

BEFORE THE STATE CORPORATION COMMISSION  
OF THE STATE OF KANSAS

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DIRECT TESTIMONY OF

PAUL M. LING

ON BEHALF OF  
KANSAS CITY POWER & LIGHT COMPANY

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IN THE MATTER OF THE PETITION OF  
KANSAS CITY POWER & LIGHT COMPANY (“KCP&L”)  
FOR DETERMINATION OF THE RATEMAKING PRINCIPLES  
AND TREATMENT THAT WILL APPLY TO THE RECOVERY  
IN RATES OF THE COST TO BE INCURRED BY KCP&L FOR  
CERTAIN ELECTRIC GENERATION FACILITIES  
UNDER K.S.A. 66-1239

DOCKET NO. 11-KCPE-\_\_\_\_-PRE

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

2 A: My name is Paul M. Ling. My business address is 1200 Main Street, Kansas City,  
3 Missouri 64105.

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

5 A: I am employed by Kansas City Power & Light Company (“KCP&L” or the “Company”)  
6 as Manager – Environmental Services.

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

8 A: My responsibilities include managing the environmental compliance, permitting, and  
9 policies of KCP&L.

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

11 A: I have a B.S. in Civil Engineering awarded in May 1992 from Iowa State University. I  
12 have an M.S. in Civil Engineering awarded in December 1994 from the University of

1 Kansas. I have an M.B.A. awarded in May 1997 from the University of Kansas. I have a  
2 J.D. awarded in August 2001 from the University of Kansas. I am a registered  
3 professional engineer in Missouri and Kansas and was employed by Black and Veatch for  
4 seven years designing generation facilities. I have been employed by KCP&L for the last  
5 nine years, for the first four years as an attorney, member of the Missouri and Kansas  
6 Bars, in the Legal Department and for the last five years as the manager of the  
7 Environmental Services Department.

8 **Q: Have you previously testified in a proceeding before the Kansas Corporation**  
9 **Commission (“Commission” or “KCC”) or any other utility regulatory agency?**

10 A: No.

11 **Q: What is the purpose of your testimony?**

12 A: This testimony describes significant current environmental regulations and active  
13 initiatives surrounding proposed legislation and rulemakings that require or impact the  
14 proposed emission controls at the La Cygne Generating Station and support the need to  
15 install emission control technologies to reduce emissions from the La Cygne Generating  
16 Station. This includes the Regional Haze Agreement that KCP&L executed at the request  
17 of the Kansas Department of Health and Environment (“KDHE”) for inclusion in the  
18 Kansas Regional Haze State Implementation Plan (“SIP”) which requires the proposed  
19 equipment be installed at La Cygne Generating Station by no later than June 1, 2015.  
20 Additional testimony supporting the timing of these investments is provided by Mr. Scott  
21 Heidtbrink and Mr. Bob Bell. My testimony also responds to two of the questions posed  
22 by the Commission in Docket No. 11-GIME-492-GIE (the “492 Docket”) as they relate

1 to the La Cygne Generating Station. Specifically, I will address the following two  
2 questions from paragraph 8 of the Commission's January 27, 2011 Order:

3 (a) What Environmental Protection Agency ("EPA") and KDHE  
4 regulatory programs [current and emerging] apply to the La Cygne  
5 Generating Station? and

6 (b) What are the emission allowances for each unit?

7 **Q: To summarize your testimony, is it correct to say that the proposed emission control**  
8 **equipment for La Cygne Generating Station under consideration in this docket is**  
9 **(a) currently required by existing regulations, and (b) in addition, will likely be**  
10 **required by further regulations announced by EPA and anticipated to soon be**  
11 **effective?**

12 **A:** Yes. The proposed emission control equipment currently is required to be installed  
13 pursuant to the Region Haze Rule and the executed Regional Haze Agreement. In  
14 addition, as discussed throughout my testimony, there are various expected actions,  
15 including finalization of several rules currently proposed or announced and under review,  
16 enactment of legislation currently being discussed, and approval by the EPA of the  
17 pending recommendations of National Ambient Air Quality Standards ("NAAQS") non-  
18 attainment of the Kansas City area, that will require the installation of some or all of this  
19 proposed emission control equipment in the near future even absent the Regional Haze  
20 Rule.

21 **Q: Is it also correct to say that a Kansas state agency, namely KDHE, specifically**  
22 **requested an agreement from KCP&L to implement the environmental controls**  
23 **under consideration in this docket for compliance with the Regional Haze Rule on a**

1           **specific schedule regardless of the statutes or outcome of other existing or proposed**  
2           **environmental regulations?**

3    A:    Yes. The resulting agreement, the Regional Haze Agreement with KDHE, is discussed in  
4           my testimony.

5    **I.    CURRENT ENVIRONMENTAL REGULATIONS**

6    **Q:    What are the current environmental regulations that affect the La Cygne**  
7           **Generating Station?**

8    A:    There are three significant regulations currently affecting the La Cygne Generating  
9           Station: (1) the Regional Haze Rule, (2) the NAAQS, and (3) the Acid Rain Program.

