Exhibit No.:
Issue: Iatan Project Overview and Iatan 2 Prudence
Witness: Brent C. Davis
Type of Exhibit: Direct Testimony
Sponsoring Party: Kansas City Power & Light Company
Case No.: ER-2010-____
Date Testimony Prepared: June 4, 2010

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2010-____

DIRECT TESTIMONY

OF

BRENT C. DAVIS

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
June 2010

"[redacted]**" Designates "Highly Confidential" Information Has Been Removed.**
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-2010-____

Q: Please state your name and business address.

A: My name is Brent C. Davis. My business address is 1200 Main Street, Kansas City, Missouri 64105.

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"). Currently, I am the Operational Interface/Project Director for the new Unit 2 at the Iatan Generating Station (Iatan Unit 2).

Q: What are your responsibilities?

A: My responsibilities include assisting Robert N. Bell, Senior Director of Construction, and his direct reports on the Unit 2 Project. I am also the primary interface and responsible for coordination between the Iatan Unit 2 Project and KCP&L Operations and Maintenance.

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 degree 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 starting on the Iatan Project, I was plant manager at Hawthorn. I was the Project Director for both Iatan Unit 1 and Unit 2 from June 2006 to November of 2007. In 2007, I was asked to turn my full attention to Iatan Unit 1 as the Unit 1 Project Director, but I have always been involved to a certain extent with the construction of Unit 2. Once the construction completed on Unit 1, I was asked by Carl Churchman to work as an advisor to Unit 2. In February 2010, I was asked to become the Operational Interface/Project Director for Unit 2.

Q: Have you previously testified in a proceeding at the Missouri Public Service Commission ("MPSC")?

A: Yes. I filed testimony in KCP&L's last rate case, Case No. ER-2009-0089 ("0089 Docket"). My direct testimony from that case is attached as Schedule BCD2010-1. I also filed testimony in KCP&L Greater Missouri Operations Company's ("GMO") last rate case, Case No. ER-2009-0090.

Q: What is the purpose of your current testimony?

A: The purpose of my testimony is: (1) to describe the scope of the Iatan Unit 2 Project; (2) discuss the management of the major contractors on the Project including ALSTOM Power Inc. ("ALSTOM"), Kiewit, and other contractors during the course of the Project; (3) to compare the Iatan Unit 2 Project to others on which I have worked during my career; (4) to discuss the formation of the contract with Kiewit Power Constructors Co. ("Kiewit") for the remaining balance of plant work on the Iatan Unit 2 Project; and (5) to

discuss the Project Definition Report ("PDR") issued by Burns & McDonnell in 2004 and the Supplement issued in 2007; and (6) to provide information regarding the Iatan Unit 2 in-service criteria.

OVERVIEW OF THE IATAN UNIT 2 PROJECT

Q: In general, please describe the Iatan Unit 2 Project.

A: Company witness Chris Giles testifies that building Iatan Unit 2 was the best option for the least cost for Missouri ratepayers for adding generation capacity. The Iatan site already contained a 670 MW coal-fired plant that was originally built in the 1970s. The Iatan Unit 2 Project is a new, 850 MW (net) supercritical, pulverized coal unit that burns Powder River Basin ("PRB") coal. The new unit includes emissions control equipment that meets current Best Available Control Technology ("BACT") standards, including a selective catalytic reduction system ("SCR") for NO_x control, a wet flue gas desulfurization system ("Scrubber") designed to use a limestone slurry solution for SO_2 control, and a pulse jet fabric filter ("Baghouse") for particulate control. Additionally, a powdered-activated carbon system will be installed to remove mercury.

Q: What are the major components of Iatan Unit 2?

A: Iatan Unit 2 is comprised of a new steam generator (the "boiler"), a new steam turbine generator, new limestone receiving and preparations systems, modifications to the existing Iatan Unit 1 coal handling system to support Iatan Unit 2, new cooling towers, a new single chimney with separate flues for Iatan Unit 1 and Iatan Unit 2, and state of the art emissions control technology including an SCR, Scrubber and Baghouse. Photographs depicting the major components of Iatan Unit 2 are attached as Schedule BCD2010-2.

Q: Can you describe the overall complexity of the Iatan Unit 2 Project?

A: Iatan Unit 2 is a complex project based upon its size and scope. The Iatan Unit 2 Project required massive amounts of civil, structural, mechanical and electrical commodities as explained in more detail below. For this Project, KCP&L entered into approximately 150 contracts, issued 1100 Purchase Orders, and coordinated 55 separate on-site contractors. The Project reached its highest employment level in late 2008 with approximately 4000 people on site on a daily basis. This number included craft workers and the administrative / management personnel necessary to support the construction effort. The Iatan Unit 2 Project is one of the first new coal plants built in over 25 years in the United States, and is also one of the largest. Much of the equipment selected for the Iatan Unit 2 Project is state-of-the-art.

Q: Can you please identify the major vendors to the Iatan Unit 2 Project and a general description of the services they provided?

A: Yes. The major vendors who provided services on-site for Iatan Unit 2 are as follows:

- **Burns & McDonnell Engineering ("Burns & McDonnell")**: Burns & McDonnell is the Owner's Engineer for KCP&L. Burns & McDonnell's design responsibilities generally included conceptual design of the plant, development of technical specifications for procurement of equipment and services, and design of the balance of plant work. Burns & McDonnell has also provided on-site construction and engineering support services to KCP&L throughout the Iatan Unit 2 Project.
- **ALSTOM Power Inc. ("ALSTOM")**: ALSTOM provided engineering, procurement, construction, and start-up services for the boiler and Air Quality Control Systems ("AQCS").

- **Kiewit Power Constructors Co. ("Kiewit")**: Kiewit provided construction services for the balance of plant equipment, including electrical construction, turbine building erection, steam turbine generator assembly and piping, and interconnections between systems provided by others, including as supplied by ALSTOM.
- **Kissick Construction Company ("Kissick")**: Kissick provided construction services for foundations required for equipment provided by KCP&L and ALSTOM, including but not limited to the boiler, AQCS foundations and steam turbine generator pedestal, as well as underground piping and duct banks.
- **Pullman Power, Inc. ("Pullman")**: Pullman provided engineering, procurement and construction ("EPC") services for the erection of a dual flue chimney for Iatan Unit 1 and Unit 2.
- **Automatic Systems, Inc. ("ASI")**: ASI provided EPC services for the Iatan Unit 2 Project material handling and dust suppression systems.
- **Fisher Tank Company ("Fisher")**: Fisher provided furnish and erect services for all holding tanks on site to support boiler and turbine operations.
- **SPX Cooling Technologies, Inc. ("SPX")**: SPX provided furnish and erect services for the cooling tower erection.
- **Toshiba Corporation ("Toshiba")**: Toshiba provided the steam turbine generator for Unit 2.

Q: Please describe the steam generator, or boiler, for Iatan Unit 2.

A: As stated above, when in operation, the boiler for Iatan Unit 2 will be a pulverized-coal steam generator that will supply steam to the steam turbine generator at a supercritical pressure of 3690 psig and at main steam and reheat temperatures of 1080°F. The

function of a boiler is to provide controlled release of heat during the combustion of fuel (in this case, Powder River Basin ("PRB") coal) and efficient transfer of heat to the feedwater and steam. The transfer of heat produces steam at the pressure and temperature required to operate the turbine.

