Exhibit No.:	
Issue:	Iatan 1: Air Quality Control Equipment
Witness:	Brent C. Davis
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Kansas City Power & Light Company
Case No.:	ER-2009-____
Date Testimony Prepared:	September 5, 2008

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2009-____

DIRECT TESTIMONY

OF

BRENT C. DAVIS

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
September 2008

Certain Schedules Attached To This Testimony Designated ("HC")
Have Been Removed
Pursuant to 4 CSR 240-2.135.

DIRECT TESTIMONY

OF

BRENT C. DAVIS

Case No. ER-2009-____

Q: Please state your name and business address.

A: My name is Brent C. Davis. My business address is 1201 Walnut, Kansas City, Missouri 64106.

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

A: I am employed by Kansas City Power & Light Company ("KCP&L" or the "Company") as the Iatan Unit 1 Project Director.

Q: What are your responsibilities?

A: My responsibilities include oversight of the construction and installation of certain air quality control equipment on the existing coal-fired generating unit at the Iatan Generating Station ("Iatan 1").

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

A: I received a Bachelor of Science degree in engineering management from the University of Missouri at Rolla in 1980, followed by a Master in Business Administration from Rockhurst University in 1999. I began working at KCP&L in 1981 as a maintenance engineer at the Montrose Generating Station. In 1985 I left the Company for a short period of time to accept a position at Dayco Manufacturing in Springfield, Missouri as maintenance superintendent. I returned to KCP&L later that year. Since that time, I have held various engineering and management positions at each of KCP&L's coal-fired generating facilities, *i.e.*, the Montrose Generating Station, the LaCygne Generating

Station, the Iatan Generating Station, and the Hawthorn Generating Station. Immediately prior to accepting my current position, I was plant manager at Hawthorn.

Q: Have you previously testified in a proceeding at the Missouri Public Service Commission ("Commission") or before any other utility regulatory agency?

A: Yes, I provided testimony to the Commission about construction activities at the Iatan Generating Station during the proceedings concerning the acquisition of Aquila, Inc. ("Aquila") by Great Plains Energy Incorporated (Case No. EM-2007-0374).

Q: What is the purpose of your testimony?

A: The purpose of my testimony is (i) to provide an overview of the Iatan 1 air quality control ("AQC") projects, including a description of the oversight of the projects; (ii) to discuss the in-service criteria for the projects; (iii) to explain how the anticipated cost to complete the projects compares to the initial control budget estimate; and (iv) to identify the portion of the Iatan 1 / Iatan 2 common facilities that should be included in rates in this case because they are necessary for the operation of Iatan 1.

Q: Please summarize your role with respect to the construction and installation of the Iatan 1 AQC projects.

A: I have been involved with the Iatan 1 AQC projects since June 2006. Initially, I was responsible for the overall Iatan construction project, including the Iatan 1 projects as well as the construction of Iatan 2. In November of 2007, I was asked to concentrate my efforts on the completion of the Iatan 1 AQC projects.

Overview of the Iatan AQC Projects and Summary of Oversight

Q: Please describe the Iatan 1 AQC projects.

A: Company witness Carl Churchman describes the equipment in greater detail in his Direct Testimony. Briefly, however, as part of the Stipulation and Agreement concerning the Comprehensive Energy Plan ("CEP"), which the MPSC approved in Case No. EO-2005-0329 ("Regulatory Plan Stipulation"), KCP&L committed to add to Iatan 1 (i) a selective catalytic reduction facility ("SCR"); (ii) a flue gas desulphurization unit ("Scrubber"); and (iii) a fabric filter system for the removal of particulates ("Baghouse") (jointly referred to as the "AQC projects" or "AQC equipment"). The SCR reduces the amount of nitrous oxides emitted into the atmosphere. The Scrubber, or absorber as it is sometimes called, reduces the amount of sulfur dioxide emitted into the atmosphere. The Baghouse captures particulates in the flue gas before it is released into the atmosphere.

Q: Who owns Iatan 1?

