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Witness: Michael E. Palmer
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Case No.
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Before the Public Service Commission of the State of Missouri

Direct Testimony

of

Michael E. Palmer

October 2007

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OF
MICHAEL E. PALMER
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION

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DIRECT TESTIMONY
OF
MICHAEL E. PALMER
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO.

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Michael E. Palmer, 602 Joplin Street, Joplin, Missouri 64802.

Q. WHO IS YOUR EMPLOYER AND WHAT POSITION DO YOU HOLD?

A. The Empire District Electric Company ("Empire" or "Company") is my employer. I hold the position of Vice President – Commercial Operations.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

A. I hold a Bachelor of Science Degree in Construction Management Technology from Pittsburg State University.

Q. PLEASE DESCRIBE YOUR EMPLOYMENT BACKGROUND WITH EMPIRE.

A. I joined the staff at Empire in June 1986 as a Customer Service Consultant. I later served as District Manager in Aurora and Director of Operations in Branson. My employment with Empire has been continuous since 1986.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION")?

A. My testimony today will provide insight into our current vegetation management program, discuss the need for a tracking mechanism to recover the increased vegetation management and infrastructure costs Empire will incur if the Commission implements a rules mandating vegetation management standards and procedures and infrastructure standards and procedures and provide details about our response to the January 2007 Ice Storm that damaged our facilities and caused widespread outages.

II. VEGETATION CONTROL EXPENDITURES

Q. PLEASE DESCRIBE EMPIRE'S CURRENT VEGETATION MANAGEMENT PROGRAM.

A. Vegetation management is a major maintenance activity and the results of this program can have a significant impact on Empire's system reliability. Since vegetation management is a major maintenance expense, we seek to achieve the objectives of our management program while also controlling the cost through a variety of techniques and many different types of equipment.

Our distribution vegetation management program is structured to include planned maintenance, work required for construction, as well as activities pertaining to the unexpected vegetation problems that occur. All of these functions must be performed to maintain good service continuity while making our best effort to appease property owners.

Our transmission system trimming program is primarily planned work and, since most transmission lines traverse cross country and have wider rights-of-way, we

rely less on bucket trucks and employ larger mechanical equipment and use herbicides to a much greater extent than we do at the distribution level.

Q. PLEASE DESCRIBE HOW EMPIRE MANAGES THE COST OF VEGETATION MANAGEMENT.

A. Distribution vegetation management maintenance projects are planned by Job Planners. These Job Planners are contract employees of Environmental Consultants Incorporated ("ECI") of Stoughton, Wisconsin. ECI's focus is on the science and management of vegetation control programs. The work plans ECI prepares specify exactly which trees are to be trimmed or removed and when and where mechanical trimming or herbicide is to be used, rather than manual trimming. In addition, it is ECI's goal to secure written permission for all tree removals.

Once bucket truck trimming work is completed in an area, ECI then audits the work to verify that the contractor trimmed according to the plan and that the trimming was performed correctly to maintain the desired clearance and protect the health of the tree. The contractor is required to correct any issues found in the audit before they are paid for their work.

Empire employs directional pruning techniques, which result in trees that are not only healthier, but it also discourages re-growth toward the power lines. Empire has received recognition from the Missouri Department of Conservation for this trimming practice.

Q. HAS EMPIRE MADE ANY RECENT CHANGES TO ITS VEGETATION MANAGEMENT PROGRAM?

A. Yes. Empire has started a trial program to help with the management of the tree trimming required for extensions to new customers and for customer inquiries. In an effort to improve the efficiency of these vegetation management tasks, we will have an ECI employee help direct the trimming crews as well as aggressively seek the most effective management method for the site.

Also, in 2006, we contracted with Aerial Patrol to map our transmission system, perform a damage assessment, and report encroaching vegetation issues. During the assessment, if any issues are found that need to be corrected immediately, the contractor will alert a specified Empire employee who will get the issue corrected immediately. Empire was pleased with the results of this effort in 2006 and plans to continue this assessment on an annual basis.

Q. HOW DOES EMPIRE DETERMINE WHERE VEGETATION MAINTENACE WILL BE PERFORMED?

A. In 2005, Empire installed a new Outage Management System which has provided accurate and timely outage information. We continuously track the outage information from this system to assist with establishing priorities for vegetation maintenance. Along with the outage information, we consider critical customers, length of the circuit, as well as distance from a service center to prioritize vegetation management work.

