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Witness: Daniel F. Meyer
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Case No.: ER-2010-____
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2010-____

DIRECT TESTIMONY

OF

DANIEL F. MEYER

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

DANIEL F. MEYER

Case No. ER-2010-____

Q: Please state your name and address.

A: My name is Daniel F. Meyer. My address is 30 Sequoia, Lake Forest, Illinois.

Q: And by whom are you employed?

A: I am employed by Meyer Construction Consulting, Inc. My services have been retained by Schiff Hardin LLP ("Schiff"), who provides legal, project management and oversight services to Kansas City Power & Light Company ("KCP&L").

Q: How long have you worked with Schiff?

A: Since the early 1990s.

Q: What type of work have you done with Schiff since the early 1990s?

A: Primarily cost analysis work, and project oversight. I have also provided some scheduling work and litigation support. All of my work with Schiff has been in the construction industry, primarily in the power industry.

Q: Can you briefly describe your background in the construction industry?

A: I started working in the industry at the age of 15 as a laborer and a timekeeper. I received a Bachelor of Science in Civil Engineering from Ohio University in 1968. Immediately after college, I started to work for Morrison-Knudsen Company, where I was employed from 1968 through 1983. In 1979, while at Morrison-Knudsen, I attended the Program for Management Development at the Harvard Business School. At Morrison-Knudsen I held various positions, including working as a shift engineer up through and including

Vice President of Operations for the Heavy Construction Group. From 1983 to 1985, I was employed by Perini Corporation and served as Vice President of Operations. Between 1985 and 1990, I worked for Paschen Contractors as General Vice President. Beginning in 1990 through the present, I have had my own consulting business, Meyer Construction Consulting, Inc. Since 1990, I have sat on approximately 75 dispute review boards, where my role is to evaluate contractor claims and to allocate costs between adverse parties primarily on large, complex construction projects. I also provide cost and schedule consulting in the construction and power industries as well as due diligence with respect to mergers and acquisitions in the construction industry. I am also currently on the board of directors of a national real estate developer.

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

A: Yes. I have previously filed testimony in KCP&L's last rate case, Case No. ER-2009-0089 ("0089 Docket"). I have also filed testimony before the Kansas Corporation Commission in Docket Nos. 09-KCPE-246-RTS and 10-KCPE-415-RTS.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to provide commentary on industry best practices applicable to: (1) the development of KCP&L's Control Budget related to the construction of Unit 2 at the Iatan Generating Station ("Iatan Unit 2" or the "Project"); (2) the process used for establishing and characterizing the result of the development of the Control Budget Estimate ("CBE") for Iatan Unit 2 in December 2006 and the subsequent cost reforecasts associated with the CBE by KCP&L during the Project; (3) KCP&L's external reporting and project controls systems and their effect on Project

costs; and (4) the Balance of Plant contracting methodology employed on the Iatan Project. I also discuss Kiewit's original estimate for the Balance of Plant work.

APPLICABLE INDUSTRY BEST PRACTICES

Q: Are there standards in the construction industry regarding accepted classifications for various types of cost estimates for construction projects?

A: There are several ways to classify an estimate. The actual terms themselves can vary from project to project, but there is an accepted progression of the level of accuracy of a cost estimate as a project's scope becomes better defined. The Association for the Advancement of Cost Engineers, also known as AACE International ("AACE"), which is an organization that acts as a clearinghouse for information related to cost issues in the construction industry, has developed a classification system that is widely referenced. This classification system is described in AACE International Recommended Practice No. 10S-90, Cost Engineering Terminology (April 13, 2004) ("AACE Cost Terminology," Schedule DFM2010-1); AACE International Recommended Practice No. 17R-97, Cost Estimate Classification System by Peter Christensen and Larry R. Dysert et al (August 12, 1997) ("AACE Classification System," Schedule DFM2010-2), and AACE International Recommended Practice No. 18R-97, Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Process Industries by Peter Christensen and Larry R. Dysert et al. (February 2, 2005) d ("AACE EPC Cost Classification," Schedule DFM2010-3).

AACE's Classification System is based upon the level of project definition. As defined by the AACE, "The level of project definition defines maturity, or the extent and types of input information available to the estimating process. Such inputs include

project scope definition, requirements documents, specifications, project plans, drawings, calculations, lessons learned from past projects, reconnaissance data, and other information that must be developed to (fully) define the project." (AACE Classification System, Schedule DFM2010-2 at p. 3 and AACE Cost Terminology, Schedule DFM2010-1 at p. 17). AACE's Classification System comprises five different "classes" of estimates (Class 1 through Class 5). (AACE Cost Terminology, Schedule DFM2010-1 at pp. 16-18 and generally AACE Classification System, Schedule DFM2010-2). A Class 1 estimate is based upon a fully-developed project definition, while at the other end of the spectrum, a Class 5 estimate is often developed quickly and based on very preliminary and limited information. As a result, an estimate that fits the definition of a Class 5 estimate is not generally regarded within the industry as being very accurate.