Q: What is important about the distinction of "supercritical" pressure?

A: Supercritical technology produces higher energy efficiency. Conventional pulverized coal plants are broken down into two categories: subcritical and supercritical. The terms subcritical and supercritical refer to the critical point of water (3,203.6 psig, 705.4°F). The critical pressure of water is the maximum pressure that liquid and vapor can co-exist in equilibrium. At this critical point, the density of steam and the density of water are equal and there is no distinction between the two states. Supercritical plants operate at temperatures and pressures that are greater than the critical point of water. As a result, supercritical plants have increased thermal efficiency. This efficiency improvement reduces fuel costs, emissions, sorbents consumption, ash and waste production, as well as water consumption.

Q: Are there any unique design parameters to a supercritical boiler as compared to a subcritical boiler?

A: Yes. A supercritical unit is also known as a "once through" design because water is intended to circulate and re-circulate for efficiency purposes. With a conventional subcritical boiler, it is necessary to have a steam drum that serves in essence as a filter for the water entering the boiler. With a supercritical design, there is no need for a steam drum but the water must be demineralized before being introduced, so there must be a water treatment facility on site to support this function, and the feedwater supplied to the

boiler needs to be free of deposits that could cause damage to the boiler's components. Supplying water quality that meets the specification for the boiler is a chief concern to the project, and as I describe below, we have taken great care to ensure that the water entering the boiler meets such specifications. Also, because supercritical units run at higher temperatures and pressures, materials selected for use in pressure parts and vessels must be capable of withstanding greater demands. Often this results in specification of high alloy compounds in boiler tubes and other components.

Q: Which contractors had responsibility for the boiler?

A: The boiler was designed, fabricated, built and installed by ALSTOM. The concrete foundations for the boiler were designed by Burns & McDonnell on the basis of structural load information from ALSTOM, and were constructed by Kissick.

Q: What is the purpose of a steam turbine generator?

A: The purpose of the steam turbine generator is to convert the thermal energy of the steam from the boiler into electrical energy.

Q: Please describe the steam turbine generator.

A: The steam turbine generator sits on top of a specially-designed concrete pedestal that is meant to absorb the high vibration caused from the rotation of the internal components. The pedestal is integrated into the structure of the powerhouse or turbine generator building adjacent to the boiler. The major components of the steam turbine generator are the generator frame, the stator, and rotor. The operation of this equipment involves the expansion of steam through stages of the turbine to create rotating motion. Ultimately this rotating motion causes the generator rotor to become magnetized and generate electrical power. The turbine generator connects to a transformer in the existing

switchyard at the Iatan site for transmission and distribution of electricity.

Q: Is there anything unique about the steam turbine generator selected for Iatan Unit 2?

A: The steam turbine generator for Iatan Unit 2 is supplied by Toshiba. Compared to the steam turbine generator for Iatan Unit 1, the Toshiba unit is physically much larger. This is necessary so that the turbine can process more steam, operate at the elevated temperatures and pressures produced by the supercritical boiler, and ultimately deliver 850 megawatts to the electrical grid.

Q: Which contractors had responsibility for the steam turbine generator?

A: As I stated above, the steam turbine generator was supplied by Toshiba. The turbine pedestal was designed by Burns & McDonnell and constructed by Kissick. The turbine itself was assembled and installed by Kiewit, who also performed the piping, electrical, structural and concrete construction of the building in which the turbine generator is housed (the "Turbine Generator Building"). The engineering for the Turbine Generator Building and all associated components and systems was provided by Burns & McDonnell.

Q: What is the purpose of an SCR on a coal-fired generating unit?

A: SCR stands for selective catalytic reduction, a process used to limit emissions of nitrogen oxides ("NO_x") into the air. The production of NO_x is a by-product of coal combustion. The U.S. Environmental Protection Agency ("EPA") regulates the emission of NO_x. The purpose of an SCR is to reduce the amount of NO_x in the flue gas of a coal-fired generating unit. The SCR converts NO_x, which consists primarily of nitrous oxide and

lesser amounts of nitrous dioxide, to nitrogen and water by a chemical reaction with ammonia and a catalyst.

Q: Please describe the SCR at Iatan Unit 2.

A: The SCR at Iatan Unit 2 is located on top of the air heater and adjacent to the furnace economizer. It is principally comprised of a substantial amount of duct work, an ammonia injection grid, a catalyst chamber with two layers of catalyst, and considerable preparation, handling, and storage facilities for the ammonia and catalyst. The SCR for Iatan Unit 2 was designed by ALSTOM to operate at a NO_X emission level of less than or equal to 0.054 lb/mmBtu over a continuous four hour period while the generating unit is operating at or above 95 percent of its design load.

Q: What is the purpose of a Scrubber on a coal-fired generating unit?

A: The production of the acid gas sulfur dioxide ("SO_2") is a by-product of coal combustion. The EPA regulates the emission of SO_2. The purpose of a Scrubber, or "absorber" as it is sometimes called, is to reduce the amount of SO_2 in the flue gas of a coal-fired generating unit. A "wet" Scrubber, such as the Iatan Unit 2 Scrubber, removes SO_2 from the flue gas by injecting a limestone slurry solution into the flue gas. The resulting chemical reactions convert the SO_2 and limestone to calcium sulfate, or gypsum, and water ("slurry") which is subsequently dewatered and transported to an on-site landfill for storage. When in operation, Iatan Unit 2 will produce approximately 70,508 pounds of slurry per hour.

Q: Please describe the Scrubber at Iatan Unit 2.

A: The Scrubber at Iatan Unit 2 is a "wet" scrubber, which means that the catalyst it uses for the chemical reaction to remove SO_2 is limestone slurry. The Scrubber is located

between the induced draft fans and the chimney. It is principally comprised of the absorber vessel, a recycle spray system, and considerable preparation, handling, and storage facilities for the limestone slurry.

Q: What is the purpose of a Baghouse on a coal-fired generating unit?

A: The combustion of coal creates particulate matter primarily composed of ash and unburned carbon. The EPA regulates the emission of particulate matter. The purpose of a Baghouse is to capture particulate in the flue gas before the gas is released into the atmosphere by directing the flue gas to flow through a system of fabric filters. The gas stream is pulled through the fabric filter by two sets of induced draft ("ID") fans and then exits through the absorbers and ultimately the stack. The particulate matter leaves the boiler either as bottom ash, economizer ash, or fly ash. The bottom ash collects at the bottom of the boiler and is periodically removed. The economizer ash typically separates from the flue gas and drops into hoppers for removal in the economizer area. The fly ash is the particulate matter that is relatively small and continues to be carried in the flue gas until it is removed by the Baghouse.

Q: Please describe the Baghouse at Iatan Unit 2.