10   **A.    REGIONAL HAZE RULE**

11   **Q:    What is the Regional Haze Rule?**

12   A:    Under the 1999 Regional Haze Rule, states are required to set periodic goals for  
13           improving visibility in the 156 natural areas in the United States. As states work to reach  
14           these goals, they must develop Regional Haze implementation plans that contain  
15           enforceable measures and strategies for reducing visibility-impairing pollution.

16           The pollutants that reduce visibility include fine particulate matter (“PM<sub>2.5</sub>”), and  
17           compounds which contribute to PM<sub>2.5</sub> formation, such as nitrogen oxides (“NO<sub>x</sub>”), sulfur  
18           dioxide (“SO<sub>2</sub>”), and, under certain conditions, volatile organic carbons (“VOCs”) and  
19           ammonia.

20           States were to develop their implementation plans by December 2007. States  
21           were to identify the facilities that would have to reduce emissions under BART and then  
22           set BART emissions limits for those facilities.

1           In June 2005, the EPA finalized amendments (also referred to as the Best  
2 Available Retrofit Technology (“BART”) Rule) to the 1999 Regional Haze Rule. These  
3 amendments apply to the provisions of the Regional Haze Rule that require emission  
4 controls known as best available retrofit technology, or BART, be installed for industrial  
5 facilities emitting air pollutants that reduce visibility by causing or contributing to  
6 regional haze.

7           The BART requirements of the Regional Haze Rule apply to facilities built  
8 between 1962 and 1977 that have the potential to emit more than 250 tons a year of  
9 visibility-impairing pollution. Those facilities fall into 26 categories, including utility  
10 and industrial boilers, and large industrial plants such as pulp mills, refineries and  
11 smelters.

12 **Q: How does the Regional Haze Rule affect the La Cygne Generating Station?**

13 A: The Regional Haze Rule directs state air quality agencies (KDHE for Kansas) to identify  
14 whether visibility-reducing emissions from sources subject to BART are below limits set  
15 by the state or whether retrofit measures are needed to reduce emissions. It also directs  
16 these agencies to file Regional Haze SIPs with the EPA for approval.

17 **Q: Has KDHE complied with these requirements?**

18 A: Yes. KDHE determined La Cygne Generating Station Units 1 and 2 were BART-eligible  
19 units subject to BART requirements and required a full BART analysis be performed on  
20 these units. KCP&L timely submitted the BART analysis covering both units in August  
21 2007. From the BART analysis, KDHE determined both Units 1 and 2 currently  
22 complied with the presumptive BART limits based on KDHE’s BART guidance.

1 KDHE determined to negotiate agreements with the owners of Kansas facilities  
2 subject to BART and approached KCP&L to negotiate an agreement regarding the  
3 La Cygne Generating Station. KCP&L and Westar each executed Regional Haze  
4 Agreements for their respective BART-eligible facilities at the request of KDHE.  
5 KCP&L as the operator of La Cygne Generating Station, executed the agreement for that  
6 facility. The agreements contain the applicable emission limits, compliance schedules,  
7 and monitoring requirements. KDHE incorporated these executed Regional Haze  
8 Agreements into the Kansas Regional Haze SIP.

9 The KDHE held a hearing regarding the proposed Kansas Regional Haze SIP in  
10 August 2008. KDHE received comments and held a second hearing in August 2009.  
11 KDHE submitted the Regional Haze SIP for approval to EPA in October 2009.  
12 Compliance with the SIP is required no later than five years after the date of EPA  
13 approval, but as indicated in this testimony, the Regional Haze Agreement with KDHE  
14 requires KCP&L to install the proposed emission controls at La Cygne Generating  
15 Station no later than June 1, 2015.

16 KDHE is required to revise its Regional Haze SIP by 2018, and every ten years  
17 thereafter. Future BART progress goals in these revised Kansas Regional Haze SIPs  
18 could require further reductions in SO<sub>2</sub>, NO<sub>x</sub> and fine particulate matter emissions from  
19 the proposed emission controls at La Cygne Generating Station.

20 **Q: Please describe the Regional Haze Agreement executed by KCP&L and KDHE.**

21 A: KDHE requested the execution of Regional Haze Agreements for all the BART-eligible  
22 facilities in Kansas for inclusion in their Regional Haze SIP. KCP&L and KDHE  
23 executed a Regional Haze Agreement regarding La Cygne Generating Station in

1 November 2007 incorporating limits for stack PM emissions, as well as limits for NOx  
2 and SO<sub>2</sub> emissions that complied with the presumptive limits under BART. KCP&L  
3 further agreed to use its best efforts to install emission control technologies to reduce  
4 those emissions from the La Cygne Generating Station prior to the required compliance  
5 date under BART, but in no event later than June 1, 2015.

6 **Q: Why did KCP&L agree to execute the Regional Haze Agreement with KDHE?**

7 A: As described above, KDHE determined La Cygne Generating Station Units 1 and 2 were  
8 BART-eligible and required presumptive emission limits to be met by the units. KDHE  
9 approached KCP&L to negotiate and ultimately executed an agreement that contained the  
10 BART requirements for inclusion in their Regional Haze SIP.