Although AACE's Classification System defined above describes the development cycle of a cost estimate for a project from a conceptual stage to a very detailed stage, it is commonplace and acceptable for an estimate to mature based on available information and other project particulars. For an owner, the two most important milestones to consider in the development cycle of a project occur at the conceptual phase and then at the budgetary phase. A cost estimate during the conceptual phase allows corporate management to evaluate the overall feasibility of the project and to begin to evaluate how to strategically allocate resources. Under the AACE's Classification System, this estimate could typically either be a Class 5 or a Class 4 estimate. Conceptual phase estimates are not expected to be highly accurate; rather, they are regarded as merely providing a cost order of magnitude for a project.

The second important milestone to occur in the estimating process is the

achievement of a sufficient level of accuracy to set the budget for the project. This can occur when the available information for the project allows the estimate to meet the definition of Class 3. A Class 3 estimate is typically used to monitor variations to the budget until it is replaced by more detailed estimates, although it is not uncommon for an owner to stop an estimate's developmental progression at a Class 3 estimate level. My interpretation of the accuracy band described in AACE's Classification System around a Class 3 estimate is -15% to +30%.

Q: Did KCP&L follow the AACE Classification System's estimate progression in developing the Iatan Unit 2 Project's estimate?

A: Yes. KCP&L did not formally identify each stage of the estimating process as a certain "class" of estimate based on AACE's definitions, but once the Stipulation was in place for the project to proceed, KCP&L nevertheless followed the typical and expected progression of cost estimate development for the Iatan Unit 2 Project as AACE describes it and as is generally applied throughout the industry.

Q: Are there any other industry standards that you believe KCP&L followed with respect to controlling and monitoring costs during the course of the Project?

A: Yes. KCP&L followed good and accepted industry practice by monitoring costs during the course of the Project and reforecasting the CBE at appropriate points.

Q: What authority supports the practice of reforecasting a project's estimate?

A: In supporting this opinion, I offer an article by John Rowe entitled "Construction Cost Contingency Tracking System." In this article, Mr. Rowe touches on the general subject matter of cost reforecasting and contingency drawdown. (Schedule DFM2010-4) Additionally, based upon my experience, it is a widespread industry practice to

periodically reforecast project cost, and those who do so are generally regarded as prudent. From a cost management perspective, it is good practice to examine and update estimates and reforecast costs. In its simplest sense, a cost reforecast is an exercise that parties in the industry go through at logical points in a project to revisit the budget and the efficacy of the budget amounts.

Q: How does an owner benefit from reforecasting a project's budget?

A: Owners benefit from being able to accurately evaluate whether a project's original assumptions have held true, and whether the assumptions in the original cost estimates continue to hold true. Determining the above can identify whether the project is properly funded, how the project is being managed, whether the contractors are performing, and whether there are any issues that affect cost that require some added focus.

DEVELOPMENT OF THE IATAN UNIT 2 CONTROL BUDGET

Q: What was Schiff's role with respect to the development of the CBE?

A: KCP&L's senior management requested that Schiff provide oversight of the process used to create the CBE and provide our independent view of the quality of the CBE. From the first week in January 2006 through late-April 2006, I, along with others from Schiff, met with Burns & McDonnell's chief estimator and others who were participating in the design at various intervals to review certain aspects of the cost estimate. Schiff was attempting to vet the underlying assumptions and basis for Burns & McDonnell's cost estimate. The purpose of this process was for Burns & McDonnell to present to KCP&L's senior management an estimate that could be used for budgetary purposes.

Q: What was the status of the Iatan Project's estimate at the start of this vetting process?

A: Burns & McDonnell was working to develop what was referred to as an "indicative estimate" for the Iatan Project. At that time, the basis for Burns & McDonnell's indicative estimate was the high-level estimate it prepared as a part of the Project Definition Report ("PDR") in August of 2004. Company witness Brent Davis testifies regarding the nature of the estimate in the PDR. It was evident that the PDR was out of date, meaning that the scope identified in the general outline of the proposed plant had changed since the creation of the PDR. We needed to understand Burns & McDonnell's cost estimating group's assumptions that were embedded in the PDR to so as to relate them to certain changes in the Project scope definition that had arisen during the intervening time.

Q: What is an "indicative estimate"?

A: An "indicative estimate," as this term was used by KCP&L, was intended to be a very rough cost projection used for budget and planning purposes when a project is in the early stages of concept development. In essence, it is an order-of-magnitude estimate that has accuracy in the range of -30% to +50%. Within the industry, developing an indicative estimate is a common and necessary first step in the development of a reliable control estimate.

Q: How would AACE classify such an indicative estimate?

A: This indicative estimate was a Class 4 estimate under AACE's Classification System. As stated by the AACE, "Class 4 estimates are generally prepared based on limited information and subsequently have fairly wide accuracy ranges." (AACE Cost

Terminology, Schedule DFM2010-1 at p. 17 and AACE EPC Cost Classification, Schedule DFM2010-3 at p. 4). Acceptable uses for a Class 4 estimate include determining the feasibility of the project, aiding in an evaluation of the project's concept, strategic planning, and in obtaining preliminary budget approval.

Q: Is an indicative estimate an appropriate level of cost estimate for the Iatan Project as of the first half of 2006?

A: Yes. At that time, the Iatan Project was continuing to evolve. Engineering was in its beginning stages, so it was expected that the Project's estimate would have a wide band of accuracy. As I previously stated, I believe the accuracy level of an indicative estimate is somewhere between -30% to +50%.

