BEFORE THE STATE CORPORATION COMMISSION

OF THE STATE OF KANSAS

DIRECT TESTIMONY

OF

MARK MAYWORM

WESTAR ENERGY

DOCKET NO. _____

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Mark A. Mayworm. My business address is 818 South Kansas Avenue, Topeka, Kansas 66612.

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am employed by Westar Energy, Inc. (Westar) as Executive Director of Generation Support.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I began my career in the mining industry 1980 in north east Wyoming. I joined Westar in March of 2001 as manager of predictive maintenance. My responsibilities continued to grow and I was promoted to manager of reliability engineering in June 2007, director of generation support in June

2009, and was promoted to my current role as Executive Director of Generation Support in July 2013.

Q. WHAT ARE YOUR RESPONSIBILITIES AS EXECUTIVE DIRECTOR OF GENERATION SUPPORT?

A. I am responsible for equipment reliability across all of the Westar generation facilities, wind farm operations at all of the wind sites that Westar owns and from which we purchase power, and the co-owned La Cygne Generating Station (La Cygne). Westar's subsidiary, Kansas Gas and Electric Company and Kansas City Power & Light Company (KCP&L) each own 50% of La Cygne.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I will update the Commission on the successful completion of the environmental project at La Cygne, the final costs of which will be included in rates in this proceeding. I will also provide an update on the status of the recent capital investment at Wolf Creek Generating Station (Wolf Creek) in projects that will help extend its life to be consistent with its Commission authorized depreciation schedules and its more recently approved license extension.

II. LA CYGNE ENVIRONMENTAL PROJECT

Q. PLEASE DESCRIBE LA CYGNE.

A. La Cygne has two coal-fired units – Unit 1 rated at 812 MW (gross) placed in commercial operation in 1973 and Unit 2 rated at 717 MW gross, placed in service in 1977.

Q. WHAT IS THE LA CYGNE ENVIRONMENTAL PROJECT?

A. The Project was described at length to the Commission in KCP&L's predetermination proceeding, Docket No. 11-KCPE-581-PRE, to which Westar was also a party. In summary, the La Cygne Environmental Project includes the installation of wet scrubbers to reduce SO2 emissions, bag houses to reduce emissions of particulates, activated carbon injection equipment to remove mercury, and a common dual-flue chimney for both Units 1 and 2. It also involves installation of a selective catalytic reduction (SCR) system, low-nitrogen oxide burners, and an over-fire air (OFA) system for Unit 2 to reduce NOx emissions.

Q. BRIEFLY DESCRIBE THE STATUS OF THE PROJECT.

A. The environmental upgrades to Unit 2 were completed and placed in service in March 2015. The tie-in to place the Unit 1 upgrades in service was completed April 18, 2015. Both of these tie-ins were completed on schedule. Since the tie-ins, we have continued work on the microwave tower, the chimney removal for Units 1 and 2, as well as the rest of the necessary removal work at the plant, including the Unit 1 scrubbers, the induced draft fans for both units, the limestone handling system, and the precipitators for Unit 2. We also constructed the gypsum unloading enclosure and did other site finishing work.

'The total cost is now projected to be $1.155 billion which is $75 million below its preapproved cost of $1.23 billion. Westar's 50% share of the total cost of the project is $577.5 million, a majority of these costs are

already reflected in rates. It is the remainder we seek to include in rates as part of this Application.

Q. WAS THE PROJECT SUCCESSFUL?

A. Yes, highly successful. As indicated above, the project is projected to be about $75 million under-budget. We experienced minimal change orders for the project, which is also evidence of our success in controlling costs. We had a world class safety record during the project's construction, with just 5 recordable injuries while working over 4.4 million man-hours. Finally, as indicated above, the systems installed as part of the project are all functioning as intended to reduce emission levels per the design.

Q. WHAT WAS WESTAR'S INVOLVEMENT WITH THE PROJECT?

A. As a co-owner of La Cygne, Westar shared interest with KCPL – the operator of the plant – in the project being completed safely, effectively, on time and under budget. We worked closely with Great Plains Energy, Inc. – KCP&L's parent company – throughout the project and engaged in significant on-going oversight and monitoring activities.

An employee who reports to me is at the La Cygne site on a daily basis. During construction, he attended daily and weekly scheduling, construction, and engineering meetings and participated in the monthly Schedule of Values verification conducted by KCP&L, meaning he regularly visually inspected the project to confirm progress. I also had a full-time employee with responsibility for project controls verifying invoices against

purchase orders, comparing actual costs to budgeted costs, and confirming compliance with the contract.

About five of our employees attended meetings on a monthly basis to review reports and/or meet with and update Commission Staff. These employees are from various departments throughout Westar, including regulatory, major construction, generation support, internal audit and environmental and included executive oversite.

Throughout construction, KCP&L submitted a monthly status report on the project to the Commission in Compliance Docket No. 12-KCPE-258-CPL. Each report included actual cost data for the project, as well as schedule and performance metrics. Each monthly report also included a written narrative describing overall progress.

In addition, the owners met with KCC Staff each month to review cost and performance metrics, provide an update on activities since the report was filed, and walk through the site to view construction progress. The KCC Staff has had about 58 of these monthly update meetings through the duration of the project.