A: Particulate matter, or small particles of fly ash, is captured on the outer surface of the fabric filter bags. The bags are then periodically cleaned by a pulse of air, which knocks the fly ash loose from the bag. The fly ash is then collected in hoppers located at the bottom of the Baghouse and is conveyed from the hoppers to a storage facility. The Baghouse at Iatan Unit 2 is located between the air heater outlet and the ID fans. The Baghouse is principally comprised of duct work, isolation dampers, thirty-two baghouse

compartments, more than 26,800 fabric filter bags, a pulse jet air system, and ash conveying equipment.

Q: Which contractors are responsible for the SCR, the Scrubber and the Baghouse?

A: All three have been designed, fabricated and installed by ALSTOM. As with the boiler, the concrete foundations for this equipment was designed by Burns & McDonnell on the basis of structural load information from ALSTOM, and these foundations were constructed by Kissick.

Q: In summary, what emission controls are being put into service with the Iatan Unit 2 Project?

A: Iatan Unit 2 will remove 98 percent or more of SO_2 and it is designed to emit less than 0.050 lbs/mmBtu of NO_x, less than 1.50 lbs/trillion Btu of mercury, and 10 percent opacity or less particulate matter, which represents some of the lowest emissions levels in the country for coal-fired plants. Once Iatan Unit 2 is operating, the combined emissions from Iatan Units 1 and 2 of NO_X, SO_2, and particulate matter will be less than the emissions from Iatan Unit 1 prior to the recent AQCS addition and other plant improvements.

Q: What is the purpose of the cooling tower?

A: The cooling tower is a heat rejection device which cools the circulating water to a lower temperature. The Iatan cooling tower uses "evaporative cooling," meaning that the cooling tower allows a small portion of the water being cooled to evaporate into the atmosphere which in turn cools the rest of the water stream.

Q: Please describe the cooling tower.

A: The cooling tower is a four-story high structure containing labyrinth-like "fill." Fill is the component facilitating the air-water interface for air heating and evaporation to occur. The cooled water descends along the fill to be collected and re-circulated through the system. The cooling water flow rate (water flowing from the cooling tower to the condensers and back) is 430,000 gallons per minute.

Q: Which contractor was responsible for the cooling tower?

A: The cooling tower was engineered and constructed by SPX, whose construction was managed by Kiewit, who also installed the piping that connected the cooling tower to the rest of the plant.

Q: What is the purpose of the water treatment facilities being placed into operation for the Iatan Unit 2 Project?

A: Water is a critical component of the operation of a steam-generating coal-fired power plant. Water is used for many purposes including: equipment cooling, maintenance cleaning, air pollution control (*e.g.*, the Scrubber), solids conveying, and as the working fluid for the steam in the Unit which, as noted above, must be demineralized before it enters the boiler. The term "water treatment" refers to any physical or chemical process that improves the usability of the water treated. The purpose of water treatment and conditioning is to maintain the life of the Unit by preventing corrosion and the resulting risk of decreased production capacity and increased operating costs and the associated economic losses. Iatan Unit 2 was designed to produce zero liquid discharge.

Q: What does Zero Liquid Discharge mean?

A: Zero Liquid Discharge ("ZLD") means that all water is either evaporated or retained on site. ZLD is accomplished through the combination of evaporation followed by crystallization. The use of such technology further reduces environmental impacts by limiting the amount of wastewater discharged from the plant.

Q: Which contractors were responsible for the water treatment facilities?

A: Most of the equipment for the water treatment facilities was supplied by Aquatech, Eco-Tec and WesTech Engineering. The water treatment facilities were installed by Kiewit.

Q: What is the tank farm?

A: The tank farm is a cluster of various liquid storage tanks used in the water treatment facilities. It is physically located adjacent to the coal yard. The tank farm was engineered, supplied and installed by Fisher.

Q: What is the Balance of Plant?

A: The Balance of Plant refers to the scope of work performed by or managed by Kiewit. It includes the work outside of the Iatan Unit 2 boiler and Iatan Unit 1 and Unit 2 AQCS, including the SCR, Scrubber and Baghouse in ALSTOM's EPC contract. The Balance of Plant scope would include, but not be limited to: the erection of the turbine generator building; the erection of equipment within that building including the turbine generator itself and the condensers; electrical wiring of all devices including those within ALSTOM's scope of work; foundations and substructures under all major equipment; the erection of the cooling tower for Iatan Unit 2; the erection of the multiple tanks and water treatment facility that would be common to both Iatan Unit 1 and Iatan Unit 2, the ZLD building; some civil work; painting; and heat tracing and insulation.

Q: Please describe the amount of civil, structural, and environmental commodities used on the Iatan Unit 2 Project.

A: The Iatan Unit 2 Project utilized approximately over 150,000 cubic yards of concrete and approximately 25,000 tons of steel. To put the quantity in context, the amount of concrete that was poured on the Iatan Unit 2 Project would be sufficient to create a sidewalk that would stretch approximately 325 miles, or from Kansas City, Missouri to Little Rock, Arkansas. Additionally, the Project included the creation of an on-site 27 acre landfill along with a 1.3 acre leachate pond and a 4.5 acre storm water pond to safely store the material by-products from the generation process.

Q: Please describe the mechanical components and other equipment installed in the Iatan Unit 2 Project.

A: The contractors installed over 200,000 linear feet of pipe, more than 1,800,000 linear feet of boiler tubes (which, if laid end-to-end would travel a distance of over 347 miles), 300 pumps, 7,500 pipe hangers and supports approximately 12,000 valves or other devices to transport water, air, chemicals, steam, ash, slurry and other materials throughout the Iatan Unit 2 and common facilities.

Q: Please describe the electrical and instrumentation and controls installed in the Iatan Unit 2 Project.

A: The Iatan Unit 2 Project contains more than 5 million feet of electrical cable, which all told is approximately 950 miles long. There are approximately 11,000 discrete circuits, and associated cable and conduit terminates to over 150,000 devices.

Q: How many man-hours have been earned to date on the Project?

A: As of May 16, 2010, the total project including all construction and start-up work had earned 5,316,686 manhours of the cumulative 5,455,812 planned hours, and the project was estimated to be 99% percent complete.

Q: How would you describe the amount of coordination between the major contractors on the Iatan Unit 2 Project?

A: One of the best ways to describe this effort is through Exhibit A-1 of the Kiewit Contract, which is titled Division of Responsibility ("DOR"). This document is attached as Schedule BCD2010-3. It illustrates the level of coordination and turnovers between contractors during the Project. The entities referenced in the DOR include: KCP&L, Kiewit, Burns & McDonnell, ALSTOM and Kissick.

Q: What is the purpose of the DOR?

A: The DOR illustrates the procurement, engineering, construction, start-up and commissioning requirements for all systems related to the Balance of Plant work as divided between and among KCP&L, Kiewit, Burns & McDonnell, ALSTOM and Kissick. The DOR outlines the responsible party regarding the following work scopes: (1) purchase of material/equipment; (2) receipt of material/equipment; (3) foundation work; (4) installation of the material/equipment; (5) piping; (6) electrical wiring; and (7) start-up and commissioning. To the extent that these activities are divided among multiple contractors, the DOR indicates hand-offs or turnovers that must occur for a given scope of work on the Project. These turnovers (sometimes referred to as "Construction Turnovers," "Commissioning Turnovers," or "CTOs") have been critical to KCP&L's management of the schedule on the Iatan Unit 2 Project.

