Exhibit No.:	
Issue:	Supply Plan Maintenance Expense Normalization
Witness:	F. Dana Crawford
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

F. DANA CRAWFORD

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
September 2008

"[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

F. DANA CRAWFORD

Case No. ER-2009-____

Q: Please state your name and business address.

A: My name is F. Dana Crawford. My business address is 1201 Walnut, Kansas City, Missouri 64106-2124.

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

A: I am employed by Kansas City Power & Light Company ("KCP&L") as Vice President, Plant Operations.

Q: What are your responsibilities?

A: My responsibilities include the direction of the operation and maintenance of the fossil-fuel generating stations of KCP&L and Aquila, Inc. dba KCP&L Greater Missouri Operations Company ("GMO") , including their support and construction services.

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

A: I graduated from the University of Missouri-Columbia with a degree in Civil Engineering. I also have a Master of Business Administration degree from DePaul University. I joined KCP&L in 1977 as a Construction Engineer on the Wolf Creek Nuclear Plant project. In 1980, I was promoted to Manager, Nuclear and promoted to Director, Nuclear Power in 1983. Following completion of Wolf Creek, I became Manager, Distribution Construction & Maintenance, in 1988 and Manager, Customer Services, in 1989. In 1994, I became Plant Manager of the LaCygne Generating Station. I was promoted to my current position in March of 2005.

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

A: Yes, I testified before the MPSC in KCP&L's rate case concerning the Wolf Creek Nuclear Generating Station and in the case pertaining to the acquisition of Aquila, Inc. by Great Plains Energy Incorporated. I also submitted testimony in KCP&L's 2006 rate case in Case No. ER-2006-0314 and 2007 rate case in Case No. ER-2007-0291.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is twofold. First, I will provide historical information concerning KCP&L's plant operations and outline the steps KCP&L needs to take to continue the successful operation of its generation facilities. Second, I will describe the normalization of maintenance expenditures included in this proceeding.

I. BUSINESS PLAN

Q: Please describe KCP&L's historical operation of its generating units?

A: KCP&L has had significant success in the operation of its generating units. The net generation produced by KCP&L's existing coal fleet has increased significantly in recent years. During the past five years (both annually and in total), net megawatt-hour production from the coal units has reached the highest levels in KCP&L's history. In other critical performance areas, the coal fleet's equivalent availability has also increased and the total production costs of the coal fleet have remained at the very lowest levels both regionally and nationally.

Q: What will be necessary for KCP&L to continue this success?

A: There are two primary areas that will be critical. First, the continuing work force turnover must be effectively managed. The necessary workplace culture, management talent and technical skills must be provided to maintain and operate the existing and future generating assets at high levels of performance.

Secondly, ongoing performance improvements will be needed to continue to deliver increased levels of output from the existing aging generating assets while integrating the new environmental equipment into plant operations.

Q: Please describe the challenges that KCP&L faces regarding the generating station workforce?

A: KCP&L has a very experienced workforce for its generating stations, many of whom were hired at the time of construction of the units and are now nearing retirement age. In fact, within the next five years, over 23% of the fossil station management employees and almost 19% of the fossil station bargaining unit employees will be eligible for retirement. Approximately 15% more of the employees in both groups will be eligible for retirement within ten years. Because of the potential retirements of so many experienced employees, KCP&L will have significant ongoing recruitment, hiring and training efforts for the needed replacement employees. In addition, KCP&L will incur not only the increased costs of "on-boarding" large numbers of new employees, but also the costs to ensure that sufficient "overlap" and "knowledge transfer" training time will be available with the experienced employees before they leave.

Q: **What is KCP&L's plan to address these workforce challenges?**

A: There are a number of ongoing efforts in various areas. First, KCP&L has introduced a corporate-wide "winning culture" initiative to improve employee engagement and accountability in the business. This has involved efforts such as leadership development and training programs, increased emphasis on communication throughout the organization and encouragement of learning and growth opportunities at all levels. As the effects of the "winning culture" are felt, it will have a direct benefit for the recruitment and hiring of new employees as well as the retention of existing employees. In addition, KCP&L is continuing development of a Strategic Workforce Plan. This will provide a comprehensive succession plan that integrates all areas of the generation workforce planning, including projected retirements, management development and training needs, craft skill requirements, apprentice training durations, operator training needs, and recruitment and hiring lead times.