Q: When did Burns & McDonnell present the indicative estimate for Iatan Unit 2 to KCP&L?

A: The indicative estimate was presented to KCP&L's senior management in phases. On February 15, 2006, Burns & McDonnell made a presentation regarding its progress in developing the estimate for Iatan Unit 2. In this presentation, Burns & McDonnell identified at a high level the changes that it had made to the estimate since the completion of the PDR estimate in September 2004. These changes included: increase of the Iatan Unit 2's size from 800 MW to 850 MW; change in the Project's Provisional Acceptance Date by one year; inflation and escalation; and an increase in steam temperature from 1050°F to 1080°F. **[redacted]

[redacted]**

Q: Did the cost estimate for Iatan Unit 2 change between the PDR and the February 2006 presentation?

A: Yes. The PDR cost estimate was **[redacted]** and in February 2006, the estimate was **[redacted]** Therefore, the estimate had increased by **[redacted]**

Q: Did either Burns & McDonnell or KCP&L change the percentage of contingency as a result of these updates?

A: No. **[redacted]**

Q: How would you characterize the accuracy of the February 2006 estimate?

A: It was, at best, an indicative estimate with an accuracy level of between -30% to +50%, which means this estimate actually represents a possible range of construction costs for the Iatan Unit 2 Project between **[redacted]** under AACE's Classification System.

Q: What was the next evolution of the Iatan cost estimate?

A: In April 2006, Burns & McDonnell again updated the cost estimate to include, among other things, a report it had received from its labor consultant, Schumacher Consulting LLC, regarding the current labor market. (Schedule DFM2010-5).

Q: What is Schumacher Consulting, LLC ("Schumacher")?

A: Schumacher is a consulting firm that specializes in analysis of various aspects of construction labor. It was hired as a sub-consultant to Burns & McDonnell in early 2006.

Q: What were the issues addressed in Schumacher's 2006 report?

A: Schumacher raised a number of issues. We found Schumacher's comments to be most valuable in a section addressing "best practices." In that section, Schumacher discussed the critical factors impacting labor, including: detailed planning, timely delivery of materials and equipment, minimization of engineering changes, timely delivery of engineering drawings, contractor control of site labor, and safety and quality. Schumacher stated that these "best practices" needed to be adhered to or the Iatan Project could develop significant problems with labor.

This report also had a section entitled "man-power" in which Schumacher stated that the ability to attract skilled labor to the Iatan Project would be governed by the number of shifts that were worked because that represents premium money to the trades. Schumacher recommended working "five-tens," or fifty-hour weeks, for the entire Project site, which would entail an appreciable amount of cost. Schumacher also recommended paying various subsidies in order to attract labor to the Iatan Project. Finally, it opined that labor productivity on the Iatan Project vis-à-vis other projects would not be as high and that it could be eight to ten percent below industry averages, which was already trending downward due to a lack of qualified craft.

Q: Did any of Schumacher's conclusions influence any portion of the CBE in late 2006?

A: Yes. As an example, Schumacher's report influenced the estimating of the potential impact of labor productivity issues, as well as subsidy cost, daily per diems, and other craft-related incentives. As I just stated, Schumacher's report identified industry-wide productivity issues during the four-year span of the Iatan Unit 2 Project. Schumacher recommended that the Project's estimate include a productivity handicap of 15% to 30%

for various trades. The CBE included these and other assumptions regarding labor productivity that were consistent with Schumacher's conclusions, as well as related concerns associated with the vetting performed by KCP&L and Schiff.

Q: Were other changes made to the estimate between January 2006 and April 2006?

A: Yes. When ALSTOM received an Interim Notice to Proceed on April 27, 2006, Burns & McDonnell began carrying in the estimate a price for the boiler and AQCS that was reflective of ALSTOM's bid. This actually reduced the estimate by nearly ** [redacted] ** In addition, Burns & McDonnell increased the estimates for balance of plant mechanical construction and structural/civil work by approximately ** [redacted] ** not including the aforementioned labor escalation handicap.

Q: Did the Project's overall estimate increase from January 2006 to April 2006?

A: Yes. ** [redacted] **

Q: What was the next step in the progression of the Project's cost estimate?

A: During the third and fourth quarters of 2006, Burns & McDonnell continued to refine the Project's estimate. Included in this effort was additional analysis in the form of a "Probabilistic Cost Estimate," which was a statistical analysis performed by Burns & McDonnell to identify the probabilities of certain events. KCP&L engaged Burns & McDonnell to perform this analysis in order to help determine the likely overall Project cost and to develop contingency for the project. The results of this analysis were added to the cost estimate in October 2006. Additionally, the project team continued to work with Burns & McDonnell to vet underlying information that served as the basis of the

estimate.

Q: What happened between October 2006 and December 2006 with respect to the estimate?