Q. WHAT HAS EMPIRE SPENT ON VEGETATION CONTROL IN RECENT YEARS?

A. Our tree trimming expenditures have consistently increased growing by approximately 88 percent since 2000. The following table shows our vegetation

control costs excluding labor by year for the period 2000 through 2006. There was a significant increase in expenses between 2005 and 2006 because we realized in 2005 that our trimming cycle no longer provided the reliability required by our customers.

2000	$3,007,742
2001	$3,367,961
2002	$3,418,849
2003	$3,989,301
2004	$4,001,118
2005	$4,454,628
2006	$5,651,329

Q. WHAT LEVEL OF VEGETATION CONTROL COSTS IS INCLUDED IN THE COST OF SERVICE IN THIS RATE CASE?

A. We have included $5,960,628 (excluding labor) of vegetation control costs (tree trimming) in our Missouri rate case filing.

Q. DO YOU BELIEVE THAT TREE TRIMMING EXPENSES WILL RETURN TO THE LOWER LEVELS THAT EXISTED IN THE YEARS PRIOR TO 2004?

A. No. We believe that our cost will continue to increase; however, as we continue with our current program and pruning practices, we will eventually reduce the rate of increase. The cost level requested in this case, however, does not include the levels of expenditures that would be required under the draft vegetation rules that are currently under Commission consideration.

Q. ARE THE NEW NERC TRANSMISSON VEGETATION MANAGEMENT STANDARDS GOING TO IMPACT EMPIRE'S OPERATIONS?

A. Yes. The NERC standards apply to 200 kV or greater and critical facilities. Empire has only 22 miles of transmission line which are greater than 200 kV; however, many of our interconnections are listed as critical at Southwest Power Pool ("SPP"). Therefore, Empire must comply with NERC standards for these transmission lines and facilities. The fines that can be levied due to non-compliance are large and Empire will have to monitor and manage the vegetation surrounding these facilities frequently to minimize the potential of a penalty.

Q. HAS EMPIRE MADE AN ADJUSTMENT TO THE TEST YEAR TREE TRIMMING COST IN THIS RATE CASE?

A. No. However, Empire believes that absent the implementation of vegetation rules the cost of tree trimming will continue to be at levels similar to or perhaps somewhat higher than levels that existed during the test year.

Q. DOES EMPIRE HAVE A RECOMMENDATION IF THE COMMISSION IMPLEMENTS PRESCRIPTIVE VEGETATION MANAGEMENT AND INFRASTRUCTURE STANDARDS RULES?

A. Yes. In the event the Commission implements a highly prescriptive vegetation management and infrastructure standards rules similar to the rules that are currently under consideration, Empire requests that it be allowed authority to defer rate recognition and recovery of any cost increase associated with these rules until these costs can be included in rates in a general rate proceeding. A "tracking" mechanism can be used to accomplish this. Mr. Scott Keith of Empire will describe the details of the tracking mechanism in his direct testimony in this rate case.

Q. HOW SIGNIFICANT ARE THE COST INCREASES EMPIRE MIGHT SEE AS A RESULT OF THE PROPOSED COMMISSION VEGETATION MANAGEMENT AND INFRASTRUCTURE RULES?

A. The proposed rules as published in the Missouri Register, Empire would cause to experience a very significant increase in its vegetation management and infrastructure costs beyond what is included in this case. More specifically, Empire has included around $6 million in its annual cost of service for vegetation management in this rate case. As a result of the Commission's requests for comment on the proposed vegetation management rule, Empire retained the services of an outside consultant (s) to review the potential impact on Empire and reviewed the proposed rule internally. We have estimated the annual incremental cost of compliance with this rule at $40 million, or over six times what Empire currently spends in this area and has included in its cost of service in this rate case. By any measure this is a significant cost increase and one that Empire cannot absorb given its size and authorized earnings level. Among the major cost drivers are: Office facilities for the additional personnel required to administer and perform the program, Biennial Distribution System surveys, the ongoing costs associated with a four-year maintenance cycle and compliance with "No contact" rule. In addition, Empire would be required to develop new standards to meet the new Missouri rule while maintaining its compliance with existing state and federal rules governing vegetation management rules. Finally, there are significant costs associated with the additional training, recordkeeping and reporting requirements in the draft rule. In addition to the new vegetation

management rule, the Commission is considering the implementation of a new infrastructure standards rule. We have estimated that this infrastructure rule will cost Empire from $6.7 million to $9.0 million to implement and from $6.6 million to $12.8 million annually. All things considered, the potential financial impact on Empire and its customers of implementation of Commission rules anything close to those currently being considered by the Commission warrants authority to defer these increased costs for later recovery. If the deferral is not granted, Empire is at risk of not recovering any of the increased costs that will be added due to the Commission's new rules on vegetation management and infrastructure standards between now and the next general rate case.