KCP&L is also enhancing its management training and development programs. In particular, KCP&L is emphasizing training for new first-level supervisors. Both craft apprentice and operator training programs are also receiving a great deal of attention. New and ongoing craft apprentice classes are in progress. KCP&L has evaluated the operator training processes and determined that additional trainers will be needed to support the increased volume of operators requiring both initial and refresher training. Since last year, KCP&L has added five "central staff" positions to enhance procedure development and training enhancement. KCP&L has increased the "off-shift" use of the existing unit-specific training simulators at each plant site. KCP&L has added additional support for efforts to recruit both skilled and entry-level new employees.

Q: What is KCP&L doing to address performance improvements needed to maintain high levels of output from its existing generating assets?

A: There are a variety of performance improvement projects focused in four key areas. The first area involves process improvement projects such as the Electric Power Research Institute ("EPRI") Plant Reliability Optimization ("PRO") process that has been implemented at LaCygne. The purpose of the PRO process is to facilitate moving plant maintenance work from a reactive mode to a proactive (or planned) maintenance strategy. The PRO process also provides a means to communicate and share best practices on a consistent basis between plants. For example, by using the PRO maintenance basis and root-cause analysis, equipment breakdown information at one location can easily be discussed with the other plant sites. A key strategy in the process improvement effort is the increased utilization of industry collaboration opportunities to share experiences and operating practices with other utilities. Since last year we have put together a team of employees that represent all of the coal fired plants to help implement this process. The team attended this year's EPRI PRO user's group meeting in July. Additionally, we contracted with EPRI to perform an Operations and Maintenance Audit at our LaCygne Station. This audit was conducted in August of this year and will be the basis of a 3-day strategy meeting involving all the plant managers and the newly established PRO team. The purpose of the strategy session will be to identify improvement opportunities, establish processes to move toward best practices, identify the resources needed to accomplish the improvements, and establish a time line for the goals.

The second major area of performance improvements relates to outage planning and work execution. As the cost of a lost day of production has increased, the focus of outage management has moved from one of cost control to that of schedule control. The goal is to minimize the outage durations while still accomplishing all the work necessary to operate the unit until the next scheduled outage. KCP&L continues to focus on developing more comprehensive integrated outage schedules that it can analyze to determine the shortest schedule well in advance of the outage. This year, KCP&L plans to staff an outage management group to further assist in this area. Another major component of maintenance planning is the development of standardized work packages. KCP&L is working to develop standardized work packages for maintenance at all of its generating stations. Having pre-planned work packages greatly improves crew productivity by having all the information and material necessary to do the maintenance task ready when the work is assigned. This year KCP&L will be implementing a new work scheduling tool at all of the coal-fired facilities called Planning and Scheduling Tool Assistant ("PASTA"). The goal of the tool is to enhance our ability to plan and organize our routine maintenance activities.

The use of technology is the third significant area of performance improvement initiatives for KCP&L. For a number of years, KCP&L has utilized dedicated predictive maintenance teams at each plant site to gather data (vibration, oil sampling, thermography, sonic testing, etc.) to proactively look for early warning signs of possible equipment failures. These efforts have been successful and are a key component of the PRO process. KCP&L has installed a new technology application called "Smart Signal" on each KCP&L generating unit. "Smart Signal" is a proprietary process that takes real-time plant operating data and feeds it into a model that compares it to "normal" conditions. Any deviation can be an indication of an equipment problem needing attention. "Smart Signal" is also a backup tool that can assist newer employees during trouble-shooting activities. We are currently in the process of updating our current equipment models and training personnel on utilization of the process. Plans are to complete this process in early fourth quarter 2008.

The "Pi" data historian that is part of each unit's Distributed Controls System is another technology utilized to detect abnormal trends that could indicate equipment or operational problems. Data from the Pi historian can be automatically trended and plotted against other related trend data to highlight concerns.

Each KCP&L unit has a plant-specific operations simulator for operator training. Evaluations are underway to expand the use of these simulators to accomplish increased operator training during off-shifts. The simulators are also proving valuable in allowing trial runs of proposed changes in operating procedures or practices.

The fourth major area of plant improvements involves upgrades or retrofit projects to the existing stations. These projects may be necessary for a number of reasons such as aging plant components reaching the end of their useful life and projects to increase the efficiency of the plant. With the age of the KCP&L generating stations, there are numerous components that have reached the end of their useful lives and are required to be changed out. These change-outs could be for safety reasons or to maintain the existing output and reliability of the plants. As an example the following projects are scheduled for 2008: (1) replacement of the Montrose Unit 1 mud drums; (2) re-tubing of the Montrose Unit 1 condenser; (3) replacement of the blades and vanes on Hawthorn Unit 6; (4) replacement of the Hawthorn Unit 5 low pressure turbine seal strips; (5) replacement of the generator step-up transformer on LaCygne Unit 1; (6) replacement of the

Horizontal Reheats and the Primary Superheat on LaCygne Unit 1; and (7) upgrade of Iatan Unit 1 HP/IP turbine and generator stator rewind. The replacement of aging components will result in greater unit efficiency. This is a very beneficial opportunity from both an economic and an environmental viewpoint.