11 **Q: What is the impact of the Collaboration Agreement that KCP&L executed on the  
12 Regional Haze Agreement?**

13 A: In March 2007, KCP&L, the Sierra Club and the Concerned Citizens of Platte County  
14 entered into a Collaboration Agreement. In the Collaboration Agreement, KCP&L  
15 agreed to seek a consent agreement, which it has done through the Regional Haze  
16 Agreement, with the KDHE incorporating limits for stack PM emissions, as well as limits  
17 for NOx and SO<sub>2</sub> emissions at the La Cygne Generation Station that will be below the  
18 presumptive limits under BART. KCP&L further agreed to use its best efforts to install  
19 emission control technologies to reduce those emissions from its La Cygne Generating  
20 Station prior to the required compliance date under BART, but in any event no later than  
21 June 1, 2015.

22 **Q: What additional emission controls are required for the La Cygne Generating  
23 Station to comply with the Regional Haze Rule?**

1 A: KCP&L will install (1) low NOx burners and selective catalytic reduction technologies  
2 (“SCR”) on Unit 2 to remove NOx; (2) scrubbers on both Units 1 and 2 to remove SO<sub>2</sub>;  
3 (3) additional and/or upgraded particulate removal equipment on both Units 1 and 2; and  
4 (4) along with various associated support equipment, including but not limited to, (i) new  
5 dual flue stack; (ii) induced draft fans; (iii) emergency generator and pump; and (iv) ash,  
6 gypsum and limestone storage and handling equipment.

7 **B. NATIONAL AMBIENT AIR QUALITY STANDARDS**

8 **Q: What is the NAAQS?**

9 A: The Clean Air Act (“CAA”) requires the EPA to establish NAAQS for six common air  
10 pollutants. These commonly found air pollutants (also known as “criteria” pollutants) are  
11 (1) particulate matter (“PM”); (2) ground-level ozone; (3) nitrogen dioxide (“NO<sub>2</sub>”);  
12 (4) SO<sub>2</sub>; (5) lead; and (6) carbon monoxide (“CO”). The EPA calls these pollutants  
13 “criteria” air pollutants because it regulates them by developing human health-based  
14 and/or environmentally-based criteria (science-based guidelines) for setting permissible  
15 levels. The set of limits based on human health is called the primary standard. Another  
16 set of limits intended to prevent environmental and property damage is called the  
17 secondary standard. Based on information and recommendations supplied by the states,  
18 the EPA classifies areas of the country as (i) “attainment” areas (*i.e.*, locations in which  
19 air quality is in compliance with NAAQS), and (ii) “non-attainment” areas (*i.e.*, locations  
20 where air quality fails to meet the standard for one or more criteria air pollutants). A  
21 finding that an area is in non-attainment requires development of a plan, called a  
22 Maintenance Plan, to bring the area into compliance with the NAAQS. The CAA



1 delegates to the states the responsibility for developing and implementing compliance  
2 plans. In Kansas, the administering agency is the KDHE.

3 **(1) PM NAAQS**

4 **Q: What is the PM NAAQS?**

5 A: The EPA revised the air quality standards for PM in 2006. The 2006 standards tightened  
6 the 24-hour fine particulate matter (“PM<sub>2.5</sub>”) emission standard from 65 micrograms per  
7 cubic meter (“μg/m<sup>3</sup>”) to 35 μg/m<sup>3</sup>, and retained the annual fine particulate matter  
8 emission standard at 15 μg/m<sup>3</sup>. The EPA retained the existing 24-hour coarse particle  
9 (“PM<sub>10</sub>”) standard of 150 μg/m<sup>3</sup> but revoked the annual PM<sub>10</sub> standard. Ambient air  
10 particulate particles are currently measured by a state operated monitoring network with  
11 monitors across the state. In February 2009, the United States Court of Appeals for the  
12 District of Columbia Circuit granted petitions for review of the revised primary and  
13 secondary annual fine particulate matter standards and remanded the matter to the EPA  
14 for reconsideration. The EPA currently anticipates issuing a revised proposed PM rule in  
15 February 2011 and a final rule by October 2011.

16 **Q: Is the Kansas City area currently in attainment of the PM NAAQS?**

17 A: Yes. The Kansas City area is currently in attainment of the 2006 PM NAAQS. No  
18 additional environmental controls currently are needed at the La Cygne Generating  
19 Station to comply with this standard. It is not yet known whether the Kansas City area  
20 will be designated as in attainment of the revised standard set to be proposed and  
21 finalized by EPA in 2011.

