160708

BEFORE THE STATE CORPORATION COMMISSION

OF THE STATE OF KANSAS

DIRECT TESTIMONY

OF

KELLY B. HARRISON

WESTAR ENERGY

DOCKET NO. 12-WSEE-112-RTS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Kelly B. Harrison, 818 South Kansas Avenue, Topeka, Kansas 66612.

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

A. Westar Energy, Inc. (Westar). I am Vice President, Transmission Operations. I am responsible for transmission planning, construction, and operations. I am also President of Prairie Wind Transmission, LLC.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I received a B.S. Degree in Electrical Engineering in 1981, an M.S. Degree in Engineering Management Science in 1985 and an M.B.A. in 1994, all from Wichita State University. Following my

graduation in 1981, I began work at Kansas Gas and Electric Company (KG&E) as an engineer in the System Planning department. I held various engineering positions until 1987 when I was promoted to Supervisor of Planning and Forecasting in the Rate department. I was promoted to Manager of Planning and Forecasting in 1988, and I remained in that position after the acquisition of KG&E by The Kansas Power and Light Company (now Westar) in March 1992. From March 1992 until October 1999, I held various positions in the Regulatory Affairs department. In October 1999, I became Senior Director, Restructuring and Rates. In 2001, I was named Executive Director, then Vice-President, Regulatory in December 2001. In March 2006, I became Vice-President, Transmission Operations and Environmental Services. In August 2011, I became Vice-President, Transmission Operations.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I will describe Westar's existing transmission system and our plans for future changes to our transmission system. I will also describe the environmental regulations that apply to Westar and the steps we are taking to comply with those environmental regulations at our generating facilities. In addition, I address the potential costs of complying with existing and potential environmental regulations and

the benefits of Westar's recovery of those costs through the Environmental Cost Recovery Rider (ECRR).

II. TRANSMISSION

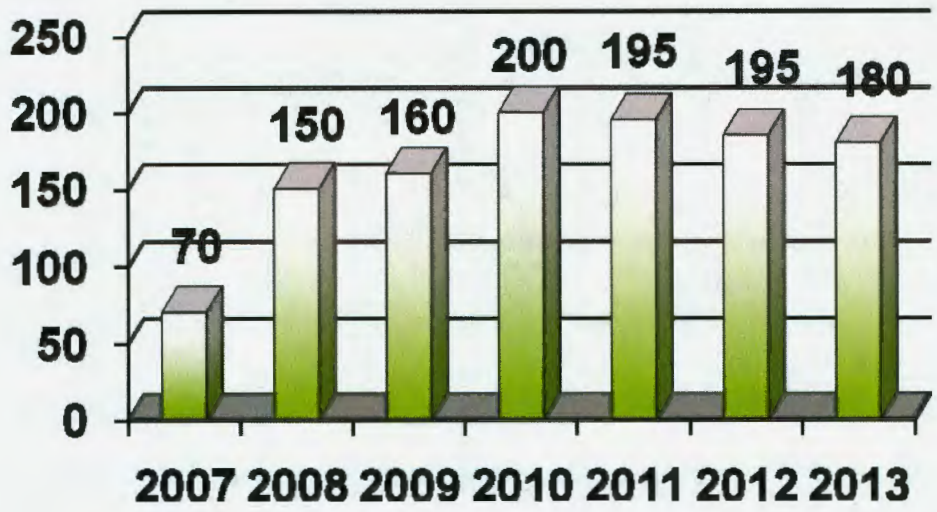
Q. PLEASE DESCRIBE WESTAR'S TRANSMISSION SYSTEM.

A. Exhibit KBH-1 is a map of Westar's transmission network. Westar has over 6500 miles of transmission lines on its system. Westar's transmission facilities are integrated into the Eastern Interconnection, an interconnected electric transmission network that traverses the United States from the plains to the east coast and from the Gulf of Mexico to Canada.

Q. IS WESTAR CURRENTLY MAKING ANY NEW INVESTMENTS IN ITS TRANSMISSION SYSTEM?

A. Yes. The electric industry is in a period requiring significant increases in transmission investment. Between 2007 and 2010, we invested approximately $580 million in new transmission plant. We expect to invest approximately $560 million between 2011 and 2013. Figure 1 below compares the expected investment for 2011 through 2013 with the historical investment from 2007 through 2010. This includes Southwest Power Pool (SPP)-required investments in the construction of new high capacity transmission lines and a number of smaller transmission projects.

FIGURE 1
TRANSMISSION INVESTMENT 2007 - 2013



Q. PLEASE DESCRIBE WESTAR'S PLANS TO CONSTRUCT NEW HIGH CAPACITY TRANSMISSION LINES.

A. Currently, Westar has two high capacity transmission projects under development. The first line is being constructed from the Rose Hill substation southeast of Wichita to the Oklahoma border. It will connect with a line built by Oklahoma Gas and Electric Company that will run from its Sooner substation just south of Ponca City, Oklahoma to the border. This line is known as the Rose Hill to Sooner 345 kV line. The Kansas portion of the line will be approximately 50 miles long. Westar is also replacing approximately 30 miles of an existing 138 kV line as part of this project. For efficiency and cost effectiveness, the rebuilt portion of the 138 kV line and the new 345 kV line will be supported on the same structures, also allowing a sharing of rights of way. Westar

previously estimated its portion of the project, including both circuits, would cost approximately $100 million. Westar recently revised its expectations for the cost of this project downward by about 10% to about $90 million. The reduction is a result of favorable equipment, material, and labor contracts, along with aggressively managing the project with a low dollar value of change orders. The final cost could still be affected by various factors, including unforeseen conditions and weather. The line is currently under construction with a planned in-service around April 2012, which is two months earlier than originally expected.

