BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of a Joint Application of)		
Kansas City Power & Light Company and)	Case No. EO-2006	
The United States Department of Energy)		

JOINT APPLICATION OF KANSAS CITY POWER & LIGHT COMPANY AND THE UNITED STATES DEPARTMENT OF ENERGY

Kansas City Power & Light Company ("KCPL") and the United States Department of Energy ("DOE"), on behalf of the National Nuclear Security Administration ("DOE-NNSA"), hereby submit to the Public Service Commission of the State of Missouri ("Commission") their "Joint Application," requesting a determination from the Commission of the prudence and reasonableness of relocating and reconfiguring certain substation facilities, as more thoroughly described herein. In support of their Joint Application, KCPL and DOE-NNSA respectfully state as follows:

I. JOINT APPLICANTS

A. KCPL

KCPL is a corporation duly organized and existing under the laws of the State of Missouri, with its principal office and place of business located at 1201 Walnut, Kansas City, Missouri 64106. KCPL is an electrical corporation and public utility as defined in Mo. Rev. Stat. § 386.020 (2000). KCPL's Certificate of Good Standing was provided in Case No. EF-2004-0265 and is incorporated herein by reference.

KCPL holds Certificates of Convenience and Necessity from the Commission to transact business as an electric public utility in certain areas of the State of Missouri and is principally engaged in the generation, transmission, distribution and sale of electric power and energy in western Missouri and northeastern Kansas.

KCPL has no pending action or final unsatisfied judgments or decisions against it from any state or federal agency or court which involves customer service or rates which has occurred within three (3) years of the date of this Joint Application. In addition, no annual report or assessment fees are overdue.

B. DOE-NNSA

DOE-NNSA is a separately organized agency of DOE created by the National Nuclear Security Administration Act, National Defense Authorization Act for Fiscal Year 2000, Pub. L. 106-65, div. C, title XXXII, Sec. 3211 *et seq.* (Oct. 5, 1999), 113 Stat. 957 (codified in Title 50 U.S.C. § 2401 *et seq.* and various other titles).

DOE-NNSA owns and operates the NNSA Kansas City Plant ("KC Plant") located on the Bannister Federal Complex ("BFC"), a 300 acre federal complex located within the Kansas City, Missouri city limits, twelve miles south of downtown Kansas City.

The NNSA operations at the KC Plant are manfacturing of components for nuclear weapons, which are essential operations to the national security interests of the United States.

The BFC is a large industrial electric customer of KCPL consuming approximately 144,500 MWhs of electric power annually at an annual cost approximating \$5.9 million.

The occupants of the BFC, along with the Applicant DOE-NNSA's KC Plant include the following federal entities: the General Services Administration; the Internal Revenue Service; the National Archives Records of Administration; the Department of Defense; and the Department of Commerce.

II. COMMUNICATIONS

Correspondence or communications regarding this Joint Application, including service of all notices and orders of this Commission, should be addressed to:

Paul W. Phillips, Esq.

United States Department of Energy

Office of General Counsel 1000 Independence Ave. SW Washington, DC 20585

Phone: (202) 586-4224 Fax: (202) 586-7479

E-mail: Paul.Phillips@HO.doe.gov

Lewis O. Campbell, Esq. Keres Consulting, Inc.

Utility Support Contactor to NNSA

P.O. Box 51508

Albuquerque, New Mexico 87181-1508

Phone: (505) 323-8292 Fax: (505) 298-1088

E-mail: Lcampbell4@comcast.net

Curtis D. Blanc Kansas City Power & Light Company 1201 Walnut – 20th Floor

Kansas City, Missouri 64141

Phone: (816) 556-2483 Fax: (816) 556-2787

E-mail: Curtis.Blanc@kcpl.com

Stephanie L. Bogart, Esq.