Q: Can you give an update on the accomplishment of the newly established Operations and Maintenance Programs department?

A: Yes KCP&L established an Operations and Maintenance Programs department in 2007 that is leading or supporting these previously mentioned performance improvement areas. This department has grown from 13 employees in 2007 to a current staff of 23 employees with a goal of 28 employees by the end of 2008. Future projects for this group include development and implementation of an electronic log process to improve communication, enhancements to simulator capability through software upgrades, improvements to training through increased program structure and improved presentation, and documentation of stores and maintenance processes.

Q: Please discuss KCP&L's upgraded flow accelerated corrosion program.

A. After the main root cause of the incident at the Iatan 1 generating station was determined to be flow accelerated corrosion, the company significantly upgraded its flow accelerated corrosion program. Currently, a small part of the program also includes American Society of Mechanical Engineers ("ASME") B31.1 Chapter 7 documentation compliance. The latest version of the ASME B31.1 Power Piping Code provides recommendations for implementing a program to assess and document the condition of the components of a covered piping system. The covered piping systems include four-inch normal pipe size and larger main steam, cold reheat, hot reheat and feedwater piping systems and four-inch normal pipe size and larger systems that operate above 750 degrees F or above 1,025 psig. I further discuss this program in the maintenance normalization section of my testimony.

II. MAINTENANCE NORMALIZATION

Q: Are you sponsoring any adjustments to the test year cost of service in this filing?

A: Yes. I am sponsoring Adj-26a (HC), Maintenance Normalization-Production, and Adj-52a, Maintenance Annualization of a full year of service of the LaCygne Unit 1 Selective Catalytic Reduction ("SCR") system, and Adj-52b, Maintenance Annualization of the Iatan Unit 1 environmental equipment (SCR, Wet Scrubber and Baghouse). These adjustments are also included in the Summary of Adjustments attached as Schedule JPW-2 in the Direct Testimony of KCP&L witness John P. Weisensee.

Q: Why is the first adjustment necessary?

A: Certain significant maintenance activities at KCP&L's generating units, such as major boiler or turbine overhauls do not occur annually, but rather on a periodic cycle that may occur every two to seven years, depending on the type of maintenance. It is therefore necessary to adjust the actual costs incurred during the test year to a "normalized" level of maintenance expense that considers the periodic timing of major overhauls and arrives at a more levelized amount of annual expense.

Q: Are there differences between how KCP&L addressed the maintenance steam accounts (510-514) and the other productions accounts (551-554)?

A: Yes. The steam accounts (510-514) include the scheduled boiler and turbine outages on the coal-fired generating units. These outages can cause a very large variance in non-KCP&L labor maintenance expense, as much as several million dollars, therefore

KCP&L is proposing the use of a seven-year average indexed to January 1, 2009 dollars for these accounts. The other production accounts (551-554) would not normally have the large variances in non-labor maintenance expense and therefore KCP&L proposes using the 2007 test year dollars as the basis for these accounts with two adjustments, one to remove the impact of a one-time payment received from **[redacted]** during 2007 and one to escalate the resulting amount to January 1, 2009 dollars.

Q: Are there other factors supporting KCP&L's proposal to use the test year of 2007 for the other production accounts (551-554)?

A: Yes. KCP&L added five simple cycle combustion turbines ("CT") (West Gardner 1-4 and Osawatomie 1) in 2003. The maintenance of the units would fall in accounts 551-554. Since KCP&L's acceptance of these units was mid-year 2003, previous years do not include costs associated with the new CT fleet. Also, 2004 and 2005 included warranty work and are also expected to be low in relation to a "normal" year. Also included in accounts 551-554 is maintenance on the new Spearville Wind Energy Facility placed in service during the second half of 2006.

Q: **Why were both the steam maintenance and other production maintenance costs indexed to January 1, 2009 dollars?**

A: Both the steam maintenance and other production maintenance costs were indexed to January 1, 2009 dollars to compensate for the significant amount of non-labor price increases expected over the 2007 test year and the anticipated true up date in this case. The index used was the January 1, 2008 Handy-Whitman index, a highly recognized independent source of historical escalation factors widely used as a standard measure of historic escalation, with projected increases to January 1, 2009. KCP&L did and continues to experience significant non-labor price increases during 2007 and 2008. Similar adjustments to a projected January 1, 2009 Handy Whitman Index were also made in Adj-26b, Transmission Maintenance, and Adj-26c, Distribution Maintenance, discussed in the testimony of William P. Herdegen. The projected January 1, 2009 index relative to factors for 2001 through 2007 are shown on Schedules FDC-8 and FDC-9.

