basis.

Q: Describe the seven major training and preparedness drills.

A: 1. June 2008. A two-day training platform was conducted on SERP. Day one was for the members of the EOC and included discussions regarding how the Aquila territory was going to be integrated in storm response. Day two was for field leadership – Regional Managers, Supervisors, etc. Approximately 110 people were trained over the two days.

2. December 2007. Online training and testing was developed for six activity roles with additional training coming in 2008: Scout, Guide, Captain, Co-Captain, Evaluation & Information ("E&I") Manager and Initial Evaluator are complete.

3. May 2007. A full-scale functional exercise was conducted down to the field worker level. This two-day exercise tested everything from the Initial Evaluation, I.T. system, EOC through closing out a restoration event. Cubic, a consultant, facilitated the exercise and kept it on track. A "hot-wash" review was held at the end of the exercise and recordable issues were identified and addressed. Approximately 240 people participated in this exercise.

4. April 2007. Training was conducted with each E&I team, I.T. support, E&I Mapping, Group Supervisors, Team Captains, and E&I EOC team. This classroom setting reviewed specific duties of these activity codes. Tabletop discussions ended the sessions. About 50 people participated in this training.

5. March 2007. KCP&L conducted a day-long EOC training consisting of the different groups that are located in the EOC and adjoining areas presenting their understanding of roles and responsibilities. A comparison to the SERP was made with their current understanding and any discrepancies were addressed. Approximately 30 people were trained during this exercise.

6. December 2006. A Reception, Staging and Integration ("RS&I") group trained 20 Staging Managers. This role is to act as the liaison with out-of-town crews working for KCP&L during an emergency.

7. May 2006. A tabletop exercise was held for 110 people in the Distribution Operations' workgroup. The training was also conducted by Cubic. The E&I teams, Group Supervisors, Team Captains and EOC team were involved in the tabletop exercise that included a question and answer session based on SERP.

Q: What is the desired outcome from all this training?

A: The emphasis on training reduces confusion when a SERP event is declared. Employees have a clear picture of their duties and responsibilities when called out to support the restoration effort. Of primary importance is the emphasis on relevance to actual outage events and safety.

Q: Has KCP&L conducted disaster drills to prepare for storms in the future?

A: Yes. KCP&L has reached out to community organizations for joint training. Later in 2008, there are two joint exercises planned:

1. The MEMC exercise addresses a building collapse tabletop and KCP&L is helping plan and participate in this event;

2. Overland Park, Olathe, Johnson County Emergency Management and Water One are participating in a joint emergency tabletop (another Reality Based Exercise ("RBX")) paid for and hosted by KCP&L. The Uriah Group developed the Kansas City drill and is developing the Overland Park exercise.

KCP&L also paid for and hosted a RBX in November 2006. The Company's EOC and the City of Kansas City's EOC participated in the exercise. The main objective of the drill was to test communication and build relationships between the two entities. Also, SEMA conducted an earthquake tabletop exercise in June 2007 and KCP&L was invited to observe. It was a 3-day drill in Jefferson City, Missouri and tested emergency response agencies across most of the state.

Q: Has KCP&L conducted other training related to crisis management?

A: Yes. In addition to crisis management, business continuity and pandemic plans have been developed and are currently being tested/communicated. The business continuity plans are being tested at the departmental level along with a discussion of the department's pandemic plan.

Also, a corporate crisis management plan was developed in mid-2007. In December 2007, the Senior Strategy Team received training on crisis management. The training consisted of two tabletop scenarios for the Senior Strategy Team.

Another corporate crisis drill is being planned for October 20, 2008. A team has been selected and is starting to develop the objectives and scenario(s) to test.

Q: Is KCP&L also working with regional utilities to coordinate the response to storms in the area?

A: Yes. A result of the 2002 ice storm was the formation of a larger coordinated effort among regional utilities. KCP&L was the catalyst and founding member of the Midwest Mutual Assistance Group ("MMAG"), which now includes thirty member utilities. Partnering with OPPD, the MMAG quickly grew into the largest Regional Mutual Assistance Group ("RMAG") in the United States. An RMAG covers every state in the country. The purpose of the group is to provide a structured approach to requesting or providing aid during catastrophic events. The MMAG also provides a forum for sharing best practices in emergency restoration.

Q: Briefly, how does the MMAG work during a storm?

During a restoration event, conference calls are arranged by the requesting utility. Each call is structured and follows an established protocol--roll call, weather conditions, future conditions, "on hold" or can supply help, what help can each utility spare, arrange next call, and so forth.

Q: How often is mutual assistance requested?