III. ICE STORM RESPONSE JANUARY 2007

Q. LAST JANUARY, EMPIRE'S SERVICE AREA EXPERIENCED A MASSIVE ICE STORM. PLEASE DESCRIBE THE EXTENT OF THE STORM'S IMPACT ON THE COMPANY'S SERVICE AREA.

A. On Friday, January 12, 2007, a winter storm produced freezing rain, which started accumulating on our distribution and transmission facilities during the evening. On Saturday, a second wave of the storm followed a similar path through our service area with additional ice accumulation. This ice accumulation resulted in 35,000 of our customers initially losing power. On Sunday, a third wave of the storm followed with significant additional ice accumulation, which caused a total of 85,000 of our customers (52% of our customers) to lose service.

Q. WHAT WAS THE EXTENT OF THE DAMAGE TO EMPIRE'S FACILITIES?

A. Significant damage occurred on both our transmission and distribution systems. On our transmission system, four structures were damaged on part of our 345 kV line from Flint Creek to Brookline. One structure failed on our 161 kV transmission system and we had several broken static conductors that had to be temporarily secured to relieve mechanical stress on poles adjacent to the break. Our 69 kV transmission system had many crossarms and poles that failed and the damage was so extensive that entire communities and gas pumping stations were without power.

The damage to our distribution system was so widespread that it is difficult to summarize. However, during the restoration and subsequent repairs we replaced 1,376 poles, 1,377 crossarms, 305 transformers, and 104 miles of conductor.

Q. WHY WAS THE DAMAGE SO EXTENSIVE?

A. The Empire electrical system has been designed according to the National Electrical Safety Code ("NESC"). The NESC calls for the system to be designed to withstand 0.5 inches of radial ice accumulation. The ice accumulation from this storm was as much as four times greater than the system was designed to withstand, or an accumulation of 2 inches. This amount of ice accumulation will cause a small conductor to stretch beyond its elastic capabilities, and it will cause crossarms to break under the heavy load, which then transfers the load to adjacent structures causing additional crossarms and poles to break. This type of

cascading damage was not unusual in the storm that hit the Empire service area in January of 2007.

Additionally, the temperature dropped below freezing for several days after the rain stopped and the ice that had accumulated on our facilities did not immediately melt; therefore, this heavy load of ice had to be supported by our facilities for four days after the end of the storm before the temperature was warm enough to melt the ice. The below freezing temperatures and prolonged accumulation of ice also hampered our restoration efforts because the slightest movement of the electrical conductor could result in the additional failure of poles and/or crossarms. The heavy ice accumulation also caused galloping to occur in many locations when the wind came up, inflicting additional damage to our facilities. Galloping occurs when ice accumulation on a conductor causes the conductor to have an asymmetric shape that acts like the wing on an airplane causing the conductor to rise and fall at a resonant frequency.

Q. HOW DID EMPIRE RESPOND TO THE STORM AND RESTORE POWER TO CUSTOMERS?

A. Empire was aware of the approaching storm and made preparations. This included contacting contractors to determine their crew availability and contacting vendors to determine material availability. In addition, we requested that our contract tree trimmers show up to work a regularly scheduled work day on Saturday, January 13.

Once the storm arrived, we started mobilizing contractors in an effort to get them to our territory as soon as possible. These efforts continued as the impact of the

storm continued to inflict damage. We constantly monitored damage assessment, logistic capabilities, and material supply to maximize the additional labor used to speed restoration efforts. At the peak of our restoration efforts, we had 860 contract linemen and 700 contract tree trimmers in addition to our own personnel, or approximately 2,000 people involved in the restoration effort. Our restoration effort was completed on January 26th.

Q. WERE THERE OTHER ISSUES THAT SURFACED DURING THE ICE STORM?

A. Yes. Our call center was inundated with customer calls during the restoration effort. Empire provided additional staff at the call center to provide as much information as possible to customers who called in with questions and concerns. During the storm and restoration, we logged over 63,000 calls with an additional 34,000 calls going through the Interactive Voice Response. The Company on average receives approximately 2600 phone call per day.