Counsel

Kansas City Site Office

National Nuclear Security Administration

PO Box 410202

Kansas City, Mo 64141-0202

Phone: (816) 997-3341 Fax: (816) 997-3718

E-Mail: stephanie.bogart@nnsa.doe.gov

James M. Fischer

Fischer & Dority, P.C. 101 Madison Street, Suite 400

Jefferson City, Missouri 65101

Phone: (573) 636-6758 Fax: (573) 636-0383 E-mail: jfischer@aol.com

III. JOINT APPLICATION

A. Background and Rationale

Currently, KCPL provides electric service to the BFC through a substation adjacent to the BFC switchgear facilities. The substation and switchgear facilities are both presently located outside the secured Property Protection Area ("PPA") of the KC Plant and adjacent to a public thoroughfare that is accessible by non-government vehicles of various sizes including

large trucks. Consequently, the present KCPL substation and the associated switchgear facilities are vulnerable security risks, which creates an increasing and unacceptable exposure given the rising level of threats to critical national security infrastructure facilities.¹

Although NNSA has implemented security upgrades, including creating a security perimeter with concrete barriers to increase standoff distance and providing security patrols to those areas, they remain inadequate to protect the facilities.

To address the ongoing security concerns, DOE-NNSA and KCPL propose to relocate and reconfigure their respective switchgear and substation equipment serving the BFC to a secure location within the PPA; subject, however, to a Commission determination that it is reasonable and prudent for KCPL to relocate and reconfigure the substation, as proposed herein.

Specifically, KCPL and DOE-NNSA propose (i) to move the substation within the PPA; (ii) to relocate the 161 kV transmission lines to serve the substation at its proposed new location; (iii) to reconfigure the substation to a ring bus configuration; and (iv) to replace the two existing 50 MVA transformers with two 33.6 MVA transformers.² KCPL's proposed actions would be undertaken in conjunction with DOE-NNSA's proposal to move and replace its switchgear facilities.

KCPL estimates that its portion of the project related to the relocation and reconfiguration of the substation will cost KCPL approximately \$3.5 million. Section 4.08 of KCPL's General Rules and Regulations Applying to Electric Service gives KCPL the discretion whether to require a customer to pay for the relocation of "transformation".

See Affidavit of Bob Nowak, Program Manager for Facilities, Utilities and Property Operations at the KC Plant, attached hereto as Appendix A ("Nowak Affidavit").

See Affidavit of Michael Bier, Manager—Transmission and Substations for KCPL, attached hereto as Appendix B ("Bier Affidavit").

equipment and other necessary equipment." Given the national security issues and other public benefits at issue here, KCPL will seek to include all of its portion of the costs associated with moving and reconfiguring the substation in KCPL's ratebase during its next rate case following operation of the new substation. DOE-NNSA estimates that its portion of the project related to moving and replacing its switchgear facilities will cost DOE-NNSA approximately \$17.315 million.

Relocating the substation within the PPA will serve to maintain reliable and secure electric service to federal operations as well as enhance the safety and reliability of service for the surrounding KCPL service area.³ KCPL will continue to own and operate the substation, and DOE-NNSA will continue to be a substation customer taking service at 13.8 kV.

KCPL and DOE-NNSA also propose to reconfigure the substation to a ring bus configuration, which is an inherently more reliable design and will offer more maintenance switching flexibility.

In addition, the relocation and reconfiguration of the substation will afford KCPL an opportunity to resize the substation to more efficiently accommodate the BFC's present and foreseeable load. Load at the BFC has decreased over the years. As a result, the full capacity of the two 50 MVA transformers that are presently part of the substation are no longer necessary. KCPL can safely and reliably satisfy the load requirements of the BFC using two smaller 33.6 MVA transformers. KCPL anticipates that it will be able to use the two 50 MVA transformers elsewhere on its system.⁴

See Nowak Affidavit.

See Bier Affidavit.

B. Requested Commission Action

KCPL plans to move and reconfigure the substation at its own expense only to the extent that the Commission concludes that such activities are reasonable, prudent and in the public interest. Consequently, the Joint Applicants seek an Order from the Commission finding that it is reasonable, prudent and in the public interest for KCPL to relocate and reconfigure the substation as described in this Joint Application. In addition, the Joint Applicants seek recognition by the Commission that it will permit KCPL to include in its ratebase, when properly requested, all capital costs prudently incurred by KCPL concerning the relocation and reconfiguration of the substation. KCPL recognizes that such a determination would be limited to the reasonableness and prudence of KCPL's decision to relocate and reconfigure the substation, and that such a determination would not affect the Commission's ability to review for prudence KCPL's actual expenditures for these activities at the time KCPL seeks to include them in its rate base.