1                   (2) OZONE NAAQS

2   **Q:    What is the Ozone NAAQS?**

3   A:    Ground-level ozone is not emitted directly into the air, but is created by chemical  
4        reactions between NO<sub>x</sub> and volatile organic compounds (“VOCs”) in the presence of  
5        sunlight. Emissions from industrial facilities and electric utilities, motor vehicle exhaust,  
6        gasoline vapors, and chemical solvents are some of the major sources of NO<sub>x</sub> and VOCs.  
7        Ground-level ozone is measured at various monitoring stations in and around the Kansas  
8        City metropolitan area to determine compliance with this standard. The 1997 primary  
9        and secondary standards are identical: an 8-hour standard of 0.08 parts per million  
10       (“ppm”). In practice, because of rounding, an area meets the standard if ozone levels are  
11       0.084 ppm or lower.

12           In March 2008, the EPA significantly strengthened the NAAQS for ground-level  
13        ozone. The EPA’s final rule revised both ozone standards: the primary standard,  
14        designed to protect human health; and the secondary standard, designed to protect  
15        welfare (such as vegetation and crops). The EPA set the primary standard to a level of  
16        0.075 ppm. The EPA also strengthened the secondary 8-hour ozone standard to the level  
17        of 0.075 ppm making it identical to the revised primary standard.

18           In January 2010, the EPA proposed to strengthen the 2008 NAAQS for ground-  
19        level ozone yet again. The EPA is proposing to strengthen the 8-hour “primary” ozone  
20        standard, designed to protect public health, to a level within the range of  
21        0.060-0.070 ppm. The EPA is also proposing to establish a distinct cumulative, seasonal  
22        “secondary” standard, designed to protect sensitive vegetation and ecosystems, including  
23        forests, parks, wildlife refuges and wilderness areas. The EPA is proposing to set the

1 level of the secondary standard within the range of 7-15 ppm-hours. The proposed  
2 revisions result from a reconsideration of the identical primary and secondary ozone  
3 standards set at 0.075 ppm in 2008. The EPA intends to complete this reconsideration of  
4 the 2008 ozone NAAQS by July 29, 2011.

5 **Q: Is the Kansas City area currently in attainment of the Ozone NAAQS?**

6 A: Yes. The Kansas City area is currently in attainment of the 1997 Ozone NAAQS;  
7 however, there is a recommendation pending at the EPA indicating the Kansas City area  
8 should be placed in non-attainment of the 2008 Ozone NAAQS. In addition, until the  
9 2011 Ozone NAAQS is finalized and designations determined, it is unknown if the  
10 Kansas City area will be in attainment of the 2011 Ozone NAAQS. Currently, no  
11 additional environmental controls are needed at the La Cygne Generating Station to  
12 comply with the 1997 Ozone NAAQS, but if additional phases of the 1997 Ozone  
13 NAAQS Maintenance Plan are triggered, or if a non-attainment designation of the 2008  
14 or 2011 Ozone NAAQS is determined, additional environmental controls could be  
15 required.

16 **Q: Please explain.**

17 A: In June 2007, monitor data indicated that the Kansas City area violated the primary  
18 8-hour 1997 Ozone NAAQS. Missouri and Kansas implemented the Phase 1 responses  
19 established in their respective Maintenance Plans for control of ozone. Kansas has not  
20 yet implemented Phase 2 of the Maintenance Plan which could require NOx reduction at  
21 additional sources yet to be identified. The EPA has various options over and above the  
22 implementation of the maintenance plans for control of ozone to address the violation but  
23 has not yet acted to impose any additional options.

1           In 2008, KDHE released a proposed recommendation that the Kansas City area  
2 violated the 2008 8-hour Ozone NAAQS based on the 2006-2008 ozone monitoring data.  
3 The proposed boundaries for the 8-hour ozone non-attainment areas in Kansas City  
4 include the following Kansas counties: Johnson and Wyandotte. KDHE accepted  
5 comments on the recommendation, and then submitted its recommendation to the EPA in  
6 March 2009. The EPA has not yet acted on KDHE's recommendation as the standards  
7 in question are currently under review as noted above. The Kansas City area is  
8 considered in attainment unless and until the EPA confirms KDHE's recommendation or  
9 a subsequent designation recommendation.

10           Also in January 2010, the EPA extended the deadline for designating areas as  
11 non-attainment under the March 2008 NAAQS for ground-level ozone. Both KDHE and  
12 the Missouri Department of Natural Resources ("MDNR") had already proposed Kansas  
13 City area counties as non-attainment under the 2008 ozone standard.

### 14           (3) NO<sub>2</sub> NAAQS

15   **Q: What is the NO<sub>2</sub> NAAQS?**

16   **A:** In January 2010, the EPA strengthened the health-based NAAQS for NO<sub>2</sub>. The EPA set  
17 a new one-hour NO<sub>2</sub> standard at the level of 100 parts per billion ("ppb"). EPA retained,  
18 with no change, the current annual average NO<sub>2</sub> standard of 53 ppb. All areas of the  
19 country presently meet the current standard. The annual average NO<sub>2</sub> concentrations  
20 range from approximately 10-20 ppb across the country.