PROJECT SCHEDULE

Q: Can you provide an overview of the scheduling tools used by KCP&L for managing the Iatan Unit 2 Project?

A: The most basic tool we have utilized is the "Level 1 Schedule" chart that we include in the quarterly "Strategic Infrastructure Investment Status Reports," or simply the "Quarterly Reports," given to the Staff of the MPSC, the Office of the Public Counsel ("OPC") and the parties to the Stipulation and Agreement in Case No. EO-2005-0329 ("0329 S&A"). As Company witness Chris Giles testifies, we have also met with Staff, OPC, and representatives of the 0329 S&A signatories[1] on a regular basis ("Quarterly Meetings"), at which we review the Level 1 Schedule with the meeting's attendees. As an example, I have attached the Level 1 Schedule that KCP&L presented as part of the Quarterly Report for third quarter 2009. (Schedule BCD2010-4)

Q: Please describe the Level 1 Schedule.

A: This schedule was developed to provide a high-level overview of the Project's major work in a critical path format. It shows the key sequences of work on a sub-project basis for the following areas: (1) Boiler/Steam Generator/Selective Catalytic Reduction System ("SCR")/Pulverizer & Air Heater (the "Boiler Path"), which was primarily ALSTOM scope of work; (2) Powerhouse/Turbine (the "Turbine Generator Building Path"), which was primarily Kiewit's scope of work; (3) Air Quality Control Systems ("AQCS") including the absorber, fabric filter and ID fans (the "AQCS Path"), for which ALSTOM had the primary responsibility; and (4) the Unit 2 Balance of Plant, which is a series of ancillary systems such as the Coal and Limestone Handling, Water Treatment,

[1] All 0329 S&A signatories were given the opportunity to attend these meetings. However, not all 0329 S&A signatories attended every meeting.

Cooling Tower and miscellaneous other structures (the "Ancillary Balance of Plant Path"), which were procured and constructed from a number of different vendors. Our Project Controls Team prepares this Level 1 Schedule as a summary of over 15,000 detailed schedule activities. The Level 1 Schedule summarizes those activities through its series of yellow, blue and red arrows on the Level 1 Schedule. The flags that are shown in the Level 1 Schedule signify key milestones or events that occurred throughout the Iatan Unit 2 Project. These bars and flags on the Level 1 Schedule also refer to two sets of dates: the "planned" dates for an activity and the "actual" dates for an activity. The "actual" dates referenced, or the dates that reflect when actual events occurred, are accompanied by an "A".

Q: What is the genesis of the Level 1 Schedule?

A: My understanding is that during the first quarter of 2006, Burns & McDonnell, the Project Team and Schiff Hardin, LLP ("Schiff"), our project oversight team who has worked with us on project controls, procurement and compliance issues, developed a strategic schedule for the work that identified the key procurement dates needed for planning purposes. That strategic schedule was developed to provide a guideline to the Project Team for the major procurements and the Level 1 Schedule that KCP&L used as described above. Even though KCP&L ultimately developed a detailed, computerized Level 3 Schedule with over 15,000 activities for Iatan Unit 2, KCP&L used the Level 1 Schedule as a planning tool and for providing information to Staff and to our partners regarding the Project's status.

Q: How has the Project Team used the detailed Level 3 Schedule?

A: The Level 3 Schedule is one of the essential management tools on the Iatan Unit 2 Project. It encompasses all of the activities for the work performed by all of the contractors on site, who contributed their planned schedules at the outset of their work. Our Project Controls Team worked with the contractors to develop the Level 3 Schedule so that it reflects the proper sequence and duration for all of the work. The Level 3 Schedule is used in every discussion KCP&L has with the contractors on the Project.

Q: How was the Level 3 Schedule developed?

A: After the execution of the contract with ALSTOM in August 2006, ALSTOM began work on its detailed as-planned schedule that showed its plan for each portion of its work. Because of ALSTOM's importance to the Iatan Unit 2 Project, KCP&L needed ALSTOM to complete its as-planned schedule as a precursor to developing a full Project schedule. In the fourth quarter of 2006, our scheduling team began the process of integrating the baseline schedules of ALSTOM, Burns & McDonnell and the other on-site contractors into an overall computerized schedule network. This effort culminated in April 2007 when KCP&L's Project Controls Team issued the Iatan Unit 2 Project's "Baseline Schedule" that incorporated and integrated all of the work for the Project including engineering and procurement activities. This schedule also included placeholders for the unawarded work, much of which was ultimately awarded to Kiewit. Project Controls has been maintaining this Level 3 Schedule since that time, utilizing input from the contractors on a weekly basis to update the baseline schedule as the work is completed. The schedule has also formed the basis for the Iatan Unit 2 Project's

earned value system that is used for tracking the progress and productivity of the contractors.

Q: How has KCP&L used earned value to track the Iatan Unit 2 Project?

A: Company witness Kenneth Roberts described how earned value is used. Earned value is an extremely valuable tool for tracking large volumes of work and establishing forecasts for contractor performance. We used earned value to track the contractors' work and employed similar methods in the development of and tracking of the start-up schedule's activities. However, it is essential that the management team also monitor the project's schedule to ensure that the work is being done in the correct sequence. This becomes extremely important as a project nears completion. By the end of the construction period for Iatan Unit 2, we became more focused on the contractors' schedule adherence and completion of tasks.

Q: Which method did KCP&L and the contractors employ to track schedule adherence at the end of the project's construction period?

A: On the Iatan Project for both Units 1 and 2 KCP&L, ALSTOM and Kiewit agreed to a series of "Construction Turnover Dates" or "CTOs". As Company Witness Robert Bell testifies, "the CTOs are the key interface points between Kiewit, ALSTOM and KCP&L related to the sequence of events for completing construction, start-up, and commissioning activities for Iatan Unit 2." (Testimony of Robert N. Bell p. 7 ll. 14-16). The "CTO dates" were the dates for those key interface points. Thus, for the schedule of the work to be fully coordinated, the CTO dates required complete buy-in by all affected parties. Toward the end of construction, KCP&L continued to track earned hours but focused more intensely on the contractors' completion of CTOs.

MANAGEMENT OF THE MAJOR CONTRACTORS

Q: What have been some of the challenges for KCP&L on the Iatan Unit 2 Project regarding management of the major contractors?

A: A significant, ongoing challenge for the KCP&L management team has been maintaining a sound, working relationship with the project-level executives from ALSTOM, Kiewit, Burns & McDonnell and the other significant contractors on site. A related challenge has been working with the contractors to meet schedule and control costs.

Q: What has the Project Team done to manage the contractors' day-to-day performance on the Iatan Unit 2 Project?

A: The KCP&L Project Team has actively managed the contractors' work. Many of the techniques KCP&L employed on the Iatan Unit 2 Project were successfully used on Iatan Unit 1.

Q: What were some of the methods KCP&L used for actively managing the contractors' performance on Iatan Unit 1?