The relocation and reconfiguration of the substation, as proposed in this Joint Application, is in the public interest because it moves critical energy infrastructure facilities to a more secure location, reconfigures those facilities to further secure the service provided thereby, and correctly sizes the substation to the BFC's current and foreseeable load.⁵

Applicants believe that this verified Joint Application and the appendices attached hereto provide the Commission with sufficient facts and information to make a proper disposition of this Joint Application without a hearing.

IV. CONCLUSION

WHEREFORE, Applicants request the Commission enter an Order: (i) finding that it is reasonable, prudent and in the public interest for KCPL to relocate and reconfigure the

substation as described in this Joint Application; and (ii) acknowledging that if the Commission approves this Application, it will permit KCPL to include in KCPL's ratebase, when properly requested, KCPL's prudently incurred costs of relocating and reconfiguring the substation.

Respectfully submitted,

Curtis D. Blanc MBN 58052

Kansas City Power & Light Company

1201 Walnut – 20th Floor

Kansas City, Missouri 64141

Phone: (816) 556-2483

Fax:

(816) 556-2787

E-mail: Curtis.Blanc@kcpl.com

/S/ Paul W. Phillips

Paul W. Phillips, Esq. MBN 21173

United States Department of Energy

Office of General Counsel

1000 Independence Ave. SW

Washington, DC 20585

Phone: (202) 586-4224

Fax:

(202) 586-7479

E-mail: Paul.Phillips@hg.doe.gov

Counsel for United States Department of Energy

Dated: January 11, 2006

See Nowak Affidavit.

VERIFICATION OF JOINT APPLICANT KCPL

STATE OF MISSOURI)	
)	SS
COUNTY OF JACKSON)	

Chris B. Giles, being first duly sworn, on his oath and in his capacity as Vice President, Regulatory of Kansas City Power & Light Company, states that he is authorized to execute this Joint Application on behalf of Kansas City Power & Light Company, and has knowledge of the matters stated in this Joint Application, and that said matters are true and correct to the best of his knowledge, information and belief.

Chris B. Giles

Subscribed and sworn to before me this 10th day of January 2006.

Notary Public

My Commission Expires:

2 4 2007

NICOLE A. WEHRY
Notary Public - Notary Seal
STATE OF MISSOURI
Jackson County

My Commission Expires: Feb. 4, 2007

VERIFICATION OF JOINT APPLICANT DOE-NNSA

STATE OF MISSOURI)) ss COUNTY OF JACKSON)
Steve C. Taylor, being first duly sworn, on his oath and in his capacity as Manager,
Kansas City Site Office, National Nuclear Security Administration, states that he is authorized to
execute this Joint Application on behalf of the United States Department of Energy, National
Nuclear Security Administration, and has knowledge of the matters stated in this Joint
Application, and that said matters are true and correct to the best of his knowledge, information
and belief.
Steve C. Taylor
Subscribed and sworn to before me this 27 day of December 2005.
Notary Public
My Commission Expires: DAVID R. GORDON Notary Public - State of Missouri
County of Jackson My Commission Expires Jul. 10, 2007
DAVID R. COMPON Notary Public - Notary Seal State of Mesouri County of Jackson My Commission Exp. 07/10/2007

APPENDIX A

Affidavit of Robert F. Nowak

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of a Joint Application of)		
Kansas City Power & Light Company and)	Case No. EO-2006	
The United States Department of Energy)		

AFFIDAVIT OF ROBERT F. NOWAK

STATE OF MISSOURI)	
)	SS
COUNTY OF JACKSON)	

Robert F. Nowak, being first duly sworn on his oath states;

My name is Robert F. Nowak and I work for the United States Department of Energy (DOE) National Nuclear Security Administration (NNSA) as a Program Manager for Facilities, Utilities and Property Operations at the NNSA Kansas City Plant (KC Plant). I have over 25 years of experience working primarily in facilities, utilities and property management operations for the federal government and private sector companies. I earned a Bachelor of Science in Mechanical Engineering (BSME) from Kansas University and am a registered professional engineer licensed in the State of Kansas. The purpose of my affidavit is:

- to provide background information on the KC Plant and the Bannister
 Federal Complex (BFC);
- to discuss the reasons that the parties are proposing to move and upgrade the government owned main switchgear and the Kansas City Power & Light (KCPL) owned substation;
- 3. to provide a general description of the existing and proposed facilities;

- 4. to present preliminary cost information on the facilities that are being provided; and
- 5. to describe how the overall project benefits the national security, the ratepayers of KCPL and is in the public interest.