A: Since 2006, KCP&L has responded to 15 requests for help, representing 12 different utilities. KCP&L's assistance to four utilities in 2002 and five utilities in 2007 was recognized by EEI, awarding KCP&L in 2003 and 2008 the EEI Emergency Response Award. Also, KCP&L dispatched equipment and over a hundred personnel to assist in restoration efforts in Louisiana stemming from Hurricane Gustav.

Q: Have there been other improvements in addition to the facilities and training?

A: Yes. Numerous systems/enhancements and process changes have been added. These changes are intended to increase the speed and accuracy of communication with field forces, customers, community leaders and commissions. In addition to system enhancements and upgrades of the Outage Management System, Outage Reporting System, EMS, SERP and ARCOS system, there have been changes to KCP&L's approach to public safety and material handling.

Q: Please describe the Outage Management System.

A: The Outage Management System ("OMS") allows KCP&L to track outages, effectively manage crews and decrease service restoration times. The system:

1. Predicts outage device and location;
2. Automates workflow and schedules crews to optimally use resources;
3. Dynamically manages the status of crews and work assignments;
4. Provides for the paperless recording of trouble calls, work assignments and resolution of outages, non-outages and "customer meets"; and
5. Updates CIS+ records so Customer Care Center representatives and customers can see status updates.

Q: Describe improvements to the OMS.

A: During the 2002 ice storm, this system failed to handle the large amounts of data generated. KCP&L invested $600,000 after the storm of 2002 on new UNIX servers, disk arrays and the latest version of Centricity software to increase the capacity and stability of the system. The software was upgraded in 2006.

Q: Would you please describe the plan for merging GMO's and KCP&L's OMS.

A: Merging of the GMO and KCP&L Outage Management Systems is presently scheduled for the first quarter of 2009 and will improve storm management and restoration efforts throughout the combined service territories. After the systems are merged, we will begin an evaluation to determine whether to upgrade the current KCP&L OMS application or purchase a Distributed Management System ("DMS") which would provide additional Supervisory Control and Data Acquisition ("SCADA") information.

Q: What are the plans for merging the EMS?

A: KCP&L and GMO currently have Energy Management Systems that support the monitoring and control of their respective electrical grids. The EMS used by GMO, the Monarch System, and the EMS used by KCP&L, the EMSYS system, are scheduled to be replaced in 2009 when a new EMS, the Network Manager system, is commissioned. The Network Manager EMS will support the monitoring and control of the combined companies' grids and includes a full suite of functional advanced network applications allowing Dispatcher Load Flows and Contingency Analysis to be routinely performed. These advanced functions will not run on GMO's Monarch EMS but are important components for maintaining transmission system reliability.

Merging GMO's and KCP&L's EMS systems provides improved tracking, with one common platform, screens, special applications, *etcetera*, of system conditions for both the transmission and distribution dispatch areas. The GMO and KCP&L EMS systems will be moved one at a time to the new EMS platform that was being purchased at the same time as the announcement of the acquisition.

Q: Does KCP&L's OMS interface with local emergency management organizations?

A: KCP&L has provided a link into the system through a secure dial in procedure to Kansas City, Missouri; Overland Park, Kansas; and Johnson County Emergency Management. Overland Park is still working to establish its link with the hope of being operational by mid-August. Once Overland Park is online, KCP&L has offered training to all three entities on the OMS. Kansas City and Johnson County Emergency Management have expressed appreciation to KCP&L for granting access to them free of charge.

Q: Please describe KCP&L's Outage Reporting System.

A: The Outage Reporting System ("ORS") displays data in a graphical format to keep employees better informed of status and improve the quality of their decision making. The ORS, OMS and CIS+ systems are interfaced to provide each system with up-to-date information.

Q: What changes have you made to your SERP?

A: The SERP system was modified to allow the Service Center Superintendents the ability to enter manpower and fleet information into the system and build rosters for in-town crews or for sending crews out-of-town. This change dramatically decreased crew build time over previous systems—allowing faster deployment of crews.

Q: What improvements were made to the ARCOS?

A: System enhancements have been completed to increase the speed of communication with KCP&L employees. When a situation requires a field personnel call out, ARCOS is activated. ARCOS is capable of calling up to three different devices (cell phone, pager, home phone) for individual employees or "blasted" to all field personnel in the system within 80 seconds. Once responses to the system indicate the required number of personnel have been achieved, it shuts down.

Q: Describe your public safety program during an ice storm.