21           To determine compliance with the new standard, the EPA is establishing new  
22 ambient air monitoring and reporting requirements for NO<sub>2</sub>. In urban areas, monitors are  
23 required near major roads as well as in other locations where maximum concentrations

1 are expected. All new NO<sub>2</sub> monitors must begin operating no later than January 2013.  
2 These changes will not affect the secondary NO<sub>2</sub> standard, set to protect public welfare.  
3 The EPA is considering the need for changes to the secondary standard under a separate  
4 review.

5 **Q: Is the Kansas City area currently in attainment of the NO<sub>2</sub> NAAQS?**

6 A: Yes. The Kansas City area is currently in attainment of the NO<sub>2</sub> NAAQS. It is not yet  
7 known whether the Kansas City area will be designated as in attainment of the 2010 NO<sub>2</sub>  
8 NAAQS revised standard. States are required to submit non-attainment area  
9 recommendations for the 2010 NO<sub>2</sub> NAAQS this year. EPA will designate areas as  
10 “unclassifiable” until the new ambient air monitoring is full deployed. Currently, no  
11 additional environmental controls are needed at the La Cygne Generating Station to  
12 comply with this standard.

13 **(4) SO<sub>2</sub> NAAQS**

14 **Q: What is the SO<sub>2</sub> NAAQS?**

15 A: In June 2010, the EPA strengthened the primary NAAQS for SO<sub>2</sub>. The EPA revised the  
16 primary SO<sub>2</sub> standard, designed to protect public health, to 75 ppb measured over one  
17 hour. The EPA revoked the two existing primary standards of 140 ppb measured over  
18 24 hours, and 30 ppb measured over an entire year. The EPA is also considering the need  
19 for changes to the secondary standard under a separate review.

20 **Q: Is the Kansas City area currently in attainment of the SO<sub>2</sub> NAAQS?**

21 A: Yes. The Kansas City area is currently in attainment of the SO<sub>2</sub> NAAQS. It is not yet  
22 known whether the Kansas City area will be designated as in attainment of the 2010 SO<sub>2</sub>  
23 NAAQS revised standard; although, the Kansas City area is anticipated to be designated

1 non-attainment based upon existing monitoring data. States are required to submit non-  
2 attainment area recommendations for the 2010 SO<sub>2</sub> NAAQS this year. Currently, no  
3 additional environmental controls are needed at the La Cygne Generating Station to  
4 comply with this standard, but a future non-attainment designation of the 2010 SO<sub>2</sub>  
5 NAAQS could require additional environmental controls.

6 **(5) LEAD NAAQS**

7 **Q: What is the Lead NAAQS?**

8 A: In October 2008, the EPA substantially strengthened the NAAQS for lead. The EPA  
9 revised the level of the primary standard from 1.5 micrograms per cubic meter (µg/m<sup>3</sup>), to  
10 0.15 µg/m<sup>3</sup>, measured as total suspended particulates. The EPA revised the secondary  
11 standard to be identical in all respects to the primary standard.

12 **Q: Is the Kansas City area currently in attainment of the lead NAAQS?**

13 A: Yes. The Kansas City area is currently in attainment of the lead NAAQS based on  
14 existing ambient air monitoring. The states are required to install additional ambient air  
15 monitoring in the coming years that may impact the attainment status of the Kansas City  
16 area. Currently, no additional environmental controls are needed at the La Cygne  
17 Generating Station to comply with this standard.

18 **(6) CO NAAQS**

19 **Q: What is the CO NAAQS?**

20 A: EPA has proposed and indicated it will finalize a CO NAAQS this year.

21 **Q: Is the Kansas City area currently in attainment of the CO NAAQS?**

22 A: Yes. The Kansas City area is currently in attainment of the CO NAAQS. It is not yet  
23 known whether the Kansas City area will be designated as in attainment of the standard

1 proposed and anticipated to be finalized by EPA in 2011. Currently, no additional  
2 environmental controls are needed at the La Cygne Generating Station to comply with  
3 this standard.

4 **Q: How does NAAQS affect the La Cygne Generating Station?**

5 A: A finding that an area is in non-attainment requires development of a plan to bring the  
6 area into compliance with the NAAQS standards. For the Kansas City areas in Kansas  
7 deemed in non-attainment, KDHE has responsibility for development of such a plan. As  
8 part of the plan, KDHE may require the installation of emission control equipment on  
9 certain power plants such as the La Cygne Generating Station or other emission sources if  
10 such equipment is not already in place. Currently, the counties in KCP&L's Kansas and  
11 Missouri service territories are all in attainment of the NAAQS. Notably, a violation and  
12 non-attainment designation has been recommended regarding ozone, but currently no  
13 action has been taken by the EPA.

14 **Q: How does the ozone NAAQS violation affect the La Cygne Generating Station?**

15 A: The Maintenance Plans for the Control of Ozone for the Kansas City area were submitted  
16 by KDHE and MDNR and approved by the EPA in July 2007. The plans cover both  
17 Missouri and Kansas sources affecting the Kansas City metropolitan area and include  
18 contingency control measures that go into effect if associated triggers (such as a violation  
19 of the 8-hour ozone standard) occur.