A: Iatan 1 is jointly owned by KCP&L, Aquila, and The Empire District Electric Company ("Empire"). KCP&L owns 70%. Aquila owns 18%. Empire owns 12%. The Company is seeking to include in its rates as part of this case only its commensurate share of the costs of the equipment. For clarity, later in my testimony when I discuss the cost of the Iatan 1 AQC projects, I will be speaking in terms of the overall cost as opposed to the Company's share of that cost.

Q: Who is responsible for constructing and installing the Iatan 1 AQC equipment?

A: KCP&L operates the unit and is ultimately responsible for constructing and installing the Iatan 1 AQC equipment. However, the design, construction, and installation of the equipment are highly specialized. Consequently, KCP&L contracted with a number of

parties for various aspects of the construction and installation activities. KCP&L used a multiple prime contracting approach, meaning that KCP&L retained several primary contractors to work on different aspects of the projects.

Q: Who are those entities and what are their roles?

A: The first I would mention is Burns & McDonnell ("B&M"). As KCP&L's engineer for the project, B&M is responsible for designing the overall project, from foundations to the various components of the AQC equipment. The next vendor is ALSTOM Power Service ("ALSTOM"). ALSTOM is responsible for designing, procuring, and constructing the primary components of the AQC equipment, that is, the SCR, Scrubber, and Baghouse. KCP&L's contract with ALSTOM is an engineering, procurement, and construction ("EPC") contract, which means that ALSTOM is responsible for engineering the projects, procuring the labor and equipment necessary for the projects, and constructing the projects. Kissick Construction Company ("Kissick") is responsible for constructing the foundations for the various components of the projects. Pullman Power ("Pullman") is another significant contractor. Pullman is responsible for erecting the flue chimney that will ultimately be utilized by both units, including the liners. Lastly, Automatic Systems Inc. is responsible for the limestone material handling system that will supply limestone to the reagent preparation system being supplied by ALSTOM.

The scope and complexity of the projects require a high degree of coordination among the contractors. The foundations for the AQC equipment present a good example. ALSTOM had to complete their design of the equipment before it could provide load and location information to B&M for its use in engineering the foundations. B&M then designed the foundations and passed the designs on to Kissick, who constructed them.

Kissick's work, in turn, had to be completed before the foundations could be turned over to ALSTOM so that it could begin to construct the AQC equipment.

Q: Under the multiple prime contracting approach, was KCP&L responsible for managing these contractors and coordinating their efforts?

A: Yes, it was. The complexity of managing the interface of these contractors was one of the factors that lead KCP&L to execute a "balance of plant" contract with Kiewit Power ("Kiewit"). Under that contract, which was executed in November of 2007, Kiewit is responsible for the majority of the work on the Iatan 1 AQC projects that is not covered by one of the contractors I described above.

Q: What are the benefits of executing the balance of plant contract with Kiewit?

A: Absent such an agreement, KCP&L would have needed to bring seven or eight additional contractors on site and manage their interface with the existing contractors. By executing the Kiewit balance of plant contract, KCP&L was able to contract for the completion of the project while adding only one contractor. This minimized any additional interface risk from having more contractors on site. The balance of plant contract also minimized other potentially significant risks, such as labor cost and productivity. Instead of KCP&L bearing that risk, as it likely would have had we continued the multiple prime contracting approach, Kiewit took on much of that risk.

Q: Could you please describe the oversight to which the Iatan 1 AQC projects have been subject?

A: The projects are subject to extensive oversight from both internal and external sources. A project of this size and complexity requires the use of a sophisticated cost control system. Developing and implementing such a system was also a condition of the Regulatory Plan