Q: How does a routine scheduled outage typically affect KCP&L's maintenance expenses?

A: Routine scheduled outages generally require the addition of contract crews to complete the necessary work in a reasonable timeframe. The maintenance cost for contractors, their equipment and the materials utilized during a routine scheduled overhaul will normally result in an increase in non-KCP&L labor maintenance expenditures of several million or more over the amount of non-labor maintenance expense experienced in a non-outage period.

Q: What would typically be your longest cycle for these scheduled outages?

A: As explained earlier, each unit's outage schedule is based on many factors. Typically, boiler outages are scheduled roughly every two years, and turbine outages are scheduled roughly every seven years. The recommendation for normalizing maintenance expense for the steam accounts (510-514) over a seven-year period is designed to cover the longest maintenance cycle.

Q: Has KCP&L quantified a comparison of its 2007 maintenance expense to the expenses KCP&L has historically experienced?

A: Yes, KCP&L quantified the comparison by restating KCP&L's historical maintenance expenses for 2001 through 2007 in January 1, 2009 dollars and computing a seven-year average of such expenses, and comparing those expenses to KCP&L's actual 2007 maintenance expenses. To accurately compare historic costs to current costs, the costs must take into account escalation and view expenditures in "same-year-dollars." As noted, Handy-Whitman is a highly recognized independent source of historical escalation factors, which is widely used as a standard measure of historic escalation. The historic figures shown in the attached Schedule FDC-1 (HC) have been adjusted to 2009 dollars utilizing the Handy-Whitman index, resulting in an increase of $2,097,612. Note that Wolf Creek is not included in the costs shown in Schedule FDC-1 (HC). This is because Wolf Creek utilizes an accounting process that defers the actual operations and maintenance costs of refueling outage and amortizes the deferred costs to expense evenly over the 18-month cycle until the next refueling outage, which maintains fairly constant maintenance expense at Wolf Creek. Also note that account 512 for 2007 was increased by $275,145 to reflect the impact of Adj-11 for the Hawthorn 5 SCR settlement.

Q: Please describe your recommended measure of appropriate normalized maintenance expense for steam accounts (510-514).

A: Due to the issues mentioned above, KCP&L recommends utilizing a seven-year indexed average incorporating 2001-2007 to establish an equitable and normal expectation for the base level of annual maintenance expense for accounts (510-514).

Q: Are there any adjustments KCP&L is recommending to the 7-year average indexed to 2009 dollars for accounts (510-514).

A: Yes. KCP&L is recommending three adjustments to the 2009 indexed, 7-year average (2001-2007) for accounts 510-514.

Q: What is the first adjustment KCP&L is recommending to accounts 510-514?

A: The first adjustment is to remove $18,847 for Grand Avenue station. This station is no longer owned by KCP&L and is therefore no longer a maintenance liability.

Q: What is the second adjustment KCP&L is recommending to accounts 510-514?

A: The second adjustment considers the fact that Hawthorn Unit 5 was under construction early in the 2001-2007 period. The unit went in-service in June of 2001. 2001 and 2002 are considered to be unusual years for maintenance expense on Hawthorn Unit 5 for the following reasons: (i) a significant level of warranty maintenance was performed at no cost to KCP&L; and (ii) the unit was essentially new and therefore would not be expected to require the same level of maintenance as a unit with five or more years of wear and tear, *e.g.*, boiler tube failures would not be expected as a result of numerous heat cycles or other longer-term operating impacts.

For Hawthorn Unit 5, the recommendation is to utilize the five-year average of 2003-2007. Although these years still reflect an essentially new unit and therefore lower maintenance expense than we would anticipate in later years, the period 2003-2007 is much more indicative of the expected maintenance expense than the period 2001-2007. The annual levels of maintenance expense for Hawthorn Unit 5 are shown in the attached Schedule FDC-4, which clearly shows the unusually low maintenance expense in the years 2001-2002. The adjustment for Hawthorn Unit 5 is $1,017,507 comparing the five-year average (2003-2007) to the seven-year average (2001-2007).

Q: What is the third adjustment KCP&L is recommending to accounts 510-514?

A: The third adjustment is related to the upgraded flow accelerated corrosion program and the B31.1 Chapter 7 Documentation Compliance program, discussed earlier in my testimony. These programs were significantly upgraded mid-year 2007. The adjustment for these programs is $992,468. See Schedule FDC-6 for more detail on how this adjustment was calculated. Also see Schedule FDC-7 for the detail of the 2009 budgeted program which represents a full year of costs. Since year 2007 was a partial year of expenses and year 2008 was a ramping up year, the budget for year 2009 was used for a typical annual cost of this program. As we go forward we will be combining years and using this against the seven year average, similar to the Hawthorn Unit 5 adjustment discussed earlier in my testimony.