A: ALSTOM was the primary contractor whose work was critical to the Unit 1 Outage. As a result, KCP&L closely managed ALSTOM's work on a daily basis during the preparation for and performance of the work on the Unit 1 Outage. For example, the Project Team instituted a Plan of the Day meeting that held the contractors accountable for their performance against the planned schedule. We also had detailed, near-daily meetings with ALSTOM's project management team in which we discussed ALSTOM's earned value, productivity, completed and open tasks, rework and inefficiencies. ALSTOM's level of transparency regarding issues impacting its work significantly increased over the course of the Unit 1 Outage preparation period and the outage itself.

Additionally, we initiated a weekly meeting with the senior project management of ALSTOM, Kiewit, Burns & McDonnell and Kissick ("Senior Management Meetings"). The purpose of the Senior Management Meetings was to look ahead several weeks in the construction process to identify potential conflicts or other construction issues and achieve timely resolution. I believe that KCP&L's active engagement with the contractors resulted in mitigation of problems as they occurred during the Unit 1 Outage.

Q: Describe how you have transferred the same management techniques that were successful from the Iatan Unit 1 Project to the Iatan Unit 2 Project.

A: We have continued to engage the contractors, particularly ALSTOM and Kiewit, on a daily basis in discussions about optimizing the schedule and removing barriers to allow for full cooperation in the field. The Iatan Unit 2 Project's Management Team has maintained the schedule of regular meetings, including the Senior Management meetings and the Plan of the Day meeting, through the Iatan Unit 2 Project. In addition, we have required throughout the Iatan Unit 2 Project the same level of transparency of reporting from the contractors, and we have engaged in joint discussions regarding how the contractors can make continuous improvements in the field. During the critical construction phases of the Iatan Unit 2, we maintained a regular weekly meeting with the project-level management of ALSTOM, Kiewit and KCP&L during which Schiff Hardin, LLP, our project oversight team, and our Project Controls team made a joint presentation regarding key elements of the Project's earned value and schedule status. We have continued these types of meetings as the project has moved into the start-up and commissioning phase. These various meetings are open forums in which the contractors' field leads engage in discussion regarding the Project's progress, barriers and goals. We

also hold a weekly meeting focused on materials management at which each contractor and KCP&L must report the status of all material deliveries, installation and warranty issues. The level of cooperation and transparency we have maintained has aided us in meeting the challenges of the project's performance, including schedule issues that have been encountered. Maintaining KCP&L's relationships with the contractors at the Senior Management and Executive levels, through the active management of the contractors has resulted in reduced cost and greater cooperation in the field, and has eased resolution of commercial issues throughout the Iatan Unit 2 Project.

Q: Can you provide an example of KCP&L's active management of ALSTOM on the Iatan Unit 2 Project?

A: Yes, KCP&L and ALSTOM have worked through a series of issues related to problems detected in the welding of and the material used for the Iatan Unit 2 Project's boiler's waterwalls.

Q: What are waterwalls?

A: Waterwalls are the tube panels that form the furnace for a boiler. They are made from metal alloy tubes that are welded together with metal filler material to form a "wall." The tubes in the waterwalls carry steam that is heated by combustion in the furnace and must be capable of withstanding both high temperatures and pressures.

Q: **[redacted]**

A: **[redacted]**

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]**

Q: **[redacted]**

A: **[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]**

Q: What is the outcome of this investigation?

A: ALSTOM's metallurgical team has concluded that the boiler is fit for operation and does not require any changes to its operating parameters. KCP&L's experts agree that the boiler should perform as designed under operation, though there may need to be certain precautions taken when the boiler is off-line so as not to damage the boiler tubes when the unit is at temperatures below 180 degrees Fahrenheit. Further, KCP&L and ALSTOM have increased the focus on water quality needed to supply the boiler during start-up and have taken all reasonable measures to ensure that the water supplied does not damage the boiler tubes. As an example, ALSTOM and KCP&L have engaged a third-party tester of water quality. Thus far, these measures appear to have been successful though the performance of T-23 in the boiler remains the project's most significant risk.

Q: How has KCP&L's management of ALSTOM facilitated the investigation of the various problems you described with the waterwall panels?

A: Had it not been for KCP&L's active management of ALSTOM in which KCP&L required ALSTOM to be transparent about its problems in the field, it is likely that neither ALSTOM nor KCP&L would have obtained the knowledge necessary to fully investigate these problems in a timely manner. **[redacted]**

KIEWIT CONTRACT

Q: Do you recall the strategy that KCP&L had planned to employ for the Balance of Plant work at the time that you became the Project Director for the Iatan Unit 2 Project?

A: Yes. The original contracting strategy for the Balance of Plant work was on a multi-prime basis.

Q: What does "multi-prime" mean?

A: A multi-prime contracting strategy is when an owner contracts directly with several different contractors of different disciplines to perform work on the same project at the same time rather than contract with a single "general" contractor for all of the work. Under a multi-prime strategy, the owner may function as the coordinator of the various prime contractors, or hire a construction manager to do all of the coordination on its behalf.

Q: In your experience, what are the advantages of a multi-prime contracting strategy over other contracting strategies?

A: The primary benefits to a multi-prime contracting strategy can include the following: if the project is well run, a multi-prime project is potentially less costly due to eliminating additional contractor profit, overhead and maybe excess contingency depending on the pricing method used; the owner's project team has greater degree of control of schedule and progress and retains the ability to determine the scheduling priorities; the owner's project team has significant control of key data regarding the project's progress and can instill a high level of transparency over the work; and the owner's engineer functions on

the owner's behalf, and is an important advocate in maintaining control over the design and construction process.

Q: What are the potential downsides of a multi-prime project?

A: The most significant downside is that the owner accepts greater risk due to accepting full coordination of construction work and responsibility for design. The owner also takes on risk for the availability and quality of the labor force, safety and site management, materials management and project controls.

Q: How did KCP&L assess the risk of labor availability for the Iatan Unit 2 Project?

A: In February 2006, as part of its development of the Iatan Unit 2 Project's estimate, Burns & McDonnell commissioned an independent consultant to assess the likely labor conditions during the construction phase of the Iatan Unit 2 Project.

Q: Who was Burns & McDonnell's consultant?

A: Gary Schumacher of Schumacher Consulting LLC was Burns & McDonnell's consultant. Company witness Daniel Meyer testifies regarding Schumacher's February 14, 2006 report which is attached to Mr. Meyer's testimony as Schedule DFM2010-5.

Q: What was the substance of Schumacher's assessment of local labor conditions?

A: Mr. Schumacher identified a high risk around craft labor availability and the high potential for labor shortages within certain trades. Mr. Schumacher identified a number of competing projects, both in the utility industry and local commercial construction that would be competing with the Iatan Unit 2 Project for craft labor resources. As an example, Mr. Schumacher identified a potential shortage of pipefitters. Mr. Schumacher noted that Kansas City Local 533 for the Pipefitters Union only employs 600 craft workers which were projected to be insufficient for the needs of the planned local

projects. During the Iatan Unit 2 Project's projected peak period of fall of 2008 to spring of 2009, Mr. Schumacher predicted that the Project would need as many as 800 pipefitters. Based on other scheduled projects for the area, the Local 533 was predicted to need 200-250 craft workers for other work. As a result, Mr. Schumacher concluded that there was a potential shortage of 400 pipefitters at a time when Iatan's construction on both units would be peaking.