As the Commission is aware, Westar is also a 50% owner of Prairie Wind Transmission, LLC (Prairie Wind). Prairie Wind recently received siting approval for its double-circuit 345 kV line that will run from Wichita to Medicine Lodge, Kansas and from Medicine Lodge to the Oklahoma border. Prairie Wind expects this transmission line to cost approximately $225 million. Actual construction costs will be affected by numerous factors including engineering design, changes in the prices of conductor and structures, labor costs, and the ultimate cost to acquire necessary right of way. Prairie Wind began the process of acquiring right-of-way in the summer of 2011 and plans to begin construction in spring/summer of 2012. Prairie Wind anticipates that construction of its project will be complete by December 31, 2014.

Q. WHAT ARE THE BENEFITS ASSOCIATED WITH THESE TWO PROJECTS?

A. Both projects will provide substantial benefits to Westar's customers, Kansas and the SPP region. The Rose Hill to Sooner 345 kV Line will provide Westar with more reliable import capability from its Spring Creek Energy Center in Oklahoma to meet customer demand as well as increase transfer capabilities across the entire SPP region. The line will also improve performance and reliability in the region because a substantial portion of the new line involves rebuilding an existing 138 kV line that will be supported on the same structures as part of the project. The rebuilt 138 kV line will have larger conductor that will substantially increase the capacity of the line. The Rose Hill to Sooner 345 kV line is part of a Kansas long-range expansion plan that, when completed, will increase the transmission capacity across Kansas from Nebraska to Oklahoma. Additionally, once this line is placed in service, it will allow Westar to more economically dispatch its generation, which will directly benefit Westar's customers by reducing fuel and purchased power expenses.

The Prairie Wind project is expected to reduce transmission constraints significantly in the region, facilitating the import and export of power to and from the Westar control area. The additional capacity provided will support economic dispatch of

generation in the region that will benefit Westar's customers, Kansas and the SPP region. The new facilities will also support the interconnection of new wind farms in Kansas and the region and add transmission capacity needed to move power from wind farms located in remote areas to load.

Q. PLEASE DESCRIBE SPP'S ROLE IN THE "SPP-REQUIRED" TRANSMISSION PROJECTS YOU MENTIONED ABOVE.

A. As a FERC-authorized regional transmission organization, the SPP has functional control of Westar's and other regional utilities' transmission systems and oversees regional planning and requests for all new transmission service. The SPP can direct Westar to build needed transmission projects to provide transmission service, not only for Westar's native load customers, but also for any transmission customer in the SPP region, with the cost of these lines shared among SPP members and recovered based on approved SPP tariffs.

In the process of determining how long-term firm transmission service requests can be granted, the SPP identifies required transmission additions and upgrades to the existing infrastructure. SPP's five-year forecast includes numerous projects needed to meet long-term firm requests for transmission service. Most of these projects consist of rebuilding lower voltage lines and/or making improvements to existing substations.

Q. HOW DOES WESTAR CURRENTLY RECOVER ITS TRANSMISSION COST OF SERVICE?

A. Westar received approval from FERC to implement a formula rate in setting its transmission rates. The formula is designed to update Westar's revenue requirements and transmission rates annually.

Because Westar's facilities are under the SPP Open Access Transmission Tariff (OATT), SPP has incorporated Westar's formula in its OATT. Each year Westar updates the formula to calculate a new revenue requirement. The process of updating the formula is done with review by customers, including KCC Staff. SPP takes Westar's revenue requirement and associated transmission rate as determined by Westar's formula rate and incorporates them into the SPP OATT. SPP then collects these revenues from its transmission customers in the Westar rate zone and in other rate zones. Transmission customers that have retail or wholesale load attached to Westar's transmission system are in Westar's rate zone. Westar also purchases transmission service from SPP to serve its own retail customers. SPP then distributes the revenues it receives from transmission customers to the SPP transmission owners, including Westar, pursuant to the terms of its OATT.

Q. WHAT PERCENTAGE OF AN AVERAGE CUSTOMER'S BILL CAN BE ATTRIBUTED TO TRANSMISSION COSTS?

A. Transmission costs account for approximately 8% of an average customer's bill.

Q. HOW WILL THE COST TO CONSTRUCT THE PRAIRIE WIND TRANSMISSION PROJECT BE RECOVERED?

A. In obtaining approval from FERC of its highway/byway allocation method, the SPP provided evidence that convinced FERC that transmission which operates at above 300 kV provides benefits to the entire SPP region. Under the approved allocation method, all of the costs associated with the project will be allocated across all transmission pricing zones in the SPP. Consequently, only about 20% of the costs of the Prairie Wind project will be allocated to the SPP pricing zones in Kansas when those costs are allocated regionally on a load-ratio share basis based upon the 2010 zonal peak demands. This amount will be added to the rates that SPP charges to Westar and other utilities in Kansas for transmission service.

Q. WHAT IS THE STATUS OF SPP'S HIGHWAY/BYWAY ALLOCATION METHOD?

A. SPP's highway/byway allocation method was approved by FERC in June 2010 in Docket No. ER10-1069. Several parties requested rehearing of FERC's order approving the allocation method and those requests are currently pending before FERC. Although it is possible that the parties requesting rehearing will appeal FERC's

decision if rehearing is denied, we do not believe it likely that the Court of Appeals will overturn FERC's decision.

Q. WHY DO YOU THINK THE HIGHWAY/BYWAY ALLOCATION METHOD CAN WITHSTAND AN APPEAL?

A. FERC's approval of SPP's highway/byway allocation method is significantly different from its approval of PJM Interconnection, L.L.C.'s (PJM) allocation method that was overturned by the Seventh Circuit Court of Appeals in *Illinois Commerce Commission v. FERC*, 576 F.3d 470 (7th Cir. 2009). In the PJM case, the Court overturned FERC's decision because PJM did not present "even the roughest estimate of likely benefits" that would result from the proposed cost allocation method and FERC's orders cited "no data" to support its decision. *Id.* at 474-475. Because SPP was aware of the PJM ruling before it submitted the highway/byway approach, it was extremely careful to provide extensive quantitative and qualitative analyses that supported its conclusion that the proposed highway/byway methodology allocates costs in a manner roughly commensurate with the benefits.