A: KCP&L uses a Wire-Down Team to make unsafe public situations safe. This group is led by the division's reliability engineer and comprised of electrically-qualified employees–former linemen and meter readers. When a wire-down is reported, a team is dispatched to assess the situation and, if required, make the area safe which may include staying on-site until a crew arrives to remove the downed wire. For example, during the December 2007 storm, the team inspected 213 wire-down reports, with 124 requiring further action by the team.

Q: Do you use other applications for determing outages?

A: The Power Outage Application ("POA") runs on Cellnet's system controller side--waiting to read outage meter events. This application acts on real-time events and notifies the utility of outage or if there is service. The OMS reads Cellnet's outage meter events every five minutes. Once processed by the system, these events are either grouped under an existing event or a new one is created. Dispatchers handle these calls as valid outages.

Q: What improvements have been made in communicating with the customer during an outage?

A: Customers who call into the Customer Care Center to speak to a representative get more accurate information about the restoration effort than was previously available. Customer Care Center representatives have access to the OMS, giving them better visibility into restoration efforts, including crew dispatching. On clear days, the system automatically estimates restoration times. During storms, dispatchers enter estimated restoration times once crews are assigned.

Also, customers have the option to contact the Customer Care Center and use the automated phone system ("IVR") to report their outage. This process allows the caller to input multiple options to narrow the reason or cause of the outage. Regardless of the type of outage recorded, the system provides an estimated system restoration time in hours and minutes. This is done as a courtesy, helping set a realistic and accurate expectation for the caller. After the estimated restoration time is given, the caller hears two additional offers asking: a) If you would like to be called back if your estimated restoration time changes – press "1" and, b) We would like to call you back to confirm your service is restored. To request a callback – press "1". If for any reason the IVR is unable to identify the caller or if there are multiple matches to the phone number entered, the call is transferred to a live Customer Care Center representative.

Q: What other options do customers have in communicating with KCP&L?

A: Customers may also choose to report an outage by calling 888-LIGHT KC. This option is handled by 21st Century and provides a fully automated outage reporting system and allows customers to report outages during periods of extremely high call volume. Though this service is fully automated, if for any reason the system is unable to identify the caller or if there are multiple matches to the phone number entered, the call is transferred to a KCP&L Customer Care Center representative.

Furthermore, both outage reporting systems utilize the OK-on-Arrival system. This system receives reported outages from the systems described above and sends a signal attempting to contact the service meter at the customer address. Two scenarios follow – a) there is no response, indicating the outage report is legitimate, or b) the meter replies, indicating there is indeed power to the meter and the outage information may be inaccurate. Legitimate outages are processed through KCP&L dispatchers and crews are sent. In the event the meter replies (indicating power is on at the meter), the phone system places an automated call to the customer announcing (paraphrasing) "Power is currently on at your meter, please check your circuit breaker or other electrical issues inside the house. If your problem continues, please call KCP&L."

Q: Please discuss the communication of storm restoration efforts with the Missouri Public Service Commission staff.

A: During a severe weather event, KCP&L works to provide regular updates to MPSC staff through the regularly scheduled Missouri SEMA telephone conferences and also is working to identify and provide a single source of contact information to Staff so they can have direct access to operation managers during a storm event.

Q: Please discuss the communication of storm restoration efforts with local leaders.

A: KCP&L works to constantly improve its communication with local leaders using the Corporate Communications and Governmental Affairs department. KCP&L's communication plan establishes communications with state and local officials and government employees by telephone or e-mail. In the event of a pending outage, the proactive plan provides an opportunity to verify contact information.

Q: What part does the Corporate Communications Department play in disseminating information?

A: The Corporate Communications Department works with Governmental Affairs to execute the established proactive communication plan for their stakeholders. State and locally elected officials, government employees responsible for public safety and infrastructure, are contacted by telephone or e-mail.

Q: How often are governmental stakeholders contacted?

A: As a storm matures and outages develop, the Governmental Affairs Department e-mails updates every 3 to 4 hours to the governmental stakeholders on the original contact list. Additionally, Community Affairs and the Economic Development departments e-mail the same updates to their contact lists. In the event the outage period extends over a greater time period, KCP&L will initiate a conference call update system for elected officials.

Q: Has KCP&L received any feedback from its governmental stakeholders regarding this process?

A: Governmental Affairs has received many compliments for their communication efforts. The feedback helps to confirm the information is timely, relevant and appropriate.

IX. OPERATIONAL PERFORMANCE

Q: Please discuss the 2007 operational performance of KCP&L's distribution business.