Q: Were you familiar with the labor market in Kansas City in 2006?

A: Yes. I have had a long association with the locals in Kansas City. After I joined the Iatan Unit 2 Project in June 2006, I became the primary interface with the Kansas City Building Trades.

Q: Does Mr. Schumacher's report comport with your recollection of the labor market in Kansas City at this time?

A: Yes. I believe Mr. Schumacher accurately described the market at that time. There was a lot of uncertainty expressed by the unions regarding labor availability during the 2006 to 2008 time frame.

Q: What experience do you have with multi-prime construction projects?

A: I have been involved in a number of plant outages and upgrades that employed a multi-prime contracting method. The most notable multi-prime project in my career at KCP&L was the rebuilding of Hawthorn Unit 5 after an explosion on February 17, 1999 destroyed the existing boiler. However, while Hawthorn Unit 5 was a large and successful project, it was entirely schedule driven. The construction cost of rebuilding the plant was significantly less than the cost of replacement power necessary while the plant was non-operational. As a result, decreasing the construction schedule duration took precedence

over minimizing the construction costs. Moreover, the Balance of Plant scope was not nearly as large as on the Iatan Unit 2 Project because while we were replacing the boiler and adding the AQCS, the turbine generator building was intact. Nonetheless, I have had quite a bit of experience with multi-prime projects and the specialty contractors typically involved in such projects. I am very familiar with the companies in the Kansas City area that perform specialty work, and have probably been involved with each and every one of the larger Kansas City contractors over the course of my career.

Q: Do you know why the Iatan Unit 2 Project's plan was to proceed on a multi-prime basis?

A: My understanding is that the multi-prime method was viewed as preferable for a few notable reasons. First, we had been successful at Hawthorn Unit 5 using several small to medium sized, Kansas City-based specialty contractors for Balance of Plant work. Second, it was recommended by Burns & McDonnell that we proceed with a multi-prime strategy to expedite procurement by converting design packages into construction packages as soon as possible as they were completed. Third, my understanding at that time, which is corroborated by the testimony of Company witness Steven Jones, is that there was no interest among the handful of large general contractors who were capable of performing the Balance of Plant work for the Iatan Unit 2 Project. So, the multi-prime method was not only the preferred method at that time, it may have been our only option in the absence of interest by a major contractor like Kiewit, Fluor, Bechtel or others of that nature.

Q: By the end of 2006, was the Company still intent on performing the Balance of Plant on a multi-prime basis?

A: Yes. With the ALSTOM contract in place, many of the other long-lead items procured and the scope better defined, the Project Team was able to prepare the cost estimate that ultimately became the Project's Control Budget Estimate ("CBE") and was approved by the KCP&L Board of Directors in December 2006. However, as the Project Team developed the Control Budget Estimate, the risks of coordinating all of the multiple contractors were clear.

Q: How did the Project Team come to this realization?

A: As we worked through refining the estimate, and in particular the contingency for the Control Budget Estimate, KCP&L realized that it would not only have the inherent risk of coordinating the multiple specialty contractors but could potentially also have problems getting the local contractors to competitively bid the work.

Q: Why is that?

A: As I previously testified, concerns regarding the local labor market had been raised by Mr. Schumacher and others as we were developing the Control Budget Estimate in December 2006. My concern was these market conditions would limit the availability of the local specialty contractors when the design was completed to bid the different packages for the Iatan Unit 2 Project.

Q: What made you think that there would be difficulty competitively bidding the Balance of Plant packages?

A: KCP&L had a lack of interest from multiple qualified contractors on the very first of the Balance of Plant packages, the foundations and substructures contract that we ultimately

awarded to Kissick. As is reflected in the Recommendation to Award Letter for this procurement (Schedule BCD2010-5), Kissick was the only responsible bidder for the work, because the other companies in town who do concrete work refused to bid the work on a fixed-price or unit-priced basis. We then had to satisfy concerns from the Executive Oversight Committee that Kissick had the wherewithal as a company to perform such a large project. **[redacted]** Kissick wound up performing extremely well on the Iatan Unit 2 Project, though I was concerned, as were others, that this lack of bid interest could repeat itself for later bidding of key electrical and mechanical packages resulting in a commercial disadvantage.

Q: How did these concerns regarding the Balance of Plant work impact the Control Budget Estimate?

A: The contingency for the CBE was reviewed in light of these risks and **[redacted]**

Q: Was there a point at which the contract methodology for Balance of Plant work changed?

A: Yes. Within six months of completion of the CBE, the Executive Oversight Committee, based on the recommendation from the Project Team, decided to change course and contract with Kiewit for the Balance of Plant work.

Q: How did Kiewit enter the picture?

A: My understanding before I came to the Iatan Unit 2 Project was that Kiewit had expressed some lukewarm interest in the Iatan Unit 2 Project though later withdrew even that amount of interest because of its large backlog of work. On December 21, 2006, I was informed by Kiewit's Steve Logue of Kiewit's renewed interest in performing work on the Iatan Unit 2 Project. Mr. Logue explained to me that a project that Kiewit had contracted to perform in the area had been deferred, creating a team of people who could be re-assigned immediately to the Iatan Unit 2 Project. Kiewit proposed to assemble a team to evaluate and prepare an estimate for the remaining Balance of Plant work scope for the Iatan Unit 2 Project. Kiewit asked that KCP&L and Burns & McDonnell provide resources for developing this estimate.

Q: What was your reaction to Kiewit's offer?

A: I told them that I would have to inform the Executive Oversight Committee of Kiewit's offer and that I would get back to them.

Q: Did you inform the Executive Oversight Committee of Kiewit's interest?

A: Yes. On January 10, 2007, as part of our presentation to the Executive Oversight Committee, we provided the members with a summary of the then-current Balance of Plant contracting strategy, a description of the contacts with Kiewit regarding the Project including the offer to create an estimate and pros and cons of contracting with Kiewit. (Schedule BCD2010-6)

Q: At that time, what did you see as the advantages to proceeding with Kiewit's estimate?

A: The integration of the multi-prime specialty contractors under one umbrella would reduce KCP&L's coordination risk. As a result, one of the advantages to Kiewit's participation in the Iatan Unit 2 Project would be the risk-shifting to a large experienced international contractor with a depth of construction management resources.

Q: What did the Executive Oversight Committee decide on January 10, 2007?

A: The Executive Oversight Committee agreed to accept Kiewit's offer to prepare an estimate for the Balance of Plant work and authorized me to contact Kiewit and make arrangements for it to begin.

Q: What happened next with respect to Kiewit's estimate preparation?

A: Kiewit met with our Project Team and Burns & McDonnell's lead engineers, and Burns & McDonnell provided Kiewit with drawings, specifications and other documents that Kiewit needed for performing its estimate. Kiewit, the Project Team, and Burns & McDonnell engaged in ongoing dialogue to address questions that arose through mid-February 2007.

Q: Do you recall when Kiewit completed its Balance of Plant estimate?