III. CURRENT AND EMERGING ENVIRONMENTAL REGULATIONS

Q. COULD YOU CHARACTERIZE GENERALLY THE NATURE AND IMPACT OF ENVIRONMENTAL REGULATIONS AFFECTING WESTAR AND ITS CUSTOMERS?

A. Yes. The regulations are complex and pervasive. Compliance has been and will continue to be challenging and very expensive. As I

will discuss later in my testimony, the unexpected changes that EPA has incorporated in the final Cross-State Air Pollution Rule (CSAPR) – particularly the January 1, 2012 implementation date for the CSAPR – are an example of the increasing and ever-changing environmental requirements with which utilities such as Westar are required to comply.

When possible, Westar works with acknowledged experts in order to model the impact of proposed environmental regulations and – utilizing the results of the modeling – works with the Kansas Department of Health and Environment (KDHE) to shape the regulations. When modeling results or other circumstances indicate it is appropriate, Westar works to challenge the regulations or modify the requirements. For example, when the precursor to the CSAPR was proposed, it was premised in part on the suggestion that Westar's power plants were impacting Dallas, Texas. Westar's modeling indicated that this was inaccurate and Westar challenging the requirements on that basis.

Q. WHAT ARE THE PRINCIPAL STATUTES THAT AFFECT WESTAR'S POWER PLANTS?

A. The Clean Air Act (CAA), the Clean Water Act and the Resource Conservation and Recovery Act (RCRA) are the primary statutes that affect Westar's power plants.

Q. PLEASE BRIEFLY DESCRIBE THE MAJOR CAA REGULATIONS IMPACTING WESTAR'S POWER PLANTS.

A. The major CAA regulations impacting Westar's power plants are: the National Ambient Air Quality Standard (NAAQS), the Acid Rain Program, Clean Air Visibility Rule (CAVR) requirements, the Utility Maximum Achievable Control Technology (MACT) regulations, the CSAPR and New Source Review Requirements all of which were established pursuant to the CAA, 42 U.S.C. §7401-7671q.

Q. WHAT IS NAAQS?

A. The CAA empowers the Environmental Protection Agency (EPA) to establish NAAQS for controlled emissions. EPA, using information supplied by the states, classifies areas of the country as "attainment" areas – locations in which air quality is in compliance with NAAQS – and "non-attainment" areas – where air quality fails to meet the standard for one or more pollutants. A finding that an area is in non-attainment requires development of a plan to bring the area into compliance with NAAQS.

The CAA delegates to the states the responsibility for developing and implementing compliance plans to attain and maintain the NAAQS. These state plans are called "State Implementation Plans" or "SIPs." In Kansas, the administering agency is the KDHE.

Q. HOW DOES NAAQS AFFECT WESTAR?

A. Under the CAA, plans for construction of new plants and major modifications to existing plants – subject to some exceptions I will discuss later – trigger New Source Review (NSR) requirements. In attainment areas, the NSR pre-construction review is made pursuant to the Prevention of Significant Deterioration provisions of the CAA. If pre-construction review of a proposed project indicates that the project would increase emissions of one or more regulated pollutants in an amount above specified major source thresholds, the source would be required to install control equipment which uses the best available control technology (BACT). In non-attainment areas, under the CAA, a more restrictive benchmark is applied. This benchmark requires more stringent emissions controls called Lowest Achievable Emission Rate (LAER) and also requires emission offsets for any increases of certain pollutants.

When an area is determined to be in non-attainment for a specific pollutant, a SIP must be developed that may require the installation of reasonably available control technology (RACT) for that pollutant or pollutant precursor at major emission sources as soon as practicable. These sources would include Westar plants that impact the non-attainment area and these plants may be required to retrofit with RACT.

Q. HOW IS WESTAR AFFECTED BY THE RULES APPLICABLE TO NON-ATTAINMENT AREAS?

A. In June 2007, the Kansas City metropolitan area exceeded the eight-hour ozone standard at air quality monitoring stations located throughout the area. This caused the regulatory-defined average to equal or exceed the EPA action level of 85 parts per billion (ppb) for ozone, based on data reported at a Mid-America Regional Council (MARC) meeting. MARC serves as the coordinating agency for air monitoring and other purposes for Kansas City area local governments, the KDHE, the Missouri Department of Natural Resources, and other entities. If the air quality data is confirmed as reported, it is expected that "Contingency Measures" previously prepared by MARC will go into effect to reduce ozone. According to MARC, the Contingency Measures will include new air quality emission controls on some Kansas City-area power plants in Johnson and Wyandotte counties and regulations on idling engines in commercial heavy-duty diesel trucks.

MARC advises that the EPA has indicated it does not anticipate redesignation of the Kansas City Air Quality area as non-attainment for ozone in the foreseeable future if Kansas and Missouri implement the contingency plan for the Kansas City Air Quality Region and if the contingency plan measures bring the region back into compliance with the eight-hour ozone standard.

This sequence of events was expected and is a significant reason why Kansas City Power & Light Company (KCP&L) installed

selective catalytic reduction (SCR) equipment on Unit 1 of the La Cygne Station. As the Commission is aware, Westar owns/leases 50% of the La Cygne Station, but the plant is operated by KCP&L. One of the major contributing factors to the creation of ozone is the emission of nitrogen oxide (NO_x). Due to its design, La Cygne 1's boiler creates more NO_x than other coal plants of similar size and vintage. Reductions of NO_x emissions at La Cygne 1 will contribute to ozone compliance in Kansas City and is discussed in the Kansas City contingency plan.

Q. WHAT IS THE ACID RAIN PROGRAM?

A. Acid rain occurs when sulfur dioxide (SO_2) and NO_x emissions are transformed in the atmosphere to acids and are returned to the ground in the form of rain. The Acid Rain Program was established in Title IV of the 1990 amendments to the CAA to reduce emissions that cause this phenomenon. Title IV establishes a nationwide cap on electric utility SO_2 emissions, implemented through an emission cap and trade system.