A: The Project Team, Schiff and Burns & McDonnell, continued to vet the estimate. Additionally, in October, it was determined that the cost estimate for Unit 2 was missing a significant amount of structural steel quantities for the turbine generator building. In preparing the Iatan Unit 2 estimate, Burns & McDonnell utilized the Iatan Unit 1's as-built quantities for certain commodities and then numerically scaled-up those quantities on a numerical basis for use on Unit 2. Generally speaking, when Burns & McDonnell utilized a scale-up of the existing Unit 1 for Unit 2 on a commodity basis, the measure of that scale-up was 20% to 25% to accommodate the new unit's larger size. Once it was identified that elements of the balance of plant estimate were significantly understated, KCP&L told Burns & McDonnell to re-evaluate the entire Iatan Unit 2 cost estimate before presentation to the KCP&L Board of Directors for budgetary approval. Burns & McDonnell subsequently re-estimated all portions of the Project: (1) that had not been procured; (2) where the scope and cost of any particular work package was influenced by commodities and/or quantities that could be at variance with the current design concept; and (3) where there may have been scope variances between the estimate and the current design.

Q: How did you determine the maturity of the estimate as of December 2006?

A: Schiff looked at several things in the version of the estimate that existed as of December 2006. We looked at the pedigree and the provenance of the original Burns & McDonnell estimate and the various derivative estimates that its team had put together up to that

time. By this time, Burns & McDonnell adjusted certain aspects of the estimate's basis so as to be more reflective of the design work that was underway. We reviewed Burns & McDonnell's PCE analysis and determined which portions of that analysis were useful and relevant for modeling the Iatan Unit 2 Project's contingency. We also reviewed the status of quantities that were available based upon the design status as it existed at that point in time. The design for Iatan Unit 2 was approximately 20 to 25% complete at that time.

Q: Approximately how much of the Iatan Unit 2 Project was procured as of December 2006?

A: Company witness William Downey testifies that as of the fourth quarter of 2006, KCP&L had procured **[redacted]** in direct procurements for engineered materials and certain bulk commodities. A significant portion of the work on Iatan Unit 2 was captured in the ALSTOM contract for the boiler and AQCS.

Q: How did Unit 2's cost estimate change from October to December 2006.

A: The estimate increased from **[redacted]** The most significant cost increases to the Iatan Unit 2 estimate are described in detail in Burns & McDonnell's Supplement 2 to the PDR dated June 28, 2007. (Schedule BCD2010-8)

Q: What were the primary categories for the increases in the cost estimate from April 2006 to the CBE in December 2006?

A: **[redacted]**

[redacted]**

Q: Why was a portion of the contingency held as management reserve?

A: It is common practice in the industry for a company's senior management to establish a management reserve as part of a project's budget. Typically, the reserve comprises contingency but nevertheless requires senior management approval prior to use at the project level.

Q: Why did KCP&L increase the contingency on the Project?

A: Because it was prudent to do so based upon the known risks at that time. During 2006, KCP&L, with the help of Burns & McDonnell and Schiff, identified several risks that had the potential of increasing the overall cost of the Project. The largest risks included: (1) the management, coordination and execution of a very large and complex construction project, and KCP&L needed to significantly ramp-up its internal and external capabilities in order to manage such an undertaking; (2) the potential escalation of prices for commodities and critical components in an over-heated utility construction market; and (3) potential issues with labor productivity and availability due to the precipitous drop in the number of qualified craft workers since the 1980's. There were certainly other risks, but those were the primary cost drivers to the Iatan Units 1 and 2 Project from the outset, and they have remained primary considerations throughout the entire Project.

Q: When was the estimate presented to the Executive Oversight Committee ("EOC")?

A: The estimate was presented to the EOC in November 2006 as the CBE.

Q: What was the Iatan Unit 2 portion of that estimate?

A: Approximately **[redacted]** excluding AFUDC.

Q: How accurate was that estimate?

A: The additional vetting of the estimate that occurred between October and December 2006 allowed Schiff to conclude that the estimate was generally commensurate with an AACE "Class 3" estimate, meaning that the budget for Unit 2 could be established. As a Class 3 estimate, it had an accuracy level within the range of -15% to +30%, which would result in a range of **[redacted]**

Q: Did KCP&L act within industry standards to set its budget in 2006 based upon an estimate with this level of accuracy?

A: Yes.

Q: What was Schiff's opinion of the process used by Burns & McDonnell to develop the estimate?

A: Based upon its meetings with Burns & McDonnell, Schiff believed that the methodology used in developing the estimate generally conformed to that typically seen in the construction industry. Also, as a part of the vetting process, Burns & McDonnell provided KCP&L the resumes of those personnel contributing to the development of the estimate. Burns & McDonnell's estimators appeared to be reasonably experienced and qualified to prepare the estimate.

THE 2008 COST REFORECAST

Q: Was it expected that the CBE would be revisited in the future?

A: Yes.

Q: In what manner did KCP&L anticipate revisiting the CBE?

A: As stated in The Comprehensive Energy Plan Construction Projects' Cost Control System ("Cost Control System") attached to the direct testimony of Company witness Steven Jones as Schedule SJ2010-1, KCP&L committed to continually monitoring the accumulation of actual costs compared to Control Budget amounts to determine if the initial assumptions in the Project definition were still valid. Based upon this analysis, the KCP&L Project Team would then prepare a new forecasted estimate at completion ("EAC").

Q: How often has KCP&L reforecasted the Iatan Unit 2 Project's Budget?