Q: **Are there any adjustments to the other production accounts 551-554?**

A: Yes, there are two adjustments to other production accounts 551-554. The first adjustment is associated with the new Spearville Wind Energy Facility. Spearville went into service the end of September of 2006. The non-labor maintenance costs for Spearville are included in accounts 551-554. The adjustment for Spearville relates to a **[redacted]** that KCP&L received during the test year. Since this was a credit from **[redacted]**, this amount must be added back into the annualized maintenance account 551 to restore the costs to a normalized level. This adjustment is for $515,000. For more detail on this adjustment see Schedule FDC-5 (HC).

Q: **What is the second adjustment to other production accounts 551-554**?

A: As discussed above, costs will continue to increase throughout the true up period in this case. To reflect these increases, 2007 test year costs, as adjusted for the **[redacted]**, were escalated using the projected January 1, 2009 Handy-Whitman index, shown on Schedule FDC-8. This resulted in a projected cost increase of $459,154 as shown on Schedule FDC-1 (HC).

Q: Please describe normalized adjustment Adj-52a for a full year of service of LaCygne Unit 1 SCR?

A: As part of the Stipulation and Agreement approved by the Commission in Case No. EO-2005-0329 ("Regulatory Plan Stipulation"), an SCR unit was installed on LaCygne Unit 1. The SCR satisfied its in-service criteria in May 2007. The purpose of Adj-52a is to capture a full twelve months of non- labor costs. The adjustment for a full year of service is $19,311. See Schedule FDC-2 for more detail on this adjustment.

Q: Please describe adjustment Adj-52b maintenance annualization of future in-service units?

A: Another part of KCP&L's comprehensive energy plan is the addition of environmental controls on Iatan Unit 1. These controls include an SCR, Wet Scrubber, and Baghouse. This equipment is scheduled to be "in-service" after the unit returns to service in early 2009. The budgeted non-labor maintenance for 2009 for this equipment is $1,656,915. See Schedule FDC-3 for more detail on this adjustment.

Q: Can you summarize the adjustments to the 2007 projected test year, which are recommended to reflect a normalized maintenance year?

A: A summary of the recommended adjustments is shown in Schedule FDC-10 (HC), Summary of Normalized Adjustments. The first series of entries deal with steam accounts 510-514. There are adjustments in this section. The first adjustment is an upward adjustment of $2,097,612 to increase the 2007 test year for accounts 510-514 to the higher seven-year indexed average (2001-2007). The second adjustment is to remove Grand Avenue, a downward adjustment of $18,847. The third adjustment is $1,017,507, which represents the increase from the proposed seven-year average (2001-2007) to a more representative five-year average (2003-2007) for Hawthorn Unit 5 (both expressed in January 1, 2009 dollars). The final adjustment for steam accounts 510-514 is $992,468, which is based on the upgraded flow accelerated corrosion and ASME B31.1 Chapter 7 Documentation Compliance Programs. This adjustment is the increase from the seven-year average in 2009 dollars to the budget year of 2009. The normalized total for steam account 510-514 is now shown as $31,136,255, excluding the partial test year costs for the new LaCygne SCR considered in Adj-52a.

The next part of the adjustment summary sheet covers other production accounts 551-554. There are two adjustments proposed for other production accounts 551-554. The first adjustment is associated with the Spearville Wind Energy Facility. The adjustment reflects elimination of a one-time credit resulting from a **[redacted]** of $515,000. The second adjustment for other production accounts 551-554 is an adjustment to index 2007 test year expenses to January 1, 2009 dollars for $459,154. The total of Adj-26a (HC) is now shown as $5,062,895 for a normalized total of $33,393,824, excluding the partial test year costs for the new LaCygne SCR considered in Adj-52a.

The last two adjustments are Adj-52a (full year of service for LaCygne Unit 1 SCR) and Adj-52b (future full year of service of the Iatan Unit 1 environmental equipment, SCR, Baghouse, and Wet Scrubber). Adj-52a is for $19,311 and Adj-52b is for $1,656,915. The grand total of adjustments is $6,739,121 and the final normalized total amount is $35,108,671.

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 F. DANA CRAWFORD

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

F. Dana Crawford, being first duly sworn on his oath, states:

1. My name is F. Dana Crawford. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Vice President, Plant Operations.

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 Sixteen (16) 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.