Under this system, EPA annually assigns a specified number of SO_2 allowances to each emitter that can be used each year or any year thereafter. For each such allowance, the allowance holder has the right to emit one ton of SO_2. Allowances are like land, there is a fixed quantity available, but they are tradeable and there is a secondary market for them.

At the end of each year, each emitting unit must have enough allowances to cover its emissions for that year. Operators of units that are anticipated to emit SO_2 in excess of their allowances must acquire additional allowances to meet the excess or pay a significant penalty to EPA.

In addition to the cap on SO_2 emissions, the Acid Rain Program requires extensive monitoring and reporting of plant emissions; requires Acid Rain Permits; establishes a system-wide NO_x emission rate limit for our coal-fired generating units; and requires installation, operation, calibration, and annual certification of our continuous emission monitors.

Q. WHAT IS THE CLEAN AIR VISIBILITY (REGIONAL HAZE) RULE PROGRAM?

A. Acting under the CAA, EPA has issued rules to address emissions that can cause regional haze to form over what are known as Class I areas generally identified as significant national parks and wilderness areas. The targeted emissions are primarily SO_2, NO_x and particulates. The goal of this program is to reduce haze in Class I areas to natural conditions by 2064. Sources of emissions that impact visibility in Class I areas are required to install Best Available Retrofit Technology (BART) and/or meet presumptive emissions rates.

Q. HOW DOES THE REGIONAL HAZE RULE AFFECT WESTAR?

A. Five generating units we operate and two co-owned units have been identified, according to the Regional Haze Rule requirements, as being "BART eligible." The affected units are Jeffrey Energy Center Units 1 and 2, Lawrence Energy Center Unit 5, Gordon Evans Energy Center Unit 2, Hutchinson Energy Center Unit 4, and La Cygne Units 1 and 2.

EPA issued its final Regional Haze Rule on July 15, 2005. KDHE completed its state SIP that outlines the details of how the state of Kansas will comply with the rule and submitted the SIP to the EPA for approval. The EPA is scheduled to rule on the Kansas SIP later this year and the Regional Haze Rule will take full effect after that date. On August 30, 2007, Westar submitted a Regional Haze Consent Agreement to KDHE that outlines how Westar intends to comply with the Regional Haze Rule. KDHE signed the Regional Haze Consent Agreement on February 29, 2008. Additionally KCP&L, the operator of La Cygne, signed a similar consent agreement which provided for retrofits to La Cygne. Westar is responsible for 50% of the cost to retrofit La Cygne as a co-owner of the plant.

Q. PLEASE DESCRIBE THE TERMS OF THE REGIONAL HAZE CONSENT AGREEMENT THAT WESTAR HAS WITH KDHE.

A. Under the Regional Haze Consent Agreement, Westar agreed that within five years of EPA's approval of the Kansas Regional Haze

State Implementation Plan, Westar will install emission controls and process equipment as expeditiously as possible in order to achieve air pollutant emission reduction targets on the following units:

- Jeffrey Energy Center Units 1, 2 and 3
- Lawrence Energy Center Units 3, 4 and 5
- Tecumseh Energy Center Units 7/9 and 8/10

Q. ARE THERE ANY ADDITIONAL TERMS STATED IN THE REGIONAL HAZE CONSENT AGREEMENT?

A. For Jeffrey Energy Center Units 1, 2 and 3, Westar is required to install equipment and implement operating practices to meet "presumptive emission limits" for NO_x and SO_2 within three years of EPA approval of the Kansas Regional Haze State Implementation Plan. For Hutchinson Energy Center Unit 4, Gordon Evans Energy Center Units 1 and 2, Murray Gill Energy Center Units 1, 2, 3 and 4, and Neosho Energy Center Unit 7 Westar will implement control strategies to achieve visibility improvement by burning primarily natural gas, with an exception. The exception is that when the natural gas pipeline supplier takes emergency action that could result in an impact to electric system reliability, Westar may burn Number 6 fuel oil for the duration of that condition. Westar is also allowed to perform short duration test burns to ensure that fuel oil handling and combustion equipment remains operational. For Gordan Evans Energy Center Unit 2, Westar is also required to

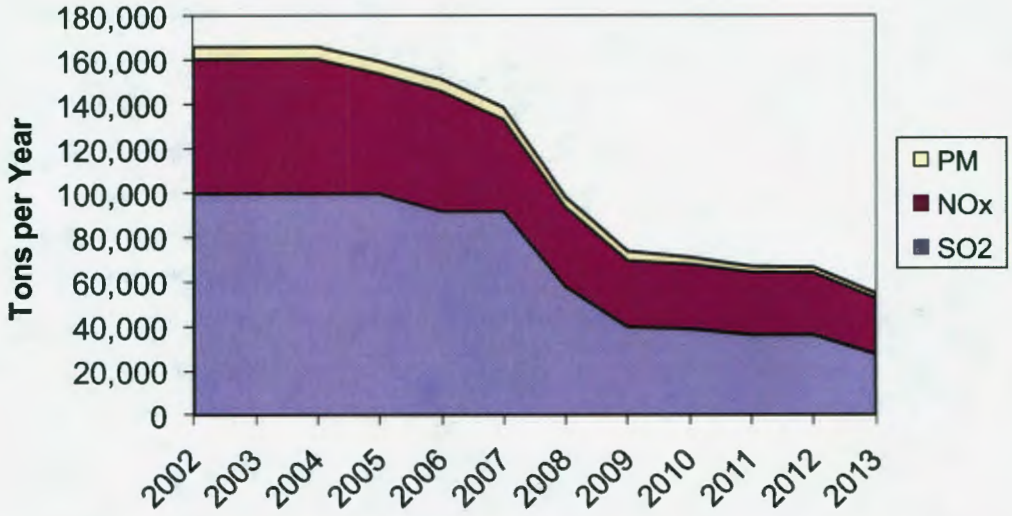
diminish the existing supply of No. 6 fuel oil and replace any fuel oil used with a fuel oil containing 1% or less sulfur content. Westar has completed many of the steps required under the Regional Haze Consent Agreement.