In addition to the increase in customer calls, the logistics efforts required to meet the needs of the 2,000 people performing the system restoration became extensive. Providing this large workforce with food, sleeping facilities, fuel, construction material and laundry services were issues that had to be resolved in the most efficient manner possible if such a large workforce was to restore service in the quickest and safest manner possible. Due to the widespread outages from the ice storm, Empire was forced to secure hotel rooms outside of the affected areas, such as Joplin and Branson. To maximize the use of such a large workforce, we used buses to transport the people performing the restoration work

to and from their hotel rooms and contracted to have the equipment used during the restoration effort refueled during the night.

Our initial damage assessment revealed that the restoration could not be completed within a couple of days; therefore, we generally limited workers performing restoration work to a 16-hour workday to reduce fatigue, maximize safety, and control expenses. The majority of our restoration efforts were scheduled to make the best use of the daylight hours; however, some restoration work was scheduled during the night to continue progress as well as handle emergency situations.

Providing an adequate supply of material was critical with the number of contractors that were working during our restoration effort. Just prior to the storm, Empire had entered into a supply chain alliance with Stuart Irby Company ("Irby") and when the storm occurred, we were still planning a transition of the material supply process to incorporate Irby. During the restoration, Irby responded immediately to the challenge and brought in employees from other locations in the United States to assist Empire with acquiring and delivering essential material to the crews working to restore electric service. Irby's efforts in this area were essential to Empire's effort to use the number of contract personnel that we secured for service restoration as efficiently as possible.

Q. WHAT WAS THE TOTAL COST OF THE ICE STORM?

A. In total, the ice storm cost was $30,675,614.

Q. WAS A PORTION OF THE ICE STORM COST CAPITALIZED?

A. Yes. Empire has recorded $17,771,616 of the ice storm cost as additions to Plant in Service. An additional $1,391,513 of the ice storm cost has been recorded as Removal Cost.

Q. HOW DID EMPIRE DETERMINE THE AMOUNT OF THE STORM EXPENSE TO BE CAPITALIZED?

A. The Company identified all the capital units of property that were installed during the storm and assigned the appropriate material, labor and overhead value to these items based on installation costs during the restoration process.

Q. HOW DID EMPIRE IDENTIFY THE CAPITAL UNITS ASSOCIATED WITH THE RESTORATION PROJECT?

A. The units of property were identified based on lists of material that were used during the storm. The lists were compiled based on storeroom activity and direct purchases. The final list of materials was segregated as to items that are normally capitalized (retirement units) and items that are normally considered minor.

Q. WHAT PORTION OF THE ICE STORM RESTORATION EXPENDITURES WAS CLASSIFIED AS MAINTENANCE EXPENSES?

A. The incremental maintenance cost associated with the ice storm was $11,512,485.

Q. HOW DID EMPIRE DETERMINE THE AMOUNT OF INCREMENTAL MAINTENANCE COST ASSOCIATED WITH THE ICE STORM?

A. This amount includes $5,405,694, for incremental tree trimming costs associated with the ice storm. The remainder of the amount consists of costs that were not assigned directly to capital units of property.

Q. IS EMPIRE SEEKING COST RECOVERY OF THE $11,512,485?

A. Yes. We believe that these costs are "extraordinary" and given the magnitude of the ice storm should be considered for recovery in rates. Therefore, we are requesting that these costs be amortized over a period of five years and that $2,302,497 per year be considered for recovery in rates. Our request is consistent with the treatment granted to Aquila, Inc. in Case No. EU-2002-1053 and to Kansas City Power & Light Company in Case Nos. EU-2002-1048 and EU-2006-0314. In these cases, these companies requested and were granted, accounting authority orders for the deferral and ultimate amortization of ice storm expenses. In addition, in Kansas City Power & Light's Case No. ER-77-118, the Commission determined that the deferred approach should be used for major extraordinary expenses.

Q. WHAT ADJUSTMENT DID EMPIRE MAKE TO THE TEST YEAR TO REFLECT ITS ICE STORM PROPOSAL?

A. Empire eliminated the ice storm expenses of $4,361,120 that it had recorded as expense during the test year and replaced it with one year of amortization of $2,302,497 ($11,512,485/ 5 years).

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.