Stipulation. With the assistance of Schiff Hardin LLP ("Schiff") and in consultation with the signatory parties to the Regulatory Plan Stipulation, KCP&L developed and implemented a state-of-the-art cost control system. KCP&L also hired individuals with extensive construction experience for its internal project management team. In addition to myself, there is Carl Churchman, Vice President of Construction, Russ Finkle and Paul Waddell, the construction managers; Steve Jones, the procurement manager; Terry Foster, the project controls manager; Mike Hermsen, the safety manager; Hugh Miller, the start-up manager; and Roy Douglas, the quality control manager. Each of these individuals has extensive experience on large-scale construction projects. The team is on site at the Iatan Generating Station and manages day-to-day construction activities. Also internal to the Company is the CEP Oversight Committee,comprised of Company executives from different areas of the Company. The project team periodically presents information to the CEP Oversight Committee concerning the status of the project and challenges being addressed by the project team. The CEP Oversight Committee provides feedback and direction to the project team as necessary. KCP&L's internal audit department has also played an active role with respect to the construction of the Iatan 1 AQC projects.

Q: You also mentioned external oversight. Could you also describe the external oversight to which the construction of the AQC equipment at Iatan 1 is subject?

A: As I have noted, Schiff provides external oversight by providing an independent review of the status of the construction and installation of the Iatan 1 AQC equipment both in terms of cost and schedule. Schiff is nationally renowned for its expertise in the oversight and management of large-scale construction projects. The members of the

Schiff team have significant experience with power plant construction both in the United States and abroad. As described in the Direct Testimony of Company witness Kenneth M. Roberts, Schiff helped KCP&L develop and implement its cost control system. Schiff also provides ongoing oversight for the projects and assists with ongoing negotiations with contractors. Schiff provides information concerning its reviews to the project team as well as the CEP Oversight Committee. Ernst and Young also provides oversight, including a review of the Company's cost control system, safety, schedule, among other processes they reviewed. The projects are also subject to review from the joint owners of Iatan 1, *i.e.*, Aquila and Empire. There are periodic joint owner meetings to address issues related to the projects, and Aquila and Empire have the right to audit KCP&L's construction expenditures. They have diligently exercised that right.

Lastly, the signatory parties to the Regulatory Plan Stipulation, including the Commission's Staff and the Office of Public Counsel ("OPC") also play an oversight role. KCP&L provides quarterly reports to the signatory parties concerning issues related to the projects. KCP&L then meets with the parties to discuss those reports. In addition, the signatory parties have the ability to investigate issues related to KCP&L's implementation of the Regulatory Plan Stipulation. KCP&L has supplied Staff with a considerable amount of data concerning the projects as a result of its exercise of this investigatory power.

In-Service Date and Criteria

Q: What are the in-service criteria for the SCR, Scrubber, and Baghouse at Iatan 1?

A: As part of the Regulatory Plan Stipulation, KCP&L, Staff, and OPC agreed to develop in-service criteria for the AQC equipment to be installed on KCP&L's existing coal-fired

generating units. In 2007, KCP&L installed an SCR on Iatan 1 of its LaCygne Generating Station ("LaCygne 1"). KCP&L, Staff, and OPC agreed on in-service criteria for that facility. The LaCygne 1 SCR satisfied that criteria and was included in KCP&L's rates as part of its 2007 rate case (Case No. ER-2007-0291). Concerning Iatan 1, KCP&L, Staff and OPC have reached agreement concerning the in-service criteria for the Iatan 1 AQC equipment. The criteria details are attached as Schedule BCD-2.

Q: What is the basis for including the Iatan 1 SCR, Scrubber, and Baghouse in this case?

A: The Regulatory Plan Stipulation provides for a true-up period. Among the items to be trued up is plant in service. The Iatan 1 SCR, Scrubber and Baghouse comprise plant in service that will go into service during the true-up period. Consequently, the equipment is appropriate for inclusion in this case.

Changes in Cost and Schedule

Q: What is the currently anticipated cost of the Iatan 1 AQC projects?

A: As described above, construction of the AQC equipment has not yet been completed. Consequently, the Company does not know at this time the precise cost of the equipment. The exact dollar amount will have to be resolved as part of the true-up process in this case. I can say, however, that KCP&L currently estimates that the total cost of the AQC equipment will not exceed $484.2 million. While that figure is greater than the initial control budget estimate for the projects developed in December 2006 when the projects were approximately 20% to 25% engineered, the current estimate is entirely consistent with the results of the cost reforecast that the Company completed in April 2008 and

presented to the Commission during the merger proceedings in Case No. EM-2007-0374. A summary of the results of the reforecast is attached as Schedule BCD-1 (HC).