A: KCP&L's overall system reliability performance continued to be strong in 2007 and is expected to remain in the top quartile of utilities in our benchmarking peer groups. In 2006, the Transmission & Distribution System Average Interruption Duration Index ("SAIDI") was 63.8 minutes, compared to a top quartile figure of 90.0 minutes. The source of this data is the EEI benchmarking study of which KCP&L ranked 5th out of 66 utilities. In 2007, we finished with a SAIDI of 62.46 minutes.

I would highlight that KCP&L's SAIDI data excludes major events and is based on the IEEE 1366 standard. A Class 2 storm for KCP&L is defined as 5,000 to 15,000 customers without power, and these storms are typically not classified as major events per the 1366 standard.

Q: What factors contribute to KCP&L's recent reliability performance?

A: Our reliability performance can be attributed to a number of factors. KCP&L focuses our programs on improving reliability performance for the customers who have experienced the most outages. These customers are identified through our OMS data. We analyze the causes and trends of the outages, inspect the infrastructure serving them, then issue improvement plans to mitigate the problems. Progress has been measured by tracking the number of customers who have experienced multiple outages in a calendar year. In addition, we have initiated several capital reliability improvement programs like our Asset Management Plan programs. KCP&L has maintained engineering and design standards, including Grade B construction, and material specifications, that also play a role in our reliability performance by establishing an infrastructure that is built to withstand NESC heavy loading conditions and provide contingencies to quickly restore service when outages do occur. KCP&L has implemented a number of best practices in our vegetation management program that have enabled us to maintain reliability while controlling costs. Finally, our storm response processes contribute to our strong reliability performance by reducing the duration of outages.

Q: Are there other factors that contribute to KCP&L's reliability performance?

A; KCP&L's Energy Consultants work closely with our larger use customers to establish a relationship as a trusted energy expert. The Energy Consultant works directly with our larger use customers to troubleshoot reliability issues, identify curtailment opportunities and improve account management. This personal relationship ensures we understand their needs and establish strong reliability performance.

Q: Has KCP&L gained industry recognition for its reliability performance and innovation?

A: Yes. In 2007, KCP&L was awarded P.A. Consulting's National Reliability One Award, recognizing KCP&L as the most reliable utility in the nation. P.A. Consulting performs utility industry benchmarking studies and reviews the industry's best practices. Criteria for the National Reliability One Award is not limited to KCP&L's reliability index performance but includes an extensive review of KCP&L's programs, processes and practices that contribute to our performance and enables continued strong future reliability performance.

Also in 2007, the Edison Electric Institute awarded KCP&L the Edison Award—one of the highest honors in the industry—for the collaborative approach used to launch the Comprehensive Energy Plan that addressed the Asset Management and Automation programs previously discussed in my testimony.

X. SAFETY

Q: Do you have any comments regarding KCP&L's performance in the safety area?

A: Yes. While discussing KCP&L's strong operational performance, it is important to mention our performance in the area of safety. The OSHA Recordable Incidence Rate for the Delivery division was 2.26 in 2007 and is currently 1.39 through July 2008. We have several service centers that have achieved five years with "no lost time."

Q: To what do you attribute such a strong safety performance?

A: We attribute the continuing improvement of our safety culture to the strong partnership with our bargaining units and a consistent message supported by training and personal accountability.

Q: How does KCP&L compare with other utilities?

A: KCP&L has been a top quartile performer in benchmarking studies with industry peers in overall safety performance, which includes evaluation in four categories: OSHA Recordable Incident Rate, Lost Time Incident Rate, Lost Time Severity Rate, and Total Vehicle Incident Rate.

Q: What are KCP&L's goals and plans for safety-related improvements in the future?

A: Our goal is a zero workplace accident rate with the tools in place to sustain World Class Safety. We continue to make positive strides using our newly developed Safety Communication Website, improved observation and audits with the ability to *track and trend*, and continuing safety education for our Safety and Training Specialists and Bargaining Unit Safety Representative. The training technology of today along with the development of scenario-based training is providing our employees with cost-effective and creative ways to reinforce the workforce safe work practices.

Safety has always been a priority at KCP&L and will continue to be a priority as we strive for our stated goal of attaining a World Class Safety culture based on annual evaluations by DuPont Safety Resources. We have created a number of cross functional teams with management and bargaining unit employees to develop and modify safety policies, procedures, and training, and establish open communications to learn from our near misses and accidents as we drive toward a goal of a zero accident workplace.

Q: Does that conclude your testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Kansas City Power & Light Company to Modify Its Tariff to Continue the Implementation of Its Regulatory Plan	)))	Case No. ER-2009-____

AFFIDAVIT OF WILLIAM P. HERDEGEN, III

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

William P. Herdegen, III, being first duly sworn on his oath, states:

1. My name is William P. Herdegen, III. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Vice President, Transmission and Distribution Engineering and Operations.