Background:

The BFC is a 300 acre complex located within the Kansas City, Missouri city limits, twelve miles south of downtown Kansas City. The address for the complex is 1500 Bannister Road, Kansas City, Missouri, 64141. The tenants of the BFC include: the NNSA (which operates what is known as the KC Plant), General Services Administration, Internal Revenue Service, National Archives Records of Administration, Department of Defense, and the Department of Commerce. The BFC was originally built in the 1940s to support World War II efforts, and has continued to support federal manufacturing and administrative activities since that time. In total, the BFC employment exceeds 6,000 persons on an annual basis, with an estimated annual operating budget exceeding \$600M. The KC Plant operations at the BFC is the manfacturing of components for nuclear weapons which are essential operations to the national security interests of the United States.

The KC Plant accounts for approximately 76% of the electrical energy consumed at the BFC. As the largest federal entity at the BFC, NNSA has been delegated landlord responsibilities for managing and acquiring utility services for the BFC.

Reasons for the Facilities Upgrade Project:

The present KCPL facilities are vulnerable to security risks because of their location. The KCPL substation and the NNSA switchgear are located in areas that are readily accessible to the general public, which creates an increasing and unacceptable exposure given the rising level of threat to critical national security infrastructure facilities. In conjunction with other federal agencies at the BFC, NNSA has implemented security upgrades, including creating a security perimeter with concrete barriers to increase standoff distance and providing security patrols to those areas. Exhibits 1-13 illustrate the KCPL substation and NNSA switchgear before and after these security upgrades. While these security enhancements have provided additional protection, they remain inadequate to protect the facilities based on standards provided by the Department of Treasury, Bureau of Alcohol Tobacco and Firearms.

In his National Strategy for the Physical Protection of Critical
Infrastructures and Key Assets, President George W. Bush emphasized the
importance of protecting the nation's critical infrastructure from terrorist attacks
and discussed both the importance of protecting the electricity infrastructure and
the necessity for a public/private partnership to accomplish these goals.

Attached as Exhibit 14 are excerpts from the National Strategy which develops
these goals.

Because of the national security aspects of the BFC, the infrastructure needs to be upgraded to ensure that a secure supply of electrical power is available continuously, 24 hours per day, 7 days per week.

Moreover, over the years the BFC has implemented numerous energy conservation measures, which have resulted in more efficient operations, and the NNSA operations have been downsized. As a result, the KCPL's substation is significantly larger than what is presently needed to meet the current electrical load requirements for the complex.

To address the vulnerability concerns and reduced load, the NNSA and KCPL have agreed to replace and relocate their respective equipment serving the BFC to a more secure location within the BFC. This will serve to maintain adequate, reliable and secure electric service to federal operations as well as enhance the reliability of service for the surrounding KCPL service area.

Existing Facilities:

Electrical service from KCPL consists of two separate overhead 161 kV lines, one from the north and one from the south, entering the plant property from Troost Avenue. The two lines serve the KCPL-owned outdoor substation located on the western side of the complex. These facilities are interconnected with the two 161/13.8 kV, 50 MVA, transformers that transform power from the 161 kV transmission voltage to the 13.8 kV distribution level. One oil circuit breaker is utilized to tie the two 161 kV lines together and represents a single point of exposure¹ that will be corrected with the proposed ring bus scheme that is contemplated for the new substation. The two transformers have dual 25 MVA 13.8 kV secondary windings.

¹ A failure of this breaker to open during a line fault condition on either 161 kV line will result in the loss of both 161 kV lines and thereby cause the complete loss of service to the BFC and impact service to other loads served through these two 161 kV lines.

The 161/13.8 kV substation feeds the government owned 13.8 kV switchgear located just east of the KCPL substation. The electric power is distributed from this switchgear to government owned substations located throughout the BFC.

Refer to attached Exhibits 15 through 18 for current system configuration and site information. Exhibit 19 shows energy consumption data for the BFC for the past twelve months.