Q. WHAT EFFECT WILL THE ACTIONS TAKEN UNDER THE REGIONAL HAZE CONSENT AGREEMENT HAVE ON WESTAR'S EMISSION LEVELS?

A. Actions that have already been and will be taken in connection with the Regional Haze Consent Agreement will significantly reduce emissions from Westar Energy's energy centers. Emissions have already been reduced and by the end of 2013, annual sulfur dioxide emissions from our energy centers will have fallen by more than 60,000 tons, a more than 70% reduction from the 2002 levels. Annual nitrous oxide emissions will have fallen more than 20,000 tons, a nearly 50% reduction from 2002 levels. Annual particulate emissions will have fallen by nearly 3,000 tons, a reduction of more than 60% from 2002 levels. Figure 2 shows our historical and expected reductions in these emissions.

FIGURE 2

Westar Emission Reductions



Q. WHAT ARE THE NEW SOURCE REVIEW REQUIREMENTS?

A. Since the late 1990s, the electric utility industry has been the focus of an EPA investigation related to the CAA's NSR requirements. Essentially, the NSR requirements were established to require emission control enhancements any time a new unit is built or existing units experience major modifications. Routine maintenance, repair or replacement projects are not considered to be major modifications. The EPA investigation focused on whether projects at generating units qualified as RMRR. For projects EPA believed not to be RMRR, EPA determined whether the projects were major modifications. Projects which were viewed by EPA as not qualifying as RMRR but which were considered to be major

modifications would trigger NSR, thereby requiring the installation of BACT for the regulated pollutant on the affected unit.

Q. HOW IS WESTAR AFFECTED BY THE NEW SOURCE REVIEW REQUIREMENTS?

A. Westar's involvement in the EPA's NSR initiative began in December 2002 when it received an information request from the EPA pursuant to provisions of Section 114 of the CAA. This was followed by receipt of a notice of violation in early 2004 and then, on February 4, 2009, the U.S. Department of Justice, on behalf of the EPA, filed a lawsuit alleging that Westar violated the NSR requirements related to modifications at JEC many years earlier.

On March 26, 2010, Westar, EPA, KDHE and the DOJ entered into a Consent Decree to settle the lawsuit. In the NSR Consent Decree, Westar agreed to optimize existing low NO_x burners on JEC Units 1 and 3 and install low NO_x burners on JEC Unit 2 by December 31, 2011; install an SCR system on one of the three JEC units by December 31, 2014; and operate the existing SO_2 wet-limestone scrubbers and rebuild the electrostatic precipitators on all three units to meet plant-wide emissions limits set out in the NSR Consent Decree. Westar also committed to further reductions in NO_x emissions through the installation of an additional SCR by December 31, 2016, or, in the alternative, to meet a plant-wide 30 day rolling average NO_x emissions limit 120

days after the installation of the first SCR. Westar must provide notice to the EPA by December 31, 2012, regarding whether or not it will be installing a second SCR at JEC.

Q. WHAT IS THE STATUS OF THE PROJECTS PLANNED AS A RESULT OF THIS NSR CONSENT DECREE?

A. The SO_2 wet-limestone scrubber rebuilds have been completed. The ESP rebuilds for JEC Unit 2 and 3 have been completed and the ESP rebuild for JEC Unit 1 is scheduled for completion in the spring of 2012. Westar must determine by December 31, 2012, whether it needs to install a second SCR in order to meet agreed upon plant-wide NO_x limits under the NSR Consent Decree or whether it can utilize other NO_x reduction technology to achieve that result. The second SCR, if needed, must be installed by the end of 2016. Westar will be installing a selective non-catalytic reduction (SNCR) system and making modifications to the low NO_x burner system on JEC unit 3 to be in service in late spring of 2012. This will give us time before the notification deadline of December 31, 2012, to determine whether the plant-wide limits can be met through use of the less-expensive SNCR or whether it is necessary to install a second SCR.

Q. WILL THE PROJECTS AGREED TO UNDER THE CONSENT DECREE HELP WESTAR COMPLY WITH OTHER REQUIREMENTS?

A. Yes. Westar believes that the SO_2 wet-limestone scrubber and ESP rebuilds allow it to meet the requirements of the EPA NSR Consent Decree as well as the requirements of the KDHE Regional Haze Consent Agreement and thereby keep JEC in compliance under both regulatory regimes. Furthermore, the pollution controls and pollution control upgrades required by the EPA NSR Consent Decree will put JEC in a better position to comply with the upcoming Utility MACT Hazardous Air Pollution (HAP) rules, as well as revised NAAQS for SO_2 and NO_x. Additionally, the CSAPR and new NO_x NAAQS will require NO_x reductions to emission rates comparable to those allowed under the Consent Decree.

Q. PLEASE DESCRIBE THE CSAPR.

A. In July 2010 and July 2011, the EPA proposed and finalized the CSAPR which would require 27 states, including Kansas, to develop a program by which power plants in their respective jurisdictions would further reduce emissions of SO_2 and NO_x. Reductions will be required beginning in 2012, with further reductions required for NOx in 2014. CSAPR is an emission allowance program similar to the Acid Rain requirements where each ton of emissions must be matched with an allowance. These allowances can be bought, sold or transferred, although the CSAPR contains restrictions on this process. Although most of Westar's operating units have been involved in the Acid Rain

program and therefore had SO_2 emission allowances, this is the first time that the majority of our fleet will be involved in a NO_x emission allowance program. Westar continues to assess possible impacts that CSAPR will have on our generating fleet and believes that if the current regulatory timeline is maintained these impacts are expected to be material.

Q. WHAT NEW ENVIRONMENTAL AIR INITIATIVES MAY AFFECT WESTAR?

A. Emerging CAA programs that could affect Westar include the MACT regulations, also known as Hazardous Air Pollutants (HAPs) regulations, and the requirement for Mandatory Reporting of Greenhouse Gases (MRR).