20 In June 2007, the Kansas City area violated the 8-hour ozone NAAQS. Missouri  
21 has implemented the Phase I contingency measures established in its Maintenance Plan  
22 for control of ozone. The Phase I trigger required early implementation of Clean Air  
23 Interstate Rule ("CAIR") NOx controls at Iatan Unit 1 and the Sibley Station units. The

1 installation of the NOx controls at these units is complete and the controls are in  
2 operation.

3 If Phase II of the Kansas Maintenance Plan is triggered by continued high ozone  
4 values, it would require additional emission controls to be implemented within two years  
5 following the end of the ozone season that triggered the Phase II contingency measure.  
6 The consequence of the Phase II trigger of the Kansas Maintenance Plan is additional  
7 NOx controls at La Cygne Unit 2. Phase II has not yet been triggered.

8 **Q: How does the ozone NAAQS recommended non-attainment designation affect the**  
9 **La Cygne Generating Station?**

10 **A:** In March 2009, both KDHE and MDNR made non-attainment recommendations for  
11 ozone NAAQS for Kansas City metropolitan counties. By 2013, states must submit SIPs  
12 outlining how states will reduce ozone to meet the standards in non-attainment areas. In  
13 January 2010, the EPA proposed to strengthen the NAAQS for ground-level ozone.

14 In consideration of the above, the Kansas City metropolitan area is likely to be in  
15 non-attainment for ozone within the next few years. In developing compliance plans, the  
16 largest emission sources are usually targeted for reductions first because of the economic  
17 advantage of such additional emission controls. Therefore, non-attainment will likely  
18 make the La Cygne Generating Station subject to more stringent NOx emission  
19 requirements. This will likely require the installation of the NOx emission control  
20 equipment included as part of the proposed environmental upgrades to the La Cygne  
21 Generating Station under consideration in this docket (assuming that at the point  
22 attainment/non-attainment status is determined, such equipment is not already completed  
23 pursuant to other regulations discussed in this testimony).



1           **C.     ACID RAIN PROGRAM**

2   **Q:     What is the Acid Rain Program?**

3   A:     Acid rain occurs when SO<sub>2</sub> and NO<sub>x</sub>, emissions are transformed in the atmosphere to  
4           acids and are returned to the ground in the form of rain and dust. The Acid Rain Program  
5           was established in Title IV of the 1990 amendments to the CAA to reduce emissions that  
6           cause this phenomenon. Title IV establishes a nationwide cap on electric utility SO<sub>2</sub>  
7           emissions, implemented through an emission trading system.

8           Under this system, the EPA annually assigns a specified number of SO<sub>2</sub>  
9           allowances to each emitter that can be used that year or any year thereafter. For each  
10          such allowance, the allowance holder has the right to emit one ton of SO<sub>2</sub>. Allowances  
11          are like land, there is a fixed quantity available, but they are tradable and there is a  
12          secondary market for them.

13          At the end of each year, each emitting unit must have enough allowances to cover  
14          its emissions for that year. Operators of units that are anticipated to emit SO<sub>2</sub> in excess of  
15          their allowances must acquire additional allowances to meet the excess or pay a penalty  
16          to the EPA.

17          In addition to the cap on SO<sub>2</sub> emissions, the Acid Rain Program requires  
18          extensive monitoring and reporting of plant emissions, requires Acid Rain Permits,  
19          establishes a system-wide NO<sub>x</sub> emission rate limit for coal-fired generating units, and  
20          requires the installation, operation, calibration, and annual certification of continuous  
21          emission monitors.

1 **Q: How does the Acid Rain Program affect the La Cygne Generating Station?**

2 A: The La Cygne Generating Station will need to continue to maintain Acid Rain Program  
3 allowances for SO<sub>2</sub> emissions. KCP&L and Westar must each provide sufficient  
4 allowances annually for their individual shares of generation from the Station. The  
5 environmental control investment under consideration in this docket includes stack  
6 monitoring costs required by the Acid Rain Program.

7 **II. OTHER LEGISLATION AND EPA RULEMAKINGS**

8 **Q: What other air quality initiatives may ultimately require the proposed emission  
9 controls at the KCP&L La Cygne Generating Station?**

10 A: Other proposed legislation or the EPA rulemaking initiatives may ultimately require the  
11 proposed emission controls at the La Cygne Generating Station including (1) multi-  
12 pollutant legislation, (2) utility Maximum Achievable Control Technology (“MACT”)  
13 Rule, and (3) the proposed Transport Rule which is designed to replace the CAIR. There  
14 are also utility waste regulations that affect the plant.

15 **A. MULTI-POLLUTANT LEGISLATION**

16 **Q: What is multi-pollutant legislation?**

17 A: In April 2010, a draft of the Clean Air Act Amendments of 2010 (“CAAA”) was  
18 circulated for comment. It establishes more stringent SO<sub>2</sub> and NO<sub>x</sub> caps when compared  
19 to the CAIR, including a two-zone program for NO<sub>x</sub>. It directs the EPA to establish new  
20 allowance program rules for auctioning allowances; not allowing use of existing Acid  
21 Rain Program allowances for compliance. The draft CAAA directs the EPA to regulate  
22 mercury emissions, setting a minimum 90% reduction level starting no later than 2015.