Proposed Facilities:

KCPL plans to relocate the 161 kV transmission lines and associated structures in the proximity of the KC Plant. It plans to add structures and associated entrance spans to supply the BFC property from the west side by forming a loop in and out of the contemplated four breaker ring bus. This ring bus will provide line terminals for the two 161 kV KCPL lines and the two 161/13.8 kV, 33.6 MVA transformers. These will be standard two winding transformer designs that will provide redundant capacity to cover the loss of one of the transformers.

The KCPL funded portion of the overall project will replace KCPL's substation with a new, efficient and self-contained zoned protection system. The new substation will be located within a secured area at the BFC. The existing KCPL substation is a critical asset for the BFC and for the local communities surrounding the BFC. Exhibit 20 illustrates the project schedule which is tentatively planned for design in FY07, with completion of construction in FY09. KCPL's portion of the project is anticipated to be completed in December 2008.

The proposed location is on the northern side of the complex inside the NNSA's secured Property Protection Area (PPA). At this location, the KCPL substation will be afforded all protective measures within the PPA, including perimeter fencing, 24 hour guard force/patrols, intrusion detection systems, and continuously monitored closed circuit television surveillance systems. These added measures will afford the new KCPL substation a highly secure environment as well as help ensure continuity of operations and a protected power supply which benefit the local community. KCPL crews will be able enter the site through a designated gate. Security checks will be made and badges will be issued for KCPL personnel that need to enter the site on a regular basis. Security escorts will be provided when uncleared KCPL personnel need to enter the site.

The government has authorized and plans to fund a \$17.315 million project providing new main switchgear facilities which will serve electrical loads and replace the medium voltage distribution cables that supply substations at various locations within the BFC. The project will also install new medium voltage cables from the KCPL substation to the new main switchgear and replace medium voltage distribution cables. The government will install two sets of 13.8 kV switchgear with a normally closed bus-tie breaker between the two switchgear sets. This resulting arrangement will be considerably simpler and easier to provide reliable relay zones of protection.

Exhibit 21 Figure 1 illustrates by a schematic the overall project and shows the present location of the KCPL substation and the BFC Main Switchgear

at the far left side of the schematic. Exhibit 21, Figure 2 shows the suboptimal solution of leaving the KCPL substation in its present location leaving critical infrastructure exposed to possible terrorist attack. Exhibit 21, Figure 3 shows the optimal solution of relocating the KCPL substation to the vicinity of the new Switchgear location within the secured Property Protection Area.

Estimated Substation Relocation Cost and Funding:

The total estimated substation relocation cost is estimated at \$3.5 million. This includes relocation and removal of existing transmission lines, installation of new 161 kV entrance spans, 161 kV switchyard, 161/13.8 kV transformers and two 13.8 kV transformer disconnect breakers, removal of existing substation equipment and credit for existing substation equipment. The baseline plan is that KCPL will own and construct these facilities and the BFC will continue to be a substation customer taking service at 13.8 kV. Accordingly, it is proposed that the Missouri Public Service Commission approve an order allowing the cost of these facilities to be included in KCPL's ratebase.

Total Cost of Overall Project:

The total cost of the overall project is expected to be \$20.815 M. Of this amount, DOE/NNSA's budget authority is projected to be \$17.315 M for its portion and KCPL will pay \$ 3.5M or approximately 17% of the overall cost of the project.

Public Infrastructure Located in Proximity to Present Facilities.

As stated above, the public interest is served by removing the KCPL substation and the BFC Switchgear, both Critical Infrastructure, from a public

area, thus removing Critical Infrastructure from a vulnerable location and relocating it to a Property Protection Area. Exhibits 2, 3 and 4 look over the KCPL substation to the west toward Troost Avenue. These Exhibits show apartment complexes immediately across Troost Avenue on the right hand side of the Exhibits and commercial buildings immediately across Troost Avenue in the center and the left hand side of the Exhibits. Troost Avenue is approximately 461.32 feet from the KCPL Substation. Thus, the present location of the KCPL substation and the NNSA switchgear, both critical infrastructure, put the general public at risk.