A: As of this time, KCP&L has completed three separate reforecasts of the CBE in the manner described above. Those cost reforecasts are generally referenced as the May 2008, July 2009 and April 2010 forecasts.

Q: Who performed these various reforecasts?

A: The Iatan Unit 2 Project team performed the work associated with developing the reforecasted EAC. Schiff provided oversight of the process used by the project team and issued its independent view of the EAC on each occasion.

Q: At what point did KCP&L first revisit the CBE?

A: By the second quarter of 2007, it had become clear to the Project Team that the Iatan Unit 2 estimate required reforecasting. The Project brought this issue to the attention of the EOC through some various "Risk and Opportunity" ("R&O") analyses that they had

conducted by that time. The Project Team presented this analysis to the EOC on July 11, 2007. (Schedule DFM2010-6)

Q: What were the Risk and Opportunity analyses that the Project Team generated in 2007 and 2008?

A: During the years of 2007 to 2008 as the Iatan Unit 2 Project was maturing, the Project Team members would identify through R&O analyses areas of risk to the Project that could potentially result in a draw down on the Project's contingency. The Project Team would also look for areas of opportunities that might result in cost under-runs. These risks and opportunities were tracked by the KCP&L Project Controls Group.

Q: Who typically prepared the documents upon which the R&O's were based?

A: The majority of the R&O's were developed by KCP&L's lead engineers, though others on the Project Team also developed R&O's. The documentation that was prepared and maintained was similar for every R&O item on the Project.

Q: At what point did the KCP&L Project Team begin its initial reforecast of the Unit 2 budget?

A: In its most embryonic form, the reforecasting effort began in July of 2007 with initial work on the R&O's. In the analysis presented to the EOC (Schedule DFM2010-6), the Project Team prepared contingency draw-down scenarios based on amounts ("best," "worst" and "most probable") from the CBE based on the R&O's that had been identified as of that time. The "best" case showed that the Project was likely to expend approximately **[redacted]** The "worst" case showed that all but **[redacted]** of the contingency would be allocated for R&O's identified at that time. This analysis led the

Project Team to assemble and track the underlying information on which R&O's were written.

Q: Why did the Project Team launch its cost reforecast effort in the summer of 2007?

A: Shortly after the CBE was adopted in December 2006, Kiewit provided a cost proposal to construct the remaining Balance of Plant work which resulted in a series of vetting activities and presentations by Kiewit that stretched from April 16, 2007 to the end of third quarter of 2007. Because the majority of the work that had not yet been contracted on the Project was addressed in Kiewit's proposal, vetting of Kiewit's estimate was tantamount to the vetting that one would perform as part of a cost reforecast.

Q: As of the summer of 2007, what was the Project Team's expectation regarding the impact to the CBE from the Kiewit contract?

A: In the July 11, 2007 analysis of R&O's provided to the EOC, the Project Team included an assumption of contingency draw-downs related to the Balance of Plant work in light of Kiewit's estimate. The Project Team estimated at that time that the Kiewit contract might require a contingency draw-down of approximately **[redacted]** that was in place in the 2006 CBE for the Iatan Unit 2 Project.

Q: When did the Project Team conclude its vetting of the Kiewit estimate?

A: The Kiewit estimate had been fully vetted by the end of September 2007 and was used as a basis for Kiewit's contract, which was issued in early November 2007. The cost reforecast for the remainder of the Iatan Project work came as a natural outgrowth of the Kiewit estimate vetting and led the Project Team and Schiff to examine a number of other factors in the current cost estimate.

Q: What were some of those factors?

A: With respect to quantity, there was not a full agreement between Kiewit's electrical and mechanical quantities and those that Burns & McDonnell had utilized in its design model. This issue required reconciliation.

Q: Did Kiewit's quantities ultimately change after this vetting process was completed?

A: Yes. Due to the incomplete status of engineering at the time of Kiewit's estimate, KCP&L knew that the quantities would be subject to potential change as additional design packages were completed. Kiewit's contract included quantities that were based on 20 to 25% engineering and Kiewit's estimate included unit prices that would be applied to any change in the final quantities. Accordingly, Kiewit's contract included a process to true-up final design, material and labor quantities resulting from design maturation.

Q: What happened next with respect to the initial cost reforecast?

A: KCP&L initiated a full reforecast of the Unit 1 and 2 cost estimate in November 2007. Members of the KCP&L Project Controls Group and Schiff engaged in a series of meetings with KCP&L's lead engineers to discuss the necessary data to develop a reasonable cost projection and the standards for documentation necessary to adequately vet the reforecast.

Q: Did KCP&L create a process for the cost reforecast?

A: Yes. The process was created by the KCP&L Project Controls Group.

Q: Did KCP&L adhere to this process in preparing the cost reforecast?

A: Yes, it did.

Q: During the process of the Iatan Project's cost reforecast, was there a time that you and other members of the KCP&L staff met with the Staff of the Missouri Public Service Commission ("MPSC Staff") and other parties to the Regulatory Plan?

A: Yes. I met with the MPSC Staff and other parties to KCP&L's Regulatory Plan on March 12, 2008.

Q: Who was present at the meeting from KCP&L?