Q. PLEASE DESCRIBE THE HAPS REQUIREMENTS.

A. On March 26, 2011, EPA proposed air toxics standards for HAPs emissions from coal and oil-fired EGUs. Significant HAPs included in the new standards include mercury, non-mercury metals, hydrogen chloride and hydrogen fluoride. EPA established "surrogate pollutant" limitations as opposed to directly regulating all 187 HAPs. The surrogates used to measure HAPs emissions include carbon monoxide (CO), SO_2, and particulate matters (PM_2), in addition to the individual HAP standard for mercury. These new standards are expected to be finalized in November 2011 with a three-year period to achieve compliance. Although the

requirements to address HAPs are not fully understood at this time, there is a high likelihood that activated carbon injection systems may be required to remove mercury. Units not already equipped with SO_2 scrubbers may require Dry Sorbent Injection (DSI) systems or dry scrubbers to remove the other HAPs.

Q. PLEASE DISCUSS THE GHG MRR REQUIREMENTS.

A. On October 30, 2009, the EPA finalized the Mandatory Reporting of Greenhouse Gas regulation for numerous source categories, including General Stationary Fuel Combustion Sources and Electricity Generation. Mandatory Reporting of Greenhouse Gases, *Final Rule*, 74 Fed. Reg. 56260 (October 30, 2009). These regulations require the reporting of GHG to the EPA on an annual basis for EGUs and affected stationary fuel combustion units that exceed the applicability threshold of 25,000 tons. Reporting began in 2011 for calendar year 2010 emissions.

Q. HAS ANY FEDERAL AGENCY ADDRESSED GREENHOUSE GAS (GHG) EMISSIONS?

A. That process is underway. In an April 2, 2007 decision in *Commonwealth of Massachusetts v. Environmental Protection Agency*, the U.S. Supreme Court ruled 5 to 4 that the Environmental Protection Agency (EPA) violated the Clean Air Act by improperly declining to regulate GHG emissions from mobile sources. The Court ruled "EPA has offered no reasoned

explanation for its refusal to decide whether greenhouse gases cause or contribute to climate change" and that the EPA "identifies nothing suggesting that Congress meant to curtail the EPA's power to treat greenhouse gases as air pollutants." This opinion cleared the way for EPA to regulate GHG emissions.

In response to the Court's ruling, EPA has issued a finding that GHGs are a pollutant under the CAA and drafted and approved the Tailoring Rule, which allows for the regulation of GHG emissions. Any new power plant construction or major modifications to existing power plants must apply for a permit that specifies the Best Available Control Technology (BACT) and energy efficiency measures the utility will take to control GHG emissions.

Q. PLEASE BRIEFLY DESCRIBE PENDING CLEAN WATER ACT REGULATIONS THAT WILL IMPACT WESTAR'S POWER PLANTS?

A. The two substantive Clean Water Act issues that will impact Westar's power plants include the proposed 316(b) requirements and the yet-to-be proposed effluent guidelines. The 316(b) regulations are focused on plant water intakes and their potential impacts on aquatic organisms. Power plants jointly owned by Westar such as La Cygne and Wolf Creek, have large water intakes. Due to their design, they will likely be impacted the

greatest from the 316(b) requirements. The balance of Westar's coal-fired fleet has smaller intakes resulting in less significant impacts from this proposed rule.

All of Westar's generating fleet will be impacted by the expected effluent guidelines for water discharges. We believe that the primary focus of this rule will be on waste water that may be in contact with coal combustion waste and therefore all coal facilities will see the greatest impacts. Since the rule has not been proposed to date, specific impacts are hard to predict although early planning is being completed.

Q. PLEASE BRIEFLY DESCRIBE THE PENDING RCRA REGULATIONS THAT IMPACT WESTAR.

A. The EPA has proposed a major new regulation in response to a catastrophic release of coal combustion waste from a plant in Kingston, Tennessee. The proposed regulation has two primary options: 1) keep coal combustion waste classified as non-hazardous but develop additional storage and re-use requirements, or 2) re-classify coal combustion waste as hazardous and develop stringent handling and storage requirements that would effectively eliminate any beneficial use of the combustion waste in the future. Westar believes that it is more likely that the final rule will maintain the non-hazardous classification for combustion waste and, as a result, the new requirements will be much less stringent than if

combustion waste were reclassified as hazardous. However, any regulatory change from the current method of handling coal combustion waste will increase the overall cost of this process.

IV. STATUS OF ENVIRONMENTAL PROJECTS AT WESTAR'S GENERATING FACILITIES

Q. WHAT IS WESTAR DOING TO COMPLY WITH EXISTING REGULATIONS AT ITS PLANTS?

A. Table 1 below lists Westar's coal plants and summarizes projects – completed and planned – to meet ERM.

Table 1

Unit	Scrubber	Precipitator	Fabric Filter	Low NOx Systems	SCR	Mercury Control	CO2 Capture
JEC 1	Yes (a)	Yes (b)	No Plans	Yes	Planned	Uncertain	Unknown
JEC 2	Yes (a)	Yes (b)	No Plans	Yes	Uncertain (e)	Uncertain	Unknown
JEC 3	Yes (a)	Yes (a)	No Plans	Yes	No Plans (e)	Uncertain	Unknown
La Cygne 1	Yes (b)	(c)	Planned	No (d)	Yes	Uncertain	Unknown
La Cygne 2	Planned	Yes	Planned	Planned	Planned	Uncertain	Unknown
Lawrence 3	No Plans	Planned	(b) No Plans	Planned	No Plans	Uncertain	Unknown
Lawrence 4	Existing (b)	(c)	Planned	Planned	No Plans	Uncertain	Unknown
Lawrence 5	Existing (b)	(c)	Planned	Yes (b)	No Plans	Uncertain	Unknown
TEC 7	No Plans	Yes	(a) No Plans	Yes	No Plans	Uncertain	Unknown
TEC 8	No Plans	Planned	(b) No Plans	Planned	No Plans	Uncertain	Unknown

(a) Existing and rebuild is complete.
(b) Existing and rebuild is planned or underway.
(c) Fine particulate removal is integrated into the Scrubbers at La Cygne 1 and Lawrence 4 and 5.
(d) Due to the design of the boiler, low NOx burners are not an option at La Cygne 1.
(e) Installation of a SNCR is planned for JEC 3 and is uncertain for JEC 2.