F. Dana Crawford
F. Dana Crawford

Subscribed and sworn before me this 5th day of ~~August~~ September 2008.

Nicol A. Wehry
Notary Public

My commission expires: Feb. 4 2011

" NOTARY SEAL "
Nicole A. Wehry, Notary Public
Jackson County, State of Missouri
My Commission Expires 2/4/2011
Commission Number 07391200

SCHEDULE FDC-1

THIS DOCUMENT CONTAINS HIGHLY CONFIDENTIAL INFORMATION NOT AVAILABLE TO THE PUBLIC

Kansas City Power & Light Co
2007 Test Year Rate Case Filing Adjustment #52a
Maintenance Annualization for a full year of In-Service Units

L-1 SCR	2007 (8 months) Total Cost	2007 (8 months) Share Cost	Annualized total (Share)	Adjustment	
SCR KCPL non-labor O&M	$77,243	$38,622	$57,932	$ 19,311	A/C 512
				Adj-52a	

KCPL non-labor O&M based on annualizing 8 months actual for 2007.

FDC Schedules.xls
FDC-3

Kansas City Power & Light Co
2007 Test Year Rate Case Filing Adjustment #52b
Maintenance Annualization of Future In-Service Units

Iatan 1 - SCR, Baghouse, and Wet Scrubber non-KCPL labor O&M	2009 Projected Total Plant Cost	KCPL Share of Cost	
	$ 2,367,021	$ 1,656,915	A/C 512
		Adj-52b	

Non-KCPL labor O&M based on 2009 budgeted cost.	2009
512004:Boiler Plt Maint - Ash (landfill)	$567,021
512013:Boiler Plt Maint - AQC (maint)	$999,996
512013:Boiler Plt Maint - AQC (maint)	$800,004
	$2,367,021

Kansas City Power & Light Co
2007 Test Year Rate Case Filing Adjustment #26a

Kansas City Power & Light Co.
Historical Cost - Non-Labor Maintenance Hawthorn
By Account

All years indexed to 2009 dollars

Account	2001	2002	2003	2004	2005	2006	2007	Grand Total	2001-2007 (7-yr. Ave. 09$$)	2003-2007 (5-yr. Ave. 09$$)	Delta
510	53,950	23,044	24,544	27,015	41,944	86,846	33,093	290,436	41,491	42,688	1,197
511	865,615	790,209	682,867	793,012	872,826	984,910	795,033	5,784,471	826,353	825,729	(624)
512	999,294	2,254,463	4,306,532	4,378,431	3,996,846	3,297,093	5,911,992	25,144,652	3,592,093	4,378,179	786,086
513	118,800	489,817	1,633,188	768,833	1,153,881	511,208	1,128,621	5,804,349	829,193	1,039,146	209,954
514	8,755	13,522	16,739	132,118	57,575	64,754	150,150	443,613	63,373	84,267	20,894
Grand Total	2,046,414	3,571,055	6,663,870	6,099,410	6,123,071	4,944,811	8,018,889	37,467,521	5,352,503	6,370,010	1,017,507

Actual Unindexed Costs

Account	2001	2002	2003	2004	2005	2006	2007	Grand Total
510	37,972	16,741	18,728	20,991	34,856	74,893	29,980	234,161
511	585,274	555,242	503,097	597,763	719,090	841,277	713,723	4,515,464
512	733,964	1,718,056	3,400,676	3,465,000	3,411,101	2,921,907	5,443,110	21,093,814
513	89,269	371,778	1,341,880	638,993	1,015,940	456,886	1,068,656	4,983,402
514	6,558	10,462	13,421	107,781	51,615	60,323	142,247	392,408
Grand Total	1,453,037	2,672,278	5,277,801	4,830,527	5,232,602	4,355,287	7,397,716	31,219,249

Note: Hawthorn Unit 5 was being re-built during 2000 and came back in-service in June of 2001.
Years 2001 & 2002 contain very low maintenance expense due to the unit being essentially new and a significant level of warranty maintenance was performed at now cost to KCPL. Therefore we propose using years 2003-2007 which are more representative of typical maintenance years costs.