A: Company witnesses Bill Downey, Brent Davis, Kenneth Roberts, Chris Giles, Bill Riggins, and the project controls director for the Iatan Project, Terry Foster, among others.

Q: What did you present or comment upon at that meeting?

A: I mostly answered questions from the MPSC Staff, though I did help explain the cost reforecasting flow chart as well as describe standard practices in the industry applicable to cost reforecasting efforts.

Q: To your recollection, what was the focus of your presentation to the MPSC Staff and other parties in March 2008?

A: For the most part, the discussion in the meeting centered upon answering the MPSC Staff's questions regarding why KCP&L's reforecasted cost projection had not been completed and announced to the public by that date. I explained at that time that the process was in the "left side" of the flow chart, *i.e.,* the project team was still trying to gather information. I noted that until the information is gathered and the analysis and vetting completed, and the reanalysis that inevitably results from the vetting is also completed, it is not possible to offer up a number that would have any reasonable meaning.

Q: Was KCP&L's cost reforecast completed by March 12, 2008?

A: No, it was not complete at that time.

Q: As of March 12, 2008, what were the major activities that remained to be completed?

A: At that time, based on the process flow chart, the process was in "Prepare Preliminary Cost Reforecast" which had started January 23, 2008 with a projected finish date of April 21, 2008. Therefore, the process was about halfway completed, and no vetting had occurred as yet.

Q: In your opinion, was the Project cost reforecast process utilized for the 2008 reforecast consistent with industry practice?

A: Yes, it was. You might observe some other business entity using a slightly different name, but the process described generally conforms to the typical industry process for cost reforecasting.

Q: When did the Project Team complete its review of the Project's costs?

A: By April 21, 2008, all of the data necessary for review by the Project's leadership team had been assembled. Then, the Project's leadership team vetted the information.

Q: Who was on the Iatan Unit 2 Project's leadership team at that time?

A: Terry Foster, Steve Easley, Brent Davis, Steve Jones, Mike Hermsen and Denise Schumacher comprised the "Leadership Team."

Q: How was the vetting done?

A: Vetting was done in a round-table fashion over a period of approximately one week. The Leadership Team members reviewed each item and the associated backup individually. The various Project Team analyses were prepared, reduced to writing, and the Leadership

Team was given the opportunity to voice either its disagreement or its agreement. The KCP&L cost group, Project controls and Schiff were present to assist the Leadership Team in interpreting the information and facilitating in the vetting process.

Q: What was the Iatan Unit 2 Project's status at the time the 2008 Cost Reforecast was completed?

A: As of May 2008, the Project Team reported that engineering was 70% complete, procurement 96% complete, and construction was approximately 20% complete.

Q: At what point did the Project Team present the results of the cost reforecast to KCP&L's senior management?

A: The results were presented in two phases. On April 25, 2008, the KCP&L Project Team presented its breakdown of the reforecasted budget to the EOC and to KCP&L's Chairman, Mr. Chesser. The following week, on May 5, 2008, Schiff made its presentation to the same members of the EOC.

Q: Describe the process that Schiff used for final vetting of KCP&L's reforecasted budget that was presented on April 25, 2008.

A: **[redacted]

[redacted]

Q: [redacted]

A: [redacted]

Q: What were the major elements that Schiff looked at in the vetting of the Iatan reforecasted estimate in May 2008?

A: Our starting point was the CBE from December 2006 and the assumptions that were used for its creation. We then looked at R&O items as a group of line items as well as individual R&O items, and considered the trends that had been established on the Iatan Project thus far for scope changes. We also reviewed: (1) the current procurement status; (2) contractually-based, potential payment incentives for major contractors; and (3) potential future change orders and scope additions.

[redacted]

[redacted]

Q: What was the total reforecasted estimate for Iatan Unit 2 in May 2008?

A: Approximately **[redacted]** excluding AFUDC. This number encompassed the entire construction cost, without regard to KCP&L's ownership percentage or jurisdiction.

Q: What level of accuracy was the reforecasted Unit 2 estimate as of May 2008?

A: At that time, Iatan Unit 2's design was approximately 70% complete, there were aspects of the work that had not been fully designed that still carried a degree of cost uncertainty, and there were a number of potential risks that had not yet been encountered. As a result, I believe the Iatan Unit 2 portion of the reforecasted Control Budget was generally an AACE Class 2 estimate, which would have a range of accuracy between -15% to +10%, or a range of **[redacted]**.

Q: How did the 2008 reforecasted estimate for Iatan Unit 2 increase from the late 2006 CBE to May 2008?

A: The following chart identifies the differences between the CBE and the 2008 Cost Reforecast.

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Q: What are the categories of difference from the CBE?

A: The main changes between the original CBE and the reforecasted estimate in May 2008 were due to: (1) design maturation increasing the actual amount of quantities installed; (2) design maturation impacting schedule and man-hours as a result of additional work scopes and increased quantities; (3) global pricing changes; (4) permit and compliance

impacts; and (5) operations and construction optimization.

Q: What is design maturation?

A: On day one of the Iatan Project, there was no design. Design of a project has to start somewhere, and it evolves and matures over time. When the Control Budget was established in December 2006, the level of engineering completion for Iatan Unit 2 was in the 20% range. As the Project's design further matured, the configuration with respect to certain aspects of the Project changed resulting in different quantities.