Q. CAN YOU SUMMARIZE THE STATUS OF ENVIRONMENTAL PROJECTS AND PLANS AT JEFFREY ENERGY CENTER?

A. Yes. All three units have low NO_x systems, which include the installation of low NO_x burners and separated over-fired air. Neural

net controls were installed on JEC Unit 2 in spring 2011 and will be installed on the other units over the next year. The low NO_x control systems are designed to reduce the formation of nitrous oxides and thereby reduce NO_x emissions. In addition to the low NO_x systems, a selective catalytic reduction or SCR will be installed on Unit 1 at an approximate cost of $240 million. Design work on the SCR has started with final installation planned for the end of 2014. A selective non-catalytic reduction or SNCR and additional low NO_x burner modifications are planned for Unit 3 and are expected to be in service in late spring 2012 at an approximate cost of $26 million. Both systems are designed to allow Westar to meet the overall NO_x reduction requirements of the NSR Consent Decree.

Existing SO_2 scrubbers were upgraded from the original design of 60% removal to a design that is capable of removing over 95%. In-service dates for the scrubber upgrades were spring 2008 for Unit 1, spring 2009 for Unit 2, and fall 2008 for Unit 3. The final cost to Westar for each scrubber was approximately $120 million. The ESPs are being rebuilt using the latest ESP technology for particulate control. The rebuilds of the ESPs on Units 2 and 3 are complete and Unit 1 will be completed in the spring of 2012.

Q. WHAT IS THE STATUS OF ENVIRONMENTAL PROJECTS AND PLANS AT LAWRENCE ENERGY CENTER?

A. All three units will be retrofitted with the latest low NO_x systems, which likely will include low NO_x burners, separated over-fired air and a neural net control system. Today, Unit 5 has first generation low NO_x burners which, along with Units 3 and 4, will be retrofitted with the new NO_x systems. Unit 5 and 4 are scheduled for the spring and fall of 2012 respectively. The Unit 3 project is scheduled for the spring of 2013.

The particulate removal systems on Units 4 and 5 utilize old and less efficient technology that was integrated with the existing SO_2 scrubbers. Construction of modern fabric filter/bag house particulate removal technology has started on both units to replace the existing particulate removal technology and both systems will be completed by the end of 2012. Additionally, the SO_2 removal systems on Unit 4 and 5 will be upgraded to the latest technology during the same construction period. Unit 3 contains a standard ESP for particulate removal, which we plan to rebuild and/or upgrade in the near future.

Q. WHAT IS THE STATUS OF ENVIRONMENTAL PROJECTS AND PLANS AT TECUMSEH ENERGY CENTER?

A. Low NO_x systems have been installed on Unit 7/9 and are planned to be installed on Unit 8/10 at Tecumseh Energy Center in the spring of 2013. Generally, this includes low NO_x burners and

separated over-fired air. The ESP for Unit 7/9 was rebuilt and the Unit 8/10 ESP rebuild is planned for a future date.

Q. WHAT IS THE STATUS OF THE ENVIRONMENTAL PROJECTS AT LA CYGNE?

A. KCP&L installed a selective catalytic reduction system (SCR) on La Cygne Unit 1 to reduce NO_x emissions. The SCR went online in May 2007. To date, NO_x emission rates have dropped significantly and are meeting expectations.

As the Commission is aware from the recent predetermination proceeding regarding environmental controls at La Cygne, KCP&L plans to install additional emission controls to reduce NO_x for Unit 2, including an SCR and low NO_x systems. KCP&L also plans to install an SO_2 scrubber on Unit 2 and replace the existing scrubber on Unit 1. These projects are scheduled to come online by June 1, 2015.

The existing particulate control for both La Cygne units will be enhanced to the best available control technology, which in this case will be fabric filter/bag house technology. This equipment will replace the Venturi system (integrated with the SO_2 scrubber) on Unit 1 and the ESP on Unit 2. These projects are also scheduled to be in service by June 1, 2015.

V. ESTIMATED COST OF COMPLIANCE

Q. WHAT IS YOUR CURRENT ESTIMATE OF THE CAPITAL COST OF INSTALLING POLLUTION CONTROL EQUIPMENT THAT MAY BE REQUIRED TO COMPLY WITH EXISTING OR PROPOSED ENVIRONMENTAL REGULATIONS FROM NOW THROUGH 2013?

A. For the period 2011-2013, Westar expects to invest over $930 million for environmental compliance projects, but I would note that environmental equipment continues to be subject to significant inflationary pressures. This estimate does not include any incremental projected costs that may be incurred to comply with the new CSAPR.

VI. USE OF ECRR TO RECOVER ENVIRONMENTAL INVESTMENT

Q. WHAT COST RECOVERY METHOD WILL WESTAR USE TO RECOVER FUTURE COSTS ASSOCIATED WITH THE INSTALLATION AND OPERATION OF NEW POLLUTION CONTROL EQUIPMENT?

A. Except for costs associated with the La Cygne retrofit project, Westar intends to use its ECRR to recover the capital costs (but not operations and maintenance costs) associated with installing new pollution control equipment. The ECRR was put into place following Westar's 2005 rate case. The ECRR was proposed to permit timely recovery of environmental compliance costs, increase transparency as to magnitude of those costs, and ultimately to

moderate changes in and reduce total costs to customers. Westar will use the traditional rate case process to recover O&M costs associated with the new equipment.

Q. DOES WESTAR'S USE OF THE ECRR TO RECOVER COSTS BENEFIT CUSTOMERS?

A. Yes. The ECRR lowers the financial impact of environmental construction projects on customers. The ECRR allows for timely recognition of CWIP and, as a result, the ECRR significantly reduces the Allowance for Funds Used during Construction (AFUDC) associated with the construction of major facilities or improvements to existing facilities. This results in lower costs to be recovered through rates from customers. Dick Rohlfs discusses the benefits associated with the ECRR in more detail in his testimony.