Summary:

- Benefits of replacing and relocating the KCPL owned Federal
 Complex Substation:
 - Removal of Critical Infrastructure from a location vulnerable to terrorist attack.
 - Relocation of the Critical Infrastructure inside a Property
 Protection Area, the NNSA security perimeter, and in close proximity to the NNSA security forces will adequately address security concerns associated with public accessibility.
 - The existing substation was sized to provide firm service for electric loads that were two times the current load. The result is inefficient use of KCPL equipment resources. The new transformers will be sized for the current load and use standard equipment.

- Replacing the substation provides the opportunity to upgrade and simplify the zone protection scheme. The planned 161 kV ring bus eliminates the single point of exposure outage risk with the current 161 kV breaker arrangement and substantially eliminates the KCPL system exposure to problems associated with the substation transformers.
- The current substation is a long distance from the proposed location for the new switchgear. Location of the substation, switchgear and major loads in close proximity reduces energy losses, yields a superior system from the standpoint of reliability, vulnerability, and reparability.

Public Interest Benefits:

Moving the KCPL substation and the KC Plant switchgear from a location adjacent to a public thoroughfare that is accessible by the public vehicles of various sizes including large trucks to a secure location within the KC Plant provides a tangible and ongoing benefit to all KCPL ratepayers:

- Reduces the risk of crippling the electrical system from a terrorist attack.
- o Hardens the KCPL and BFC electrical systems thereby discouraging a terrorist attack, which will benefit not only the BFC and the KC Plant but the surrounding area in the vicinity of the BFC which includes various classes of ratepayers of KCPL including residential.

- Insures that the KC Plant has a secure electrical supply to support its essential National Security role.
- KCPL operating and maintenance costs will be reduced as a result of completion of the overall project which costs will be shared by the DOE/NNSA and by all of the ratepayers of KCPL.
- A ring bus and the associated system protection scheme is superior from a reliability standpoint, avoids the risk of loss of both lines with the failure of the line-tie breaker and reduces interdependency on government owned equipment for fault protection.

Robert F. Nowak

State of Missouri

Subscribed and sworn before me this 3

_ day of Janµary 2006.

Notary Public

My commission expires:

KAREN NELAND
Notary Public - Notary Seal
STATE OF MISSOURI
Jackson County

My Commission Expires Sept. 24, 2007

List of Exhibits:

Exhibit 1: Substation Northeast Side Before Upgrades

Exhibit 2: Substation East Side After Upgrades

Exhibit 3: Substation East Side After Upgrades a

Exhibit 4: Substation East Side After Upgrades b

Exhibit 5: Substation East Side After Upgrades c

Exhibit 6: Substation North Side After Upgrades

Exhibit 7: Substation Northeast Side After Upgrades

Exhibit 8: Substation West Side After Upgrades

Exhibit 9: Substation West Side After Upgrades a

Exhibit 10: Substation West Side After Upgrades b

Exhibit 11: Switchgear South Side Before Upgrades

Exhibit 12: Switchgear South Side After Upgrades

Exhibit 13: Switchgear West Side After Upgrades

Exhibit 14: The National Strategy for the Physical Protection of Critical Infrastructures and Key Assets

Exhibit 15: E1 Replace Main Switchgear Electrical One-Line KCP, Site

Exhibit 16: E2 Replace Main Switchgear Electrical One-Line KCP, Site

Exhibit 17: E3 Replace Main Switchgear Electrical One-Line KCP, Site

Exhibit 18: E4 Replace Main Switchgear Electrical Site Plan KCP, Site

Exhibit 19: Energy Consumption Data

Exhibit 20: Project Schedule

Exhibit 21. Figures 1 -3. Schematics of Overall Project

APPENDIX B

Affidavit of Michael Bier

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of a Joint A Kansas City Power & Lig	* *)	Case No. EO-2005	
The United States Depart	ment of Energy)		
	AFFIDAVIT OF	MIC	HAEL E. BIER	
STATE OF MISSOURI)			

Michael E. Bier, being first duly sworn on his oath, states:

) ss

COUNTY OF JACKSON

- 1. My name is Michael E. Bier. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company ("KCPL") as Manager Transmission and Substations.
- 2. I graduated from the University of Missouri in 1973 with a Bachelor of Science in Electrical Engineering. In 1977 I received my Master of Science in Electrical Engineering from the University of Missouri. I have been employed by Kansas City Power & Light since January 1973 and started my career as an Assistant Engineer in the Substation Department. I have held various engineering and supervisory positions over the last 32 years. I am currently the Manager of Transmission & Substations and have responsibility for budgeting, design and commissioning of 34kv to 345kv substations, design of relay and system protective schemes and design of 69kv to 345kv transmission lines.
- 3. As described more thoroughly herein, the National Nuclear Security Administration ("NNSA"), a governmental agency within United States Department of Energy ("DOE"), has requested that KCPL move and reconfigure a substation currently used to provide electrical service to DOE's Bannister Federal Complex ("BFC").