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 fifty (50) 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.

William P. Herdegen III

William P. Herdegen, III

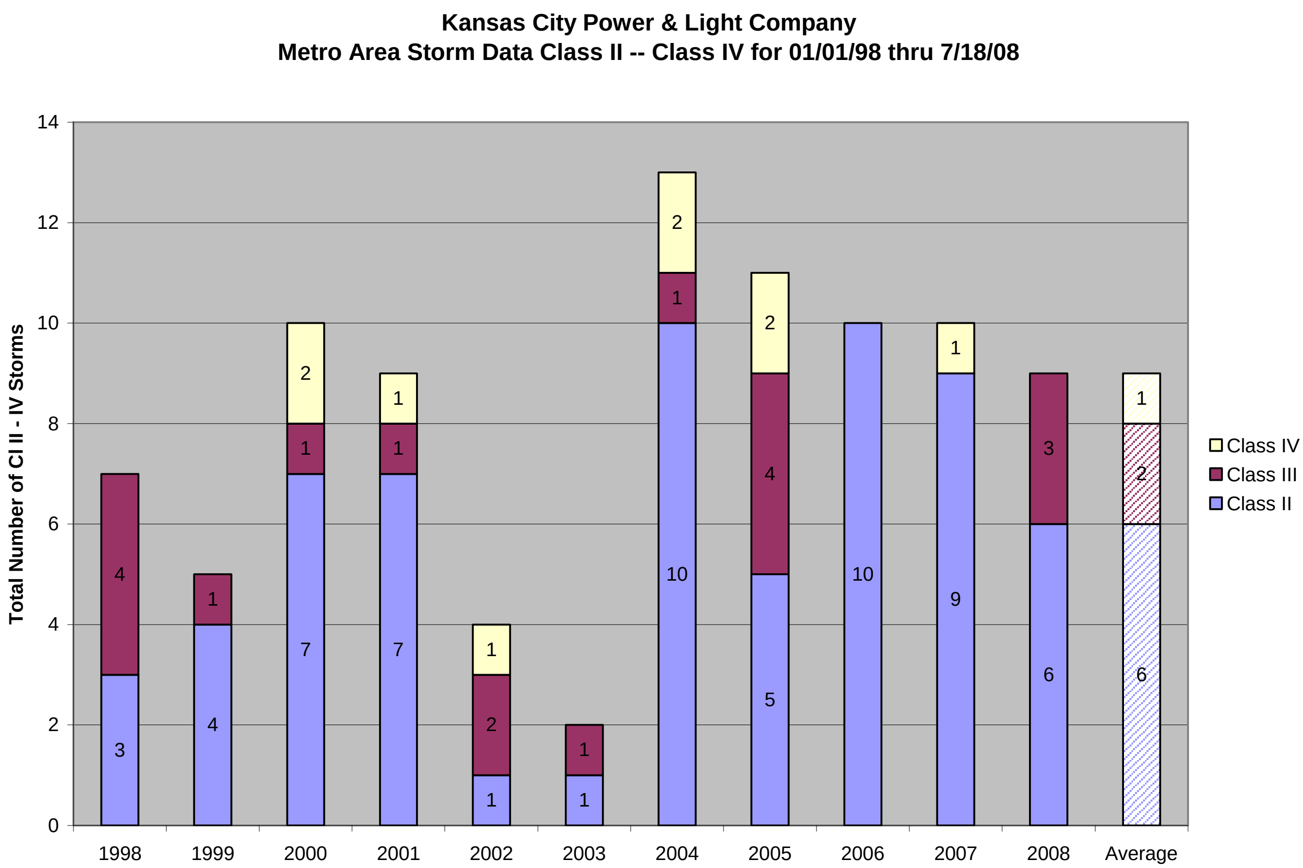
Subscribed and sworn before me this 5th day of ~~August~~ September 2008.

Nicole A. Wehry

Notary Public

My commission expires: Feb 4, 2011

" NOTARY SEAL "
Nicole A. Wehry, Notary Public
Jackson County, State of Missouri
My Commission Expires 2/4/2011
Commission Number 07391200


Kansas City Power & Light Company
Metro Area Storm Data Class II -- Class IV for 01/01/98 thru 7/18/08
Total Number of Cl II - IV Storms
0
2
4
6
8
10
12
14
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Average
Class IV
Class III
Class II
3
4
4
1
7
1
2
7
1
1
1
2
1
1
1
10
1
2
5
4
2
10
9
1
6
3
6
2
1