Q: How does the current estimated cost of completion compare to the control budget estimate that was developed in December 2006?

A: The Company's initial control budget estimate for the Iatan 1 AQC projects was $376.8 million, which is $107.4 million less than the current estimated cost of completion.

Q: Please describe the differences between the results of the control budget estimate and the reforecast cost, including the primary areas in which costs have increased.

A: Of the estimated $107.4 million increase, $86.4 million is attributable to an anticipated increase in the base estimate of the project. The remaining $21 million of the estimated increase is reserved as a contingency for potential future use should the need arise. Given the complexity and risks associated with projects such as the Iatan 1 AQC projects, companies routinely include a contingency in their budgets to address costs that might arise after the budget for the project has been finalized.

As the Company has previously explained to the Commission, its Staff and other interested stakeholders, there are four categories of costs that resulted in the base estimate increase: (i) scheduling changes associated with design maturation; (ii) scope design changes attributable to maturation of the projects; (iii) escalations in the price of labor and supplies; and (iv) expenditures to optimize operation or construction of Iatan 1, *i.e.*, to reduce the Unit's long-term operations and maintenance expenses. These four categories of costs account for more than 97% of the anticipated increase in the base estimate of the Iatan 1 AQC projects.

Q: Was the initial control budget estimate wrong or inadequate?

A: No, I would not say that. I would say that the initial control budget estimate was a good number based upon the information that was available at the time it was developed.

Q: If the initial control budget estimate was not flawed, why did the Company reforecast the cost of the project?

A: As a preliminary matter, I want to clarify that to say the Company "reforecast" the cost of the projects earlier this year does not mean that the Company has not been actively monitoring and responding to cost changes and challenges since it provided the initial control budget estimate. To the contrary, the Company has continuously monitored and updated cost estimates for the projects since it provided the initial control budget estimate. To do so is a key element of the Company's cost control processes. Having said that, beginning in late 2007, the Company began a comprehensive, bottom-up review of the cost of the projects. This is the process that the Company completed in April of this year and what is commonly referred to as "the reforecast." *See* Schedule BCD-1 (HC). There are a variety of reasons that led us to undertake that process. First, the Iatan 1 projects were approximately 90% engineered at that time. Second, we had just executed the balance of plant contract with Kiewit that I described earlier in my testimony. Third, the Company observed that the contingency portion of the budget for the projects was being depleted more rapidly than anticipated. Finally, the ongoing cost monitoring, reforecasting process the Company had employed, as typified by risk and opportunity tables, indicated that potentially significant cost pressures were on the horizon and the Company wanted to be in a position to address them proactively and

holistically. It was a combination of all of these factors that led us to undertake what has become known as the reforecast.

Q: Please describe the reforecast process.

A: The reforecast was a comprehensive, bottom-up review of the cost and schedule associated with completing the Iatan 1 AQC projects. We looked at what it would cost to complete the projects, including an assessment of the potential for certain subsequent events to adversely impact the cost and schedule of the projects.

Q: Does KCP&L have a cost control process in place concerning the construction of the Iatan 1 AQC projects?

A: Yes, it does. As I described earlier in my testimony, a project of this size and complexity requires a sophisticated cost control process. KCP&L developed and implemented a sophisticated and robust cost control system in consultation with a variety of experts in the field of large-scale construction projects. Mr. Roberts describes the cost control process in some detail in his Direct Testimony in this case.

Q: What steps did KCP&L take to control the ultimate cost of the Iatan 1 AQC projects?