1 The draft CAAA has been discussed as a potential amendment to climate change  
2 legislation.

3 **Q: What is the potential impact of multi-pollutant legislation on the La Cygne  
4 Generating Station?**

5 A: The proposed compliance pace and stringency of this draft CAAA reduction program or  
6 other similar legislation would be challenging. Zone 2 would include Kansas for the first  
7 time in a NOx program. The stringency of the draft CAAA may require the proposed  
8 emission controls at the La Cygne Generating Station if the controls are not already  
9 completed pursuant to other regulations discussed in this testimony.

10 **B. UTILITY MACT RULE**

11 **Q: What is the EPA's proposed utility MACT rule?**

12 A: In December 2000, the EPA announced its finding that it was "appropriate and  
13 necessary" to regulate coal- and oil-fired electric utilities under the CAA. This finding,  
14 known as the Utility Air Toxics Determination, triggered a requirement for the EPA to  
15 propose regulations to control air toxics emissions, including mercury, from these  
16 facilities.

17 In January 2004, the EPA proposed a rule with two basic approaches for  
18 controlling mercury from power plants. One approach would require power plants to  
19 meet emissions standards reflecting the application of the MACT determined according  
20 to the procedure set forth in CAA. A second approach proposed by the EPA would  
21 create a market-based cap and trade program.

22 The January 2004 EPA proposed rule also proposed to revise the EPA's  
23 December 2000 finding that it is "appropriate and necessary" to regulate utility hazardous

1 air emissions using the MACT standards provisions in the CAA. This action would give  
2 the EPA the flexibility to consider a more efficient and more cost-effective way to control  
3 mercury emissions.

4 In March 2005, the EPA issued the final Clean Air Mercury Rule (“CAMR”),  
5 which builds on the EPA’s CAIR to significantly reduce mercury emissions from coal-  
6 fired power plants. When fully implemented, these rules would reduce utility emissions  
7 of mercury from 48 tons a year to 15 tons, a reduction of nearly 70 percent.

8 The CAMR established “standards of performance” limiting mercury emissions  
9 from new and existing utilities and created a market-based cap-and-trade program that  
10 will reduce nationwide utility emissions of mercury in two distinct phases. In the first  
11 phase, due by 2010, emissions will be reduced by taking advantage of “co-benefit”  
12 reductions – that is, mercury reductions achieved while reducing SO<sub>2</sub> and NO<sub>x</sub> under the  
13 CAIR. In the second phase, due in 2018, utilities will be subject to a second cap, which  
14 will reduce emissions to 15 tons upon full implementation.

15 In May 2006, the EPA issued its determination that regulation of electric utility  
16 steam generating units under the CAA was neither necessary nor appropriate.

17 In February 2008, the United States Court of Appeals for the D.C. Circuit vacated  
18 the EPA’s rule removing power plants from the CAA list of sources of hazardous air  
19 pollutants. At the same time, the court vacated the CAMR. In May 2008, petitions for  
20 rehearing of the matter by the full court were denied. In February 2009, an appeal to the  
21 Supreme Court was denied.

22 In December 2008, environmental groups filed a petition asking the D.C. Circuit  
23 Court to compel the EPA to promulgate final regulations to regulate hazardous air

1 pollutants (“HAP”) under a MACT standard. In April 2010, in a court-approved  
2 settlement agreement, the EPA agreed to develop proposed MACT standards for mercury  
3 and potentially other hazardous air pollutant emissions by March 2011 and final  
4 standards by November 2011.

5 **Q: What is the potential impact of the EPA’s proposed utility MACT rule on the**  
6 **La Cygne Generating Station?**

7 A: A final rule issued by November 2011 will require implementation by about 2015 unless  
8 extensions are granted. This will likely include mercury but also could include other  
9 HAPs like hydrochloric acid, hydrogen fluoride, etc. The requirements of the final rule  
10 may require the proposed emission controls on La Cygne Generating Station if not  
11 already completed pursuant to other regulations discussed in this testimony.

12 **C. EPA TRANSPORT RULE**

13 **Q: What is the EPA’s proposed Transport Rule which is to replace the CAIR rule?**

14 A: In March 2005, the EPA issued the CAIR which did not apply to Kansas. In July 2008,  
15 the United States Court of Appeals for the D.C. Circuit vacated CAIR in its entirety and  
16 remanded the matter to the EPA to promulgate a new rule consistent with its opinion.  
17 The EPA and others sought rehearing of the Court’s decision. On December 23, 2008,  
18 the Court denied all petitions for rehearing and issued an order remanding the CAIR to  
19 the EPA to revise the rule consistent with its July 2008 order instead of vacating the rule.