Q. HOW WILL THE PROJECT BENEFIT KANSAS?

A. Completion of the La Cygne Environmental Project was determined by the Commission and all parties to be the lowest cost option for serving customers in the 11-KCPE-581-PRE docket. Completion of the project was required for the plant to be in compliance with applicable environmental regulations and a consent decree between KCP&L and the U.S.

Environmental Protection Agency (EPA). Without the project upgrades, we would have had to shut down La Cygne at the end of May 2015, until the upgrades were complete. Completing the project ensures that La Cygne can continue to operate and provide environmental compliant, low-cost electricity to our customers and KCP&L's. Additionally, completing the project helps ensure that the Kansas City metropolitan area will remain in attainment of all National Ambient Air Quality Standards (NAAQS). When an area falls into non-attainment, there are always costly consequences. Industries located in or near a non-attainment area would be required to install pollution control equipment, agree to limitations on their production, or find other industries willing to reduce *their* production in order to provide an emissions offset. All of these would result in lost revenue and likely job reductions. The project increased the chance that the KC metro area will stay in attainment, thereby helping to avoid these negative consequences to the economy and jobs. Of course, more directly, the estimated 235 jobs associated with La Cygne itself were also maintained.

III. WOLF CREEK GENERATING STATION

Q. PLEASE DESCRIBE WOLF CREEK.

A. Wolf Creek is a nuclear power plant completed and placed in service in 1985. It can generate about 1,200 MW of electricity. The ownership of the plant is divided between Westar's subsidiary – Kansas Gas & Electric Company (47%), KCP&L (47%), and Kansas Electric Power Cooperative, Inc. (6%). Wolf Creek Nuclear Operating Corporation (WCNOC) operates

the power plant for the owners. Early in the last decade the Commission changed the depreciable life of Wolf Creek to reflect a 60-year life. In 2008, the owners were successful in gaining the NRC's approval to actually extend the license for that longer 60-year life; through 2045. Additionally, the original capacity factor assumed for Wolf Creek was far lower than what we have been able to achieve to the benefit of all customers.

Q. HAVE RECENT CAPITAL INVESTMENTS BEEN REQUIRED AT WOLF CREEK?

A. Yes. As Westar witness John Bridson discussed in his Direct Testimony in Docket No. 15-WSEE-115-RTS (115 Docket), certain additional capital investments have been required at Wolf Creek in the last few years in order to maintain the unit consistent with its extended license date and depreciable life. Wolf Creek has entered a stage of plant life where original plant systems are in need of upgrades to maintain safe and efficient operation for the now much longer expected operating life. This stage of plant life, combined with additional external regulatory requirements, such as new requirements related to Fukushima – discussed by Mr. Bridson in the 115 Docket, have caused an increase in capital expenditures for Wolf Creek.

Q. WHAT WERE THE SIGNIFICANT CAPITAL IMPROVEMENTS RECENTLY BEEN CONSTRUCTED AT WOLF CREEK AND AUTHORIZED TO BE RECOVERED AS PART OF THIS DOCKET?

A. There were three major modifications along with several other projects completed during the 2014 mid-cycle outage and the Spring 2015 refueling outage. Westar included the majority of the costs related to these projects in rates in the 115 Docket; however, the Stipulation and Agreement approved by the Commission in that docket allowed Westar to recover the remainder of those costs in this abbreviated rate case.

All of these projects were needed to replace and enhance aging, original plant systems. Three of the major modifications completed during these outages are (1) the In-plant Essential Service Water Piping Inspection and Replacement, (2) the Containment Cooler Upgrade, and (3) the Essential Service Water System Pressure Surge Mitigation.

Q. WHAT IS THE COST OF THE CAPITAL IMPROVEMENTS BEING COMPLETED AT WOLF CREEK?

A. Westar's share of the capital investment at Wolf Creek since our 2012 general rate case is approximately $300 million and the majority of these costs have already been reflected in customer rates as a result of Westar's last full rate case that we filed in 2015. The remaining amount, approximately $2 million, will be included in rates in this case.

Q. HOW DO CUSTOMERS BENEFIT FROM THESE INVESTMENTS IN WOLF CREEK?

A. Wolf Creek continues to provide zero-emission, stable cost power to Westar's customers. By making these capital investments, Westar is

ensuring that the plant's 1000 employees will continue to safely and reliably operate the plant long into the future.

During 2015, Wolf Creek provided Westar customers with approximately four million MWh of energy at an average fuel cost of less than a penny per kWh. Other than our wind generation, Wolf Creek continues to be the lowest incremental cost plant in our fleet. Additionally, Wolf Creek provides Westar customers with fuel price stability because the price of nuclear fuel has not varied much. Furthermore, Wolf Creek is a significant source of carbon free generation. It is uncertain what restrictions may be placed on carbon emissions in the future, but Wolf Creek's presence in our generation fleet provides us and our customers more options and opportunities for responding to future carbon restrictions. Wolf Creek also helps to diversify our generation fleet so that we do not rely too heavily on fossil fuels like coal or natural gas.

Q. THANK YOU.