A: As a preliminary step, KCP&L entered into fixed-price contracts for a majority of the Iatan 1 AQC projects. The ALSTOM EPC contract for the AQC equipment is a fixed-price contract. It is the largest contract for the projects, accounting for more than sixty percent of the control budget estimate. KCP&L also used a fixed-price contract for several engineered equipment procurements, including the ash handling equipment, electrical and controls equipment, and the economizer. Given the challenges the construction industry has seen since those contracts were executed, the decision to pursue

fixed-price contracts was a particularly good one. Another type of contract KCP&L used to control cost is a unit price, or quantity-based contract. The Kiewit balance of plant contract, for example, is a quantity-based contract. Such a contract helps control cost by pegging the cost of the project to the materials that comprise the project, which works to shield the Company from risks associated with labor costs and productivity.

The cost control system that KCP&L developed and implemented for the Iatan 1 projects tracks awarded costs and approved change orders to compute a total commitment compared against the initial control budget estimate. Any subsequent contract awards or change orders that are different (more or less) than the original control budget estimate amount are withdrawn or added to contingency. Cost reports are updated and analyzed monthly for trending data to identify potential cost exposure to the project. In addition, the output of the cost reforecast has been incorporated into this system to reflect the new budget amount discussed earlier.

Q: With all of these cost control efforts in place, how do you explain the discrepancy between the current estimated cost to complete the Iatan 1 AQC projects and the initial control budget estimate?

A: Cost control systems, even one as sophisticated and robust as the one used by the Company for the Iatan AQC projects, cannot guarantee that a project will not experience cost pressures or even increases. Nothing can do that. The construction industry as a whole, and in particular power plant-related construction, has experienced intense cost pressures over the last few years. Global and domestic prices for general construction materials and the specialized components for a project such as this have risen dramatically. Operating in this environment, I believe the Company's cost control

processes have worked well. Without those processes in place, the ultimate cost of the AQC projects would have been much higher than it is.

Common Facilities

Q: What are "Common Facilities" and why are they an issue in this case?

A: Common Facilities are facilities that Iatan 1 and Iatan 2 will ultimately share once Iatan 2 goes into service. However, those facilities are necessary now for the operation of Iatan 1 with the new AQC equipment. Because the facilities are essential for the operation of Iatan 1, it is appropriate to include a portion of their cost in rates at the same time the Iatan 1 AQC equipment goes into rates. However, because some portion of the cost is more appropriately associated with Iatan 2, it would not be appropriate to include their entire cost in rates at this time. The issue before the Commission in this case is to determine what portion of Common Facilities should be included in the Company's rates in this case because they are used and useful with respect to the operation of Iatan 1, and what portion should be addressed in the subsequent rate case involving Iatan 2.

Q: What are some examples of Common Facilities?

A: The new flue gas chimney is probably the simplest example. The original Iatan 1 chimney could not be used with the new AQC equipment. Consequently, a new chimney had to be built for Iatan 1. A chimney would also need to be constructed for Iatan 2. The Company decided to build a single, shared concrete chimney with two separate liners to be used by each unit because doing so is more efficient than building two separate chimneys. With this consideration in mind, it is appropriate to include a portion of the cost of the new chimney in rates associated with the Iatan 1 projects and to allocate a portion to be in rates associated with Iatan 2. This is but one example. Other examples

include the various systems necessary to support the AQC equipment on both units, *e.g.*, storage and handling facilities for limestone, limestone reagent preparation equipment, scrubber sludge, and treatment facilities for the various waste products.

Q: Please explain the basis for KCP&L's proposed allocation of the cost of between Iatan 1, which are included in this case, and the remainder, which will be proposed to be included in the rate case associated with the completion of Iatan 2.

A: The Company allocated the cost of the Common Facilities between Iatan 1 and Iatan 2 based on the generation capacity of the respective units, *i.e.*, 670 MW for Iatan 1 and 850 for Iatan 2. Cost is also allocated based on the different ownership structures of the two units, that is, KCP&L's share is based on a weighted average of its ownership interest in each unit, which is approximately 61%.

Q: What would such an allocation add to the Iatan 1 costs the Company seeks to include in rates in this case?

A: The allocation of Common Facilities has been included in the Plant adjustment (Adj-21) reflected in Schedule JPW-2 attached to the Direct Testimony of Company witness John Weisensee. The precise amount will need to be addressed during the true-up phase of this case.