A: Yes. Kiewit completed the estimate on April 12, 2007. I scheduled a special meeting of the Executive Oversight Committee for the following week and on April 16, 2007, Kiewit made a presentation to the Executive Oversight Committee members, members of the Project Team, and Schiff.

Q: Do you recall the presentation that Kiewit made at that meeting with the Executive Oversight Committee?

A: Yes. Company witnesses William Downey and Daniel Meyer, who also were in attendance, testify regarding this meeting and I agree with their testimony. Kiewit's team was well prepared and was very knowledgeable about the risks that KCP&L was facing with the Iatan Unit 2 Project. Its proposal included the advantages of having Kiewit on the Project and details of its cost proposal.

Q: Was there any one aspect of Kiewit's presentation that you found most interesting?

A: Yes. I found Kiewit's approach to labor management most interesting. Kiewit's team spoke at length regarding its proven ability to manage labor in the field. Representatives from Kiewit explained how Kiewit plans its work and assembles "work packs" that are prepared in advance of craft going to the field. Kiewit presented a concrete proposal for how it intended to staff the Project and how it would attract labor. Kiewit also spoke of its proposal to "co-locate" with Burns & McDonnell to review the engineering product as it was being released so that it could work with the engineers on optimizing the plant's design for constructability purposes.

Q: Why did you focus on these points?

A: Because in our analysis of the Balance of Plant work going-forward, we had identified labor management, labor availability, coordination of the work in the field, and completion and integration of the final design as among the most significant risks to the Iatan Unit 2 Project at that time.

Q: What was the next step with Kiewit's proposal?

A: I recall that David Price joined KCP&L on May 1, 2007 as the Vice President of Construction. Mr. Price was very interested in pursuing a proposal from Kiewit's management on how to proceed. I recall that Mr. Price, Mr. Stephen Easley, the former Senior Vice President of Operations, and Mr. Terry Bassham, our Chief Financial Officer, engaged Kiewit's executives in some initial conversations regarding the next steps. I believe it was at this initial meeting in which KCP&L's team proposed, and Kiewit conceptually accepted, taking the risk for its labor productivity for its work. As Company witness Daniel Meyer testifies, we then engaged in a months-long process of vetting Kiewit's estimate.

Q: What was the result of the vetting of Kiewit's estimate?

A: Company witness Daniel Meyer testifies to the final outcome. In general, we were satisfied that Kiewit had provided a good estimate of the construction costs necessary to perform to the design at that time. There were some differences between Kiewit's estimated man-hours and quantities and those developed by Burns & McDonnell that all parties knew would not be fully reconciled until the production of final engineering documents.

Q: Did Kiewit's estimate for the work change during the vetting process?

A: Yes. Kiewit's original estimate included engineered materials and commodity items that KCP&L had already purchased or intended to purchase, so these were deleted from the cost estimate. In addition, as discrepancies (either additions or deletions) were found in the estimate during the vetting process, Kiewit adjusted its numbers accordingly. However, it is important to note that the design basis for Kiewit's estimate was the design

as it existed as of the first quarter of 2007. Therefore, Kiewit's estimate was prepared on the basis of approximately 20 percent complete design documents.

Q: Are you familiar with the amount of the final estimate from Kiewit?

A: Yes. Kiewit's final estimate was **[redacted]** for both Iatan Unit 1 and Unit 2. That was the number that was incorporated into Kiewit's contract.

Q: What was the portion of Kiewit's estimate that related to the Iatan Unit 2 Project?

A: I believe the Iatan Unit 2 portion was **[redacted]**.

Q: Do you believe the award of the contract to Kiewit was timely?

A: Yes.

Q: What is the basis for your opinion?

A: First of all, we had previously mitigated the needs for Balance of Plant work scope needed to maintain the schedule with the early contract awards for Kissick, Pullman, and site clearing. Second, at the time that we entered into the Limited Notice to Proceed ("LNTP") with Kiewit in June 2007, we released Kiewit to perform any work that was essential to keeping the Project moving and support the construction schedule while we completed the negotiations. By the time that we completed the contract in November 2007, Kiewit was able to hit the ground running on all other work in its contract.

Q: Do you believe that KCP&L has prudently managed Kiewit work on the Iatan Unit 2 Project?

A: Yes, I believe that we have prudently managed Kiewit's work.

Q: Did KCP&L make the right decision to award Kiewit the Iatan Unit 2 Balance of Plant work in 2007?

A: Yes. It was the best possible decision for the Iatan Unit 2 Project at that time.

Q: What is the basis for your opinion?

A: As I testified earlier, the risks of proceeding with a multi-prime Balance of Plant contracting strategy were becoming very apparent, and those risks carried significant uncertainty. My greatest concerns regarding the multi-prime approach were our ability to manage and coordinate this work, whether there would be adequate labor forces to support construction, whether the specialty contractors in Kansas City would be too busy with all of the work planned and proceeding in the area to competitively bid the Iatan Unit 2 Project, and whether these smaller contractors had the level of sophistication necessary to plan and execute such a large project. Kiewit's presence on the Iatan Unit 2 Project mitigated these and other risks that were known at that time.

Q: Do you believe that the shift in the strategy from multi-prime to Kiewit performing the Balance of Plant work resulted in increased costs to the Iatan Unit 2 Project?

A: In my opinion, I believe the cost of performing the work on a multi-prime basis may have significantly exceeded Kiewit's cost and the schedule would have been at risk throughout the Project.

Q: What is the basis for your opinion?

A: First, as Company witness Mr. Meyer testifies, the design for the Balance of Plant work matured significantly from the time of Kiewit's estimate in February 2007 to February 2009. The design work was approximately 20-25 percent complete at the time of Kiewit's estimate which formed the basis of Kiewit's contract, and the quantities and complexity of performing the work changed as the design matured. To the extent that Kiewit's costs increased due to design maturity, these increases would have been the same regardless of who was doing the work (*e.g.*, Kiewit or multiple small contractors).

Second, the risks that I discussed related to managing the Balance of Plant work on a multi-prime basis were very real concerns. I know the level of sophistication of the contractors in this area from my many years at KCP&L and the associated outage and other construction work that I participated in during that time. We used a number of the best local contractors for the Hawthorn Unit 5 project. While we could have proceeded down the same path for Iatan Unit 2, Kiewit's performance of the Balance of Plant work mitigated the inherent risks to schedule, budget and safety that come with using multiple specialty contractors in a multi-prime arrangement.

Third, I believe that we needed a contractor of Kiewit's reputation and substance to deal with a very tight labor market. I was KCP&L's primary interface with the building trades in Kansas City and was very attuned to the labor situation throughout the Project. I knew that we would be competing with a number of other large industrial, commercial and utility projects in the 2007 to 2010 time frame. In addition, the rebuilding of the Gulf Coast in the aftermath of Hurricanes Katrina and Rita had further thinned the ranks of mobile union labor. If in Kiewit's place, we had a number of small contractors competing with each other for the same labor, it is likely that labor productivity and availability would have been the single-most important issue on the Iatan Unit 2 Project. Instead, as was reflected in our Quarterly Reports, these were risks that were mitigated throughout the Project.