4. I am providing this affidavit in support of KCPL's and DOE's joint application for a determination by the Public Service Commission of the State of Missouri ("MPSC") that moving and reconfiguring the substation, as described herein, is in the public interest.

The Present Facilities

- 5. Presently, KCPL provides electrical service to the BFC through a 161 kV 13.8 kV substation located on the western side of the BFC ("Substation"). The Substation is comprised of two 50 MVA transformers that transform power from 161 kV to 13.8 kV. The Substation serves the BFC through government-owned 13.8 kV switchgear that is located east of the Substation.
- 6. The Substation is interconnected with KCPL's transmission system by two separate overhead 161 kV transmission lines. One line enters the BFC from the north, and the other line enters the BFC from the south. The Substation utilizes one oil circuit breaker to tie the two 161 kV transmission lines together.
- 7. Load at the BFC has decreased over the years. As a result, the full capacity of the two 50 MVA transformers that are presently part of the Substation is no longer necessary. KCPL can safely and reliably satisfy the load requirements at the BFC using two smaller 33.6 MVA transformers. The new transformers will be sized for the current load. Moreover, once removed, the two 50 MVA transformers from the Substation will not be put to waste. KCPL anticipates that it will be able to use those transformers elsewhere on its system.

DOE's/NNSA's Requested Changes

8. NNSA has requested that KCPL (i) move the Substation to a secured area at the BFC; (ii) relocate the 161 kV transmission lines to serve the Substation at its proposed new location; (iii) reconfigure the Substation to a ring bus configuration, which offers more

maintenance switching flexibility and is an inherently more reliable design; and (iv) replace the two existing 50 MVA transformers with two 33.6 MVA transformers.

- 9. KCPL will continue to own and operate the Substation. DOE will continue to be a substation customer taking service at 13.8 kV.
- 10. NNSA's proposed changes to the Substation are in the public interest because they move critical energy infrastructure facilities to a more secure location, reconfigure those facilities to further secure the service provided thereby, and correctly size the Substation to the BFC's current and foreseeable load.
- 11. KCPL estimates that it will cost approximately \$3.5 million to move and reconfigure the Substation as requested by NNSA. KCPL's cost estimate includes (i) relocation and removal of existing transmission lines; (ii) installation of new 161 kV entrance spans; (iii) a new 161 kV switchyard; (iv) two 33.6 MVA, 161/13.8 kV transformers; (v) two 13.8 kV transformer disconnect breakers; (vi) removal of existing Substation equipment and credit for existing Substation equipment.
- 12. KCPL plans to move and reconfigure the Substation, as proposed by DOE and NNSA, only to the extent that the MPSC concludes that those modifications are prudent and in the public interest.
- 13. KCPL will seek to include all of the costs associated with moving and reconfiguring the Substation in KCPL's ratebase.

I hereby swear and affirm that the information provided herein is true and 14. accurate to the best of my knowledge, information and belief.

Michael E. Bier

Michael E. Bier

Subscribed and sworn before me this \(\frac{1}{2} \) day of January 2006.

My commission expires: Feb. 4 2007

NICOLE A. WEHRY Notary Public - Notary Seal STATE OF MISSOURI Jackson County

My Commission Expires: Feb. 4, 2007

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Joint Application was served via first class mail, postage prepaid, on this 11th day of January 2006, upon:

Dana K. Joyce Missouri Public Service Commission P.O. Box 360 200 Madison St., Suite 800 Jefferson City, MO 65102

Lewis Mills Office of the Public Counsel P.O. Box 2230 200 Madison St., Suite 650 Jefferson City, MO 65102

Curtis D. Blanc

Counsel for Kansas City Power & Light Company