Q: How does design maturation impact the schedule on a project such as Iatan Unit 2?

A: Detailed information from a mature design ultimately results in the determination of final work quantities and related configurations. Final configuration and quantities drive procurement, delivery, and installation and thus the overall construction schedule. After work quantities and configurations are known, procurement can commence. This determines the delivery schedule and in turn may further influence the project's construction schedule.

Q: What portions of the Project were most impacted by design maturation in the time period from the December 2006 CBE to June 2008?

A: For Iatan Unit 2, design maturation most readily impacted areas of the final design that were dependent on the details and workings of the major pieces of plant equipment, functionality of that equipment and operational aspects of that equipment in concert with other systems. Portions of the design that were impacted most by maturation included plant systems such as electrical, water, air, ventilation and mechanical operations. The final design of these plant systems requires significant coordination and a full understanding of the physical size, locations and functionality of adjacent equipment and

structural elements.

Q: Do costs of a project always rise as a result of design maturation?

A: I would not say that "costs rise" due to design maturation but rather one's ability to more accurately forecast the end cost of a project is enhanced as the design is completed and that sometimes results in cost projections increasing. As the design matures and the project's scope becomes more defined, the work quantities and related configurations can more readily be determined. This in turn has an effect on work sequences, overall schedule considerations, work-area sharing arrangements, and time-function expenses. Design evolution enhances an owner's understanding of the nature of a project's various cost streams. As that knowledge and understanding is incrementally accrued, the project's contingency should be re-evaluated in light thereof.

Q: When was the impact of design maturation most apparent on the Iatan Unit 2 Project's costs?

A: During the period between the establishment of the CBE in December 2006 and the May 2008 Cost Reforecast, the design matured from approximately 20% complete to approximately 70% complete. A large percentage of the R&O's that the Project Team had identified during this period reflected the increase of such design maturity.

Q: Based on your analysis of the 2008 reforecasted estimate, did the increase in costs from design maturation that the Iatan Unit 2 Project experienced from December 2006 to May 2008 result from any imprudent acts by KCP&L?

A: No.

Q: What drove the changes to the Project's pricing that were captured in the 2008 reforecast?

A: In the construction industry, material and equipment price escalations are not always predictable. Often the best you can do is make an educated guess, particularly in a heated market where scarcity of resources is a major issue. In addition, some of the Iatan Unit 2 Project's suppliers included price escalation provisions as part of their base contract, so that if raw material and other component costs actually increased, KCP&L was responsible for the difference. This is not uncommon in the industry. An example is the chimney liner, which is made from an alloy material whose cost escalated significantly from the time KCP&L contracted with Pullman until the point in time at which Pullman actually purchased these materials.

Q: Do you have any specific knowledge with respect to the trends in the industry that may have impacted pricing at this time?

A: Yes. In my role as a member of multiple dispute review boards as well as my activities on behalf of other clients, I was very familiar with the economic climate during the all stages of the Iatan Unit 2 Project. Company witness Kenneth Roberts testified to the impact of price escalation on the utility construction industry. As an example, Mr. Roberts' testimony cited the study by Cambridge Energy Research Associates (CERA), a leader in analyzing utility project cost data, stated in February 2008 that prices in the power industry rose by 27% in 2007, and 19% in just the last six-months of 2007. Mr. Roberts' testimony noted that CERA's Power Capital Costs Index shows that costs have risen 130% since 2000 and were poised to rise higher in 2008, (CERA Article, May 27, 2008) which translated would mean that a new power plant that cost $1 billion in

2000 would cost $ 2.3 billion in 2008. The CERA Article is attached to Company witness Ken Roberts' testimony as Schedule KMR2010-8. This analysis is similar to my own experience with projects in the power industry as well other large industrial, governmental and commercial projects that were being planned and built at that time.

Q: Based on your analysis of the 2008 reforecasted estimate, were there imprudent acts by KCP&L which resulted in material or significant increases to the overall projects costs that emanating from increases to pricing from December 2006 to May 2008 to the Iatan Unit 2 Project?

A: I do not believe so, no.

Q: What are changes in the estimate due to Optimization, Operation and Construction?

A: As design matures and the project's scope becomes more focused, owners often take the opportunity to maximize the overall performance of a plant. In the case of Iatan Unit 2, KCP&L defined such changes as those intended to: (1) reduce long-term operations and maintenance costs for the plant; or (2) optimize the construction of Iatan Unit 2. Also included in this category was contingency set aside for reducing potential claims and other risks of construction.

Q: What were examples of R&O's that were associated with this category in the 2008 Cost Reforecast?

A: The largest increase under this category was the cost of the Owner's Construction Management team. The original amount for owner's indirect costs in the 2006 CBE was increased by the new VP of Construction, Mr. David Price, when he was hired in May 2007.

Q: Were the construction management staffing changes generally timely?

A: Yes. The increases to the construction management staff started mid-2007 and the 2008 Cost Reforecast merely recorded the increases in aggregate due to this and all other R&O increases.

Q: What were changes in the cost estimate due to permit and compliance issues?