SCHEDULE FDC-5

THIS DOCUMENT CONTAINS HIGHLY CONFIDENTIAL INFORMATION NOT AVAILABLE TO THE PUBLIC

Kansas City Power & Light Co
2007 Test Year Rate Case Filing Adjustment #26a
Non-Labor Maintenance Cost - Flow Accelerated Corrosion (FAC) and ASME B31.1 Chapter 7 Documentation Compliance for 2009

Recommended Corrosion Annual Non-Labor Maintenance Expense (Indexed to 2007-$'s)										
	2001	2002	2003	2004	2005	2006	2007	2001-2007 (7 yr. Ave.)	Annualized Year (09)	Delta
Corrosion	$ -	$ -	$ -	$ -	$ -	$ -	$ 917,013	$ 131,002		
				Handy Whitman factor to January 2009 - A/C 512			111.8870%			
	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,026,018	$ 146,574	$ 1,139,042	$ 992,468

To Adj-26a Historic O&M

Note: The Flow Accelerated Corrosion (FAC) and American Society of Mechanical Engineers (ASME) B31.1 Chapter 7 Documentation programs were accelerated in mid-2007. Related costs were minimal in prior years. The first adjustment in Adj-26a adjusts test year costs to an average of the previous 7 years. Because the intensity of the program did not exist before 2007 and was in the ramping up stage during 2007 and 2008, the 7-year average is not representative of ongoing costs and will be adjusted to a normalized amount until the average subsequent to program implementation approaches the normalized amount.

Kansas City Power & Light Co
2007 Test Year Rate Case Filing Adjustment #26a
Maintenance Annualization of New In-Service Progams

Non-Labor Maintenance Cost associated with Flow Accelerated Corrosion (FAC) and ASME B31.1 Chapter 7 Documentation Compliance for 2009

Section	Item	Montrose			Hawthorn	Lacygne		Iatan	Totals
		Unit #1	Unit #2	Unit #3	Unit #5	Unit #1	Unit #2	Unit #1	
Cost for FAC Testing and Inspections in 2009	Inspection Length (weeks)	1	2	2	2	2	2	2	
	UT inspections	$13,875	$27,750	$27,750	$27,750	$27,750	$27,750	$27,750	$ 180,375
	Scaffolding	$15,000	$30,000	$30,000	$50,000	$50,000	$50,000	$50,000	$ 275,000
	Insulation – Asbestos removal	$20,000	$40,000	$40,000	$0	$100,000	$0	$0	$ 200,000
	Insulation – Non-Asbestos removal and replacement	$5,000	$10,000	$10,000	$40,000	$20,000	$40,000	$40,000	$ 165,000
	Station Total for FAC Inspection	$ 269,375			$ 117,752	$ 315,500		$ 117,752	$ 820,375
	Planned Pipe Repairs				$ 15,000	$ 120,000	$ -		$ 135,000

Section	Item	Montrose			Hawthorn	Lacygne		Iatan	Totals
		Unit #1	Unit #2	Unit #3	Unit #5	Unit #1	Unit #2	Unit #1	
CSI Technologies Cost to Manage Outage inspections in 2009	Inspection Length (weeks)	1	2	2	2	2	2	2	
	On-site Inspection Preparation, UT Evaluations and Fitness for Service	$9,600	$14,400	$14,400	$14,400	$14,400	$14,400	$14,400	$96,000
Addition items needed to meet corporate FAC guideline	Calibration Checworks/SFA models(see note below)	$0	$25,000	$25,000	$0	$0	$25,000	$0	$75,000
	System Susceptibilty Evaluation	$13,200	$13,200	$13,200	$13,200	$0	$13,200	$13,200	$79,200
	Susceptible Non-Modeled	$13,200	$13,200	$13,200	$17,600	$0	$17,600	$17,600	$92,400
	CHECWORKS Model Development	$0	$0	$0	$0	$0	$0	$0	$0
	Station Total of CSI Work	$167,600			$45,200	$84,600		$45,200	$342,600
	Overall for FAC Program	$436,975			$177,952	$520,100		$162,952	$1,388,775

Item	Montrose			Hawthorn	Lacygne		Iatan	Totals
ASME B31.1 Chapter 7 Documentation Compliance	$0	$0	$0	$0	$150,000	$150,000	$0	$300,000

Item	Montrose	Hawthorn	Lacygne	Iatan	Totals
Overall Station Totals	$ 436,975	$ 177,952	$ 820,100	$ 162,952	$ 1,597,979
KCPL Share	$ 436,976	$ 177,950	$ 410,050	$ 114,066	$ 1,139,042

A/C 512

Kansas City Power & Light Company
Handy-Whitman Index
Bulletin No. 166
As of Jan 2009