Q. HAS THE COMMISSION RECOGNIZED THE BENEFITS ASSOCIATED WITH USE OF THE ECRR?

A. Yes. With adjustments and procedural safeguards proposed by Staff and agreed to by Westar, the Commission found approval of the ECRR to be "sound public policy" and expressed satisfaction that the ECRR would "result in a lower retail cost of service for ratepayers" and was "less costly overall for customers" than a traditional rate case approach. Docket No. 05-WSEE-981-RTS, Order on Rate Applications, p. 29; Order on Reconsideration, pp.

15-17. As the Commission and Staff recognized, less frequent price adjustments implemented only through traditional rate cases cause sharper increases attributable to particular investments and ultimately result in higher prices for customers than will be experienced when there is a more frequent, more gradual method of reflecting such cost increases, like the ECRR.

Q. DOES THE PROCEDURE APPROVED BY THE COMMISSION PROVIDE FOR A REVIEW OF ENVIRONMENTAL PROJECTS PRIOR TO CONSTRUCTION?

A. Yes. Westar provides formal notice to the Commission and CURB at least six months in advance of environmental projects that would be incorporated into the ECRR. In fact, as discussed in greater detail by Mr. Rohlfs, the time between Westar's notification to Staff and CURB of a project and the commencement of rate recovery is a minimum of 12 months and is generally between 12 to 17 months. The notification Westar provides includes (1) a description of the project, (2) the need for the project, including how it complies with legal requirements, (3) the reason for choosing a particular technology in lieu of possible alternatives, and (4) an estimate of the costs and duration of the project. This information provides the Commission's Staff and CURB the opportunity to question whether a specific project is reasonable or prudent.

Q. DOES THE ECRR GUARANTEE RECOVERY IN RATES?

A. No. The ECRR process provides all concerned an opportunity to evaluate if a proposed environmental project is reasonable and prudent. However, Westar bears both the construction and operational risk associated with the project. If the project costs more than projected or if the equipment does not function adequately, and if the Commission finds that the reasons for that were because the Company acted imprudently, then the Commission could disallow recovery of a portion of the project's cost.

Q. THANK YOU.

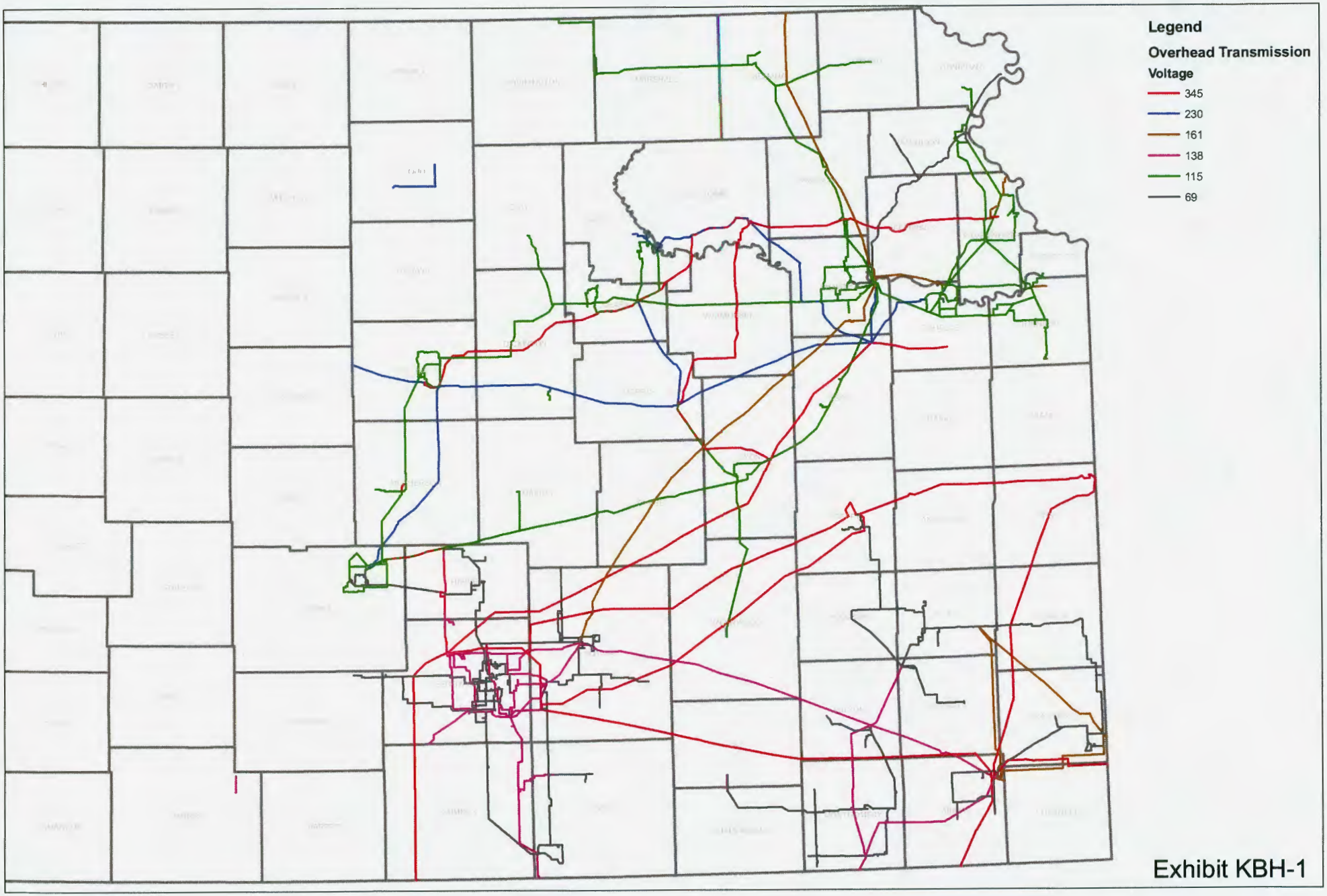


Exhibit KBH-1