Q: You mentioned earlier that the original Iatan 1 chimney could not be used with the new AQC equipment. Has the original chimney been retired?

A: The chimney has not yet been physically removed. However, for the purposes of this case the Company has removed the net book value of the chimney from the rate base.

Q: Does that conclude your testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Kansas City Power & Light Company to Modify Its Tariff to Continue the Implementation of Its Regulatory Plan	)))	Case No. ER-2009-____

AFFIDAVIT OF BRENT C. DAVIS

STATE OF MISSOURI)
) **ss**
COUNTY OF JACKSON)

Brent C. Davis, being first duly sworn on his oath, states:

1. My name is Brent C. Davis. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Project Director, Iatan 1.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Kansas City Power & Light Company consisting of fourteen (14) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Brent C. Davis

Subscribed and sworn before me this 4th day of ~~August~~ September 2008.

Notary Public

My commission expires: July 28, 2009

STEPHANIE KAY McCORKLE
Notary Public - Notary Seal
State of Missouri - County of Clay
My Commission Expires Jul. 28, 2009
Commission #05451858

SCHEDULE BCD-1

THIS DOCUMENT CONTAINS HIGHLY CONFIDENTIAL INFORMATION NOT AVAILABLE TO THE PUBLIC

In-Service Criteria for Iatan 1--Particulate and Opacity Control Equipment

1. All major construction work is complete.

2. All preoperational tests have been successfully completed.

3. Equipment successfully meets operational contract guarantees. (Note: Some operational contract guarantee verification periods may extend beyond the duration of the schedule for a rate case. These guarantees will be evaluated for applicability.)

4. The equipment shall be operational and demonstrate its ability to operate at a stack opacity (six minute average) less than or equal to 11% over a continuous four (4) hour period while the generating unit is operating at or above 95% of its design load (670 MWnet).

5. The equipment shall also demonstrate its ability to operate at a stack opacity (six minute average) less than or equal to 11.5% over a continuous 120-hour period while the generating unit is operating at or above 80% of its design load (670 MWnet).

6. Continuous emission monitoring systems (CEMS) are operational and demonstrate the capability of monitoring the opacity emissions to satisfy the parameters in items (4) and (5) above.

In-Service Criteria for Iatan 1--NO_X Control Equipment

1. All major construction work is complete.

2. All preoperational tests have been successfully completed.

3. Equipment successfully meets operational contract guarantees. (Note: Some operational contract guarantee verification periods may extend beyond the duration of the schedule for a rate case. These guarantees will be evaluated for applicability.)

4. The equipment shall be operational and demonstrate its ability to operate at a NO_X emission level of 0.090 lb/mmBtu over a continuous four (4) hour period while the generating unit is operating at or above 95% of its design load (670 MWnet).

5. The equipment shall also demonstrate its ability to operate at a NO_X emission level of 0.100 lb/mmBtu over a continuous 120-hour period while the generating unit is operating at or above 80% of its design load (670 MWnet).

6. Continuous emission monitoring systems (CEMS) are operational and demonstrate the capability of monitoring the NO_X emissions to satisfy the parameters in items (4) and (5) above.

In-Service Criteria for Iatan 1--SO_2 Control Equipment

1. All major construction work is complete.

2. All preoperational tests have been successfully completed.

3. Equipment successfully meets operational contract guarantees. (Note: Some operational contract guarantee verification periods may extend beyond the duration of the schedule for a rate case. These guarantees will be evaluated for applicability.)

4. The equipment shall be operational and demonstrate its ability to operate at a SO_2 reduction efficiency equal to or greater than 91% over a continuous four (4) hour period while the generating unit is operating at or above 95% of its design load (670 MWnet).

5. The equipment shall also demonstrate its ability to operate at a SO_2 reduction efficiency equal to or greater than 86% over a continuous 120-hour period while the generating unit is operating at or above 80% of its design load (670 MWnet).

6. Continuous emission monitoring systems (CEMS) are operational and demonstrate the capability of monitoring the SO_2 emissions to satisfy the parameters in items (4) and (5) above.