These and other reasons are documented in the Justification to Award to Kiewit that is attached to Company witness Steven Jones' testimony as Schedule SJ2010-3, and they provide the basis of my opinion.

PROJECT DEFINITION REPORT

Q: What is a Project Definition Report ("PDR")?

A: It is a document prepared by an owner's engineer to examine the broad outlines of scope and viability for a potential future project.

Q: Was there a PDR prepared for Iatan Unit 2?

A: Yes. The original PDR was prepared by Burns & McDonnell in August 2004 and provided to KCP&L's John Grimwade on September 9, 2004 (Schedule BCD2010-7). There were two supplements to the PDR that Burns & McDonnell prepared after I joined the Iatan Unit 2 Project.

Q: What was the purpose of the PDR?

A: The PDR, as described in the September 9, 2004 cover letter from Burns & McDonnell to KCP&L, discussed the possible expansion of the Iatan facility to include an 800 MW (net) coal plant, and included evaluations regarding permitting, economics of major technology components, integration of the project into KCP&L's Integrated Resource Plan and it provided for internal budget appropriations. It included sections regarding general design criteria, scope of work and general assumptions for technology, identification of certain commercial terms Burns & McDonnell thought to be advisable, project cost estimates and a high level schedule.

Q: How would you term the level of design in the original PDR?

A: A PDR or document of that type is a pre-cursor to even conceptual design work and is only highly representative of the broad outlines of the project.

Q: Did Burns & McDonnell identify risks to the potential cost of the Iatan Unit 2 Project in the PDR?

A: ** [redacted] **

Q: How did Burns & McDonnell advise KCP&L to mitigate these risks?

A: Burns & McDonnell advised KCP&L to determine whether the Project was economically viable and, assuming that it was viable, begin engineering work as quickly as possible.

Q: How much contingency was included in the PDR estimate?

A: Burns & McDonnell included ** [redacted] ** as part of its PDR cost estimate. ** [redacted] **

Q: How did Burns & McDonnell characterize an **[redacted] contingency for this project in the PDR?**

A: Burns & McDonnell stated that an **[redacted]** contingency was adequate to cover normal deviations in pricing and normal deviations in the assumptions used to develop the project costs. **[redacted]**

Q: What was the basis for Burns & McDonnell's PDR cost estimate?

A: **[redacted]**

Q: How would you characterize the estimate that Burns & McDonnell provided in the PDR?

A: Company witness Daniel Meyer testifies that the cost estimate embedded in the PDR was very preliminary, at best, and I agree with that testimony. The design was conceptual at this time, and the concept in the PDR was for a plant that was substantially different than

the project KCP&L ultimately chose to build. Also, the proposed Project duration upon which the estimate was based could not be met, because there was no longer 60 months remaining to design, procure and construct the Project if the goal was to meet a Provisional Acceptance in the summer of 2010. **[redacted]**

Q: When did Burns & McDonnell issue an update to the PDR?

A: There were two supplements to the PDR, the first of which was a siting study that Burns & McDonnell completed after the initial PDR was completed. The second supplement contains a full reassessment of the changes to the Iatan Unit 2 Project's definition as of June 28, 2007.

Q: Why did Burns & McDonnell prepare this second supplement to the PDR?

A: It was at KCP&L's request. The Project had undergone significant change since the PDR was created and those changes were embedded in the Control Budget Estimate that was approved by the Board of Directors in December 2006. I thought it was necessary for the PDR to be updated to match the scope and complexity of the project that KCP&L had chosen to build. Mr. Easley and I spoke with Burns & McDonnell's project manager about the need to update this information, and they agreed to provide it.

Q: What were some of the major changes in the scope of the Iatan Unit 2 Project from August 2004 to June 2007?

A: **[redacted]** The changes included: (1) increased unit capacity from 800 MW to 850 MW; (2) increased steam temperatures from 1050°F to 1080°F; (3) postponement of the schedule by nine

months; and (4) scope refinements including: a deaerator, storage tank and feedwater booster pumps to enhance water control; modifications to the coal handling system to comply with PSD permit; carbon injection system to control mercury; sizing of emissions control equipment in concert with permit; added liner to solid waste landfill; combined control room facility; upgrades to the transformer connection; change to chimney liner materials; and other changes.

Q: Did this document result in any changes to the Control Budget Estimate?

A: No. Schedule BCD2010-8 merely records the process of updating the design basis for Control Budget Estimate.

PROJECT SCHEDULE STATUS

Q: Are you aware of the current projection for the Iatan Unit 2 Project's in-service date?

A: Yes. As Company witness Robert Bell testifies, the current projected in-service date for Iatan Unit 2 is forecasted to occur during the fourth quarter of 2010.

Q: Are you familiar with how this projection was developed?

A: Yes. Company witness Robert Bell testifies regarding the Risk Assessment the project team developed based upon risks that are normally associated with start-up of a plant the size and complexity of Iatan Unit 2 (Schedule RNB2010-1).

Q: Were you involved in the development of the Risk Assessment?

A: Yes. I was responsible for developing portions of it as well as vetting of the results.

Q: Do you agree with the results of the Risk Assessment?

A: Yes, I believe the Risk Assessment has adequately identified the most likely issues that could impact the in-service date for Iatan Unit 2.

Q: Do you believe that the risks identified in the Risk Assessment were appropriately captured in the 2010 cost reforecast?

A: Yes.

Q: Was Staff informed of KCP&L's conclusions regarding the reforecast of the project's schedule and cost?

A: Yes. Representatives from KCP&L met with the Staff on April 15, 2010 in the Staff's offices in Jefferson City, Missouri. I walked members of Staff through the analysis we have performed and how it was prepared.

IN-SERVICE CRITERIA FOR IATAN UNIT 2

Q: What did the 0329 S&A provide regarding in-service criteria for Iatan Unit 2?

A: Paragraph IIIB1(l) of the 0329 S&A states "KCPL, Staff And Public Counsel have agreed to the in-service criteria in Appendix H for the below list of existing generating units, the future Iatan 2 coal unit, and the future wind units in accordance with the requirements specified under Section 393.135 RSMo 2000." Appendix H contains the technical requirements of the coal plant in-service test criteria. (See attached Schedule BCD2010-9). KCP&L, Staff and OPC have reached agreement concerning the in-service criteria for Iatan Unit 2. The criteria details are attached as Schedule BCD2010-10.

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 Tariffs to Continue the Implementation of Its Regulatory Plan	)))	Docket No. ER-2010-____

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 Iatan Project Director.

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 forty-three (43) 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

Brent C. Davis

Subscribed and sworn before me this 20th day of May, 2010.

Stephanie Kay McCorkle

Notary Public

My commission expires: July 28, 2013

STEPHANIE KAY MCCORKLE
Notary Public - Notary Seal
State of Missouri
Commissioned for Clay County
My Commission Expires: July 28, 2013
Commission Number: 09451858

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 BCD2010-1

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.

Schedule BCD2010-2

SCHEDULES BCD2010-3 through BCD2010-8

THESE DOCUMENTS CONTAIN HIGHLY CONFIDENTIAL INFORMATION NOT AVAILABLE TO THE PUBLIC