FERC-Plant	FERC-Plant Descrip	FERC-Exp	FERC-Exp Descrip	Handy-Whitman Cost Index Numbers							
				Projected 2009	2001	2002	2003	2004	2005	2006	2007
Steam production											
N/A	Total Steam Production	510	Maint Supr & Eng	574	404	417	438	446	477	495	520
311	Structures and Improvements -	511	Maint of Structures	528	357	371	389	398	435	451	474
312	Boiler Plant Equip-Coal Fired	512	Maint of Boiler Plant	580	426	442	458	459	495	514	534
314	Turbogenerators Units	513	Maint of Electric Plant	527	396	400	433	438	464	471	499
316	Misc. Power Plant Equip	514	Maint of Misc Steam Plant	570	427	441	457	465	511	531	540
Other Production											
N/A	Total Other Production	551	Supervision & Engineering	648	494	373	383	397	402	454	516
342	Fuel Hldr	552	Structures	530	494	373	383	397	402	454	494
344	Generators	553	Generating & Electric Equip	651	511	402	418	437	428	420	511
	Total Other Production	554	Electric Steam Power	648	516	441	417	436	430	428	516

FERC-Plant	FERC-Plant Descrip	FERC-Exp	FERC-Exp Descrip	Factor							
				Base 2009	2001	2002	2003	2004	2005	2006	2007
Steam production											
N/A	Total Steam Production	510	Maint Supr & Eng	1.00000	1.42079	1.37650	1.31050	1.28700	1.20335	1.15960	1.10385
311	Structures and Improvements -	511	Maint of Structures	1.00000	1.47899	1.42318	1.35733	1.32663	1.21379	1.17073	1.11392
312	Boiler Plant Equip-Coal Fired	512	Maint of Boiler Plant	1.00000	1.36150	1.31222	1.26638	1.26362	1.17172	1.12840	1.08614
314	Turbogenerators Units	513	Maint of Electric Plant	1.00000	1.33081	1.31750	1.21709	1.20320	1.13578	1.11890	1.05611
316	Misc. Power Plant Equip	514	Maint of Misc Steam Plant	1.00000	1.33489	1.29252	1.24726	1.22581	1.11546	1.07345	1.05556
Other Production											
N/A	Total Other Production	551	Supervision & Engineering	1.00000	1.31174	1.73727	1.69191	1.63224	1.61194	1.42731	1.25581
342	Fuel Hldr	552	Structures	1.00000	1.07287	1.42091	1.38381	1.33501	1.31841	1.16740	1.07287
344	Generators	553	Generating & Electric Equip	1.00000	1.27397	1.61940	1.55742	1.48970	1.52103	1.55000	1.27397
	Total Other Production	554	Electric Steam Power	1.00000	1.25581	1.46939	1.55396	1.48624	1.50698	1.51402	1.25581

Kansas City Power and Light
Handy-Whitman Index

Cost Trends of Electric Utility Construction - North Central Region

	FERC Account	equivalent of FERC PLANT ACCT	(a) Act Jan07	(a) Act Jul07	(a) Act Jan08	Past 12 Mth Incr(Decr) HW p/mth	Proj Jul08	Proj Jan09	KCPL Jan07-Jan09 %Incr
		311	474	482	501	2.25	515	528	11.39%
		312	534	543	557	1.92	569	580	8.61%
		314	499	501	513	1.17	520	527	5.61%
		315	661	682	719	4.83	748	777	17.55%
		316	540	544	555	1.25	563	570	5.56%
		Total Steam	520	531	547	2.25	561	574	10.38%
		342	494	497	512	1.50	521	530	7.29%
		344	511	524	581	5.83	616	651	27.40%
		Total Other Prod	516	529	582	5.50	615	648	25.58%
		353	567	583	604	3.08	623	641	13.05%
		354	468	494	513	3.75	536	558	19.23%
		355	526	529	561	2.92	579	596	13.31%
		356	678	695	753	6.25	791	828	22.12%
		357	477	472	494	1.42	503	511	7.13%
		358	605	610	790	15.42	883	975	61.16%
		Total Transmission	553	568	603	4.17	628	653	18.08%
		362	537	555	573	3.00	591	609	13.41%
		364	496	497	511	1.25	519	526	6.05%
		365	609	624	670	5.08	701	731	20.03%
		366	471	468	487	1.33	495	503	6.79%
		367	507	514	554	3.92	578	601	18.54%
Line Transformers		**368**	408	416	602	16.17	699	796	95.10%
Pad Mounted		**368**	689	820	642	(3.92)	619	595	-13.64%
Services - OH		**369**	451	452	475	2.00	487	499	10.64%
Services - UG		**369**	356	352	349	(0.58)	346	342	-3.93%
		370	319	326	330	0.92	336	341	6.90%
		373	640	651	671	2.58	687	702	9.69%
		Total Distribution	499	507	563	5.33	595	627	25.65%

(a) Cost Index Numbers per Handy-Whitman

SCHEDULE FDC-10

THIS DOCUMENT CONTAINS HIGHLY CONFIDENTIAL INFORMATION NOT AVAILABLE TO THE PUBLIC