20 In July 2010, the EPA proposed the Transport Rule to replace the CAIR. The  
21 Transport Rule, like CAIR, will require the states within its scope to reduce power plant  
22 SO<sub>2</sub> and NO<sub>x</sub> emissions that contribute to ozone and fine particle nonattainment in other  
23 states. The geographical scope of the Transport Rule is broader than CAIR, and includes

1 Kansas in addition to Missouri and other states. The Transport Rule also would impose  
2 more stringent emissions limitations than CAIR and, unlike CAIR, would not utilize Acid  
3 Rain Program allowances for compliance. The EPA is proposing a preferred approach  
4 and is taking comment on two alternatives. In the EPA's preferred approach, the EPA  
5 would set an emissions budget for each of the affected states and the District of  
6 Columbia. The preferred approach would allow limited interstate emissions allowance  
7 trading among power plants; however, it would not permit trading of SO<sub>2</sub> allowances  
8 between the KCP&L's Kansas and Missouri power plants. In the first alternative, the  
9 EPA is proposing to set an emissions budget for each state and allow emissions  
10 allowance trading only among power plants within a state. In the second alternative, the  
11 EPA is proposing to set an emissions budget for each state, specify the allowable  
12 emission limit for each power plant and allow some averaging. Compliance with the  
13 Transport Rule would begin in 2012, with additional reductions in SO<sub>2</sub> allowances  
14 allocable to the KCP&L's Missouri power plants taking effect in 2014 pursuant to the  
15 preferred approach. There is no such additional reduction in SO<sub>2</sub> allowances allocable to  
16 the KCP&L's Kansas power plants.

17 In September 2010, October 2010, and January 2011, the EPA supplemented the  
18 record supporting the proposed Transport Rule. The EPA made available additional  
19 information relevant to the rulemaking, including, among other things, an updated  
20 version of the power sector modeling that the EPA proposes to use to support the final  
21 rule and two allowance allocation methods for EPA's preferred approach.

1 **Q: What is the potential impact of the EPA’s proposed Transport Rule on La Cygne**  
2 **Generating Station?**

3 A: The proposed Transport Rule is complex and contains alternative approaches. The EPA  
4 has indicated they intend to issue the final Transport Rule in mid-2011. KCP&L is  
5 unable to predict the actual requirements until the rule is finalized. Preliminary analysis  
6 of the Transport Rule has raised various questions regarding the emission allowances  
7 allocation to, and the allowable emission rates for, KCP&L’s power plants pursuant to  
8 the preferred approach and alternatives. KCP&L projects that it may not be allocated  
9 sufficient SO<sub>2</sub> or NO<sub>x</sub> emissions allowances to cover their currently expected operations  
10 starting in 2012 pursuant to the preferred approach. Any shortfall in allocated allowances  
11 would need to be addressed through permissible allowance trading, installing additional  
12 emission control equipment, changes in plant operation, purchasing additional power in  
13 the wholesale market, or a combination of these and other alternatives. The  
14 requirements of the final rule may require the proposed emission controls on La Cygne  
15 Generating Station if not already completed pursuant to other regulations discussed in  
16 this testimony.

17 **D. UTILITY WASTE REGULATIONS**

18 **Q: How do the utility waste regulations affect the La Cygne Generating Station?**

19 A: KCP&L generates utility “waste” known as coal combustion products (“CCPs”) from the  
20 generation of electricity. The proposed emission control equipment collects the CCPs.  
21 While the regulations define CCPs as waste, many CCPs have beneficial and productive  
22 uses.

1 **Q: What is the EPA's proposed coal combustion residuals rule?**

2 A: In May 2010, the EPA proposed to regulate coal combustion residuals ("CCRs") under  
3 the Resource Conservation and Recovery Act ("RCRA") to address the risks from the  
4 disposal of CCRs generated from the combustion of coal at electric generating facilities.  
5 The EPA is considering two options in this proposal. Under the first proposal, the EPA  
6 would regulate CCRs as special wastes subject to regulation under subtitle C of RCRA,  
7 when they are destined for disposal in landfills or surface impoundments. Under the  
8 second proposal, the EPA would regulate disposal of CCRs under subtitle D of RCRA.

9 **Q: What is the potential impact of the EPA's proposed CCRs rule on the La Cygne**  
10 **Generating Station?**

11 A: KCP&L cannot determine the impacts of the EPA's proposed CCRs rule until an option  
12 is selected by the EPA and the final regulation is enacted. Both the subtitle C and D  
13 regulatory options proposed would require: (i) liner systems for new landfills and surface  
14 impoundments; (ii) surface impoundment design, operation, and inspection programs;  
15 (iii) location restrictions for disposal facilities; and (iv) groundwater monitoring. Under  
16 both options, existing surface impoundments would need to be retrofitted with a liner or  
17 close within seven years. To close the surface impoundments would require the  
18 conversion from wet handling to dry handling of CCRs for disposal in a dry landfill.  
19 Currently, the La Cygne Generating Station Unit 1 scrubber discharges a slurry to a  
20 surface impoundment. The requirements of the final rule may require the proposed  
21 emission controls, which include dry handling of CCRs from the proposed scrubbers, on  
22 the La Cygne Generating Station if not already completed pursuant to other regulations  
23 discussed in this testimony.