A: The KCP&L Project Team identified specific cost items related to permitting and compliance issues, the effect of which were not reflected in the 2006 CBE. Included in these costs were additions to the cost of Project oversight and audit from internal KCP&L departments, Schiff, and Ernst & Young. This category also included discrete R&O items related to compliance and permitting items that were derivative of the maturation of the Project's design.

Q: Based on your analysis of the 2008 Cost Reforecast, were the Iatan Unit 2 Project's costs significantly increased from December 2006 to May 2008 as a result of any imprudent acts by KCP&L?

A: Not to my knowledge, no.

Q: What is your overall conclusion regarding the 2008 Cost Reforecast?

A: The 2008 Cost Reforecast was an arduous effort that served to further increase the Project Team's focus on costs. The reforecast well positioned the team to manage the bucketed costs on a going-forward basis. The result was that there were no significant additions to the Iatan Unit 2 Project's cost as measured between the 2008 Cost Reforecast and the 2009 Cost Reforecast.

THE 2009 COST REFORECAST

Q: When was the next time KCP&L reforecasted its Iatan Unit 2 Project Budget?

A: KCP&L engaged in a cost reforecast during the first two quarters of 2009. The result was presented to the KCP&L Board of Directors in July 2009 (the "2009 Cost Reforecast").

Q: Why did KCP&L engage in the 2009 Cost Reforecast?

A: As previously stated, it is good practice to periodically reforecast costs on a complex, multi-year project such as Iatan Unit 2. In addition, design of the Project was essentially complete as of that time. Also, KCP&L was reviewing the potential cost of maintaining the target for Provisional Acceptance date as June 1, 2010 or whether the target date and associated milestones should be revised.

Q: Did the 2009 Cost Reforecast result in any changes to the 2008 cost reforecast?

A: No. After a thorough review of the remaining costs and associated schedule changes, the Project Team recommended to Senior Management that the budget be maintained at the same ** [redacted] ** amount that the Project has carried since June 2008.

Q: At the time of the 2009 Cost Reforecast, had the Project Team accounted for potential changes in Project's costs emanating from changes to the Iatan Unit 2 Project's schedule?

A: Yes. The project team considered all known factors that could have impacted costs as of that time.

Q: Did the Project Team follow the same process for the 2009 Cost Reforecast as it did for the 2008 Cost Reforecast?

A: For the most part, yes. The Project Team embedded some process improvements from the 2008 Cost Reforecast as compared to the 2009 Cost Reforecast that streamlined the analysis. The Project Team also no longer tracked R&O items in the same form and format as used prior to the 2008 Cost Reforecast. Instead, the Project Team aggregated the information into cost projection folders, or "CP's" that were more integrated and encompassing in content than were the R&O's. This enhanced the overall cost analysis and has been utilized again in the subsequent reforecast of the Iatan Unit 2 Project's CBE.

Q: What was Schiff's independent assessment of the 2009 Cost Reforecast?

A: We reviewed the results from the project team and engaged in vetting sessions regarding those results, and performed a similar independent analysis of the CP's. **[redacted]** We presented our results to the Executive Oversight Committee in a similar fashion as with the 2008 Cost Reforecast.

Q: How did KCP&L's Senior Management account for the differences between the project team's view and Schiff's view of the 2009 Cost Reforecast?

A: KCP&L's management chose to continue managing the Iatan Unit 2 Project to the 2008 Cost Reforecast amount of **[redacted]** though stated that the project's costs projected within a range of **[redacted]**

Q: Do you have an opinion as to why the 2009 Cost Reforecast did not result in changes to the 2008 Cost Reforecast at that time?

A: Yes. I believe the 2008 Cost Reforecast was reflective of a significant progression in the overall design maturity of the Iatan Unit 2 Project as measured from the time of the CBE, initially approved in 2006.

APRIL 2010 COST REFORECAST

Q: Has KCP&L reforecasted Iatan Unit 2's budget since the 2009 Cost Reforecast was completed?

A: Yes. KCP&L's project team presented a reforecast of the project's EAC to the EOC on March 26, 2010 which was subsequently provided to the KCP&L Board of Directors for approval on April 6, 2010 (the "April 2010 Cost Reforecast").

Q: What were the circumstances for reforecasting the EAC at this stage of the Iatan Unit 2 Project?

A: Other than good practice, as discussed herein, as Company Witness Robert Bell testifies, the reason for KCP&L to reforecast the project's cost to complete was that KCP&L had recognized that the Iatan Unit 2 Project's in-service dates would be extended into the fall of 2010.

Q: What process did the KCP&L project team utilize for reforecasting as part of the 2010 Cost Reforecast?

A: The process used was essentially the same as used for the 2009 Cost Reforecast, except that the number and nature of several of the CP's had changed to further facilitate the review and analysis of the project's EAC.

Q: What was the result of the 2010 Cost Reforecast?

A: The project's EAC was revised from **[redacted]**

Q: What constituted the primary changes in the 2010 Cost Reforecast?

A: The 2010 Cost Reforecast captured a myriad of changes from the 2009 Cost Reforecast, and the most significant ones were: (1) increases to the project's start-up budget; (2) decreased revenue projections from test power sales during the changed start-up and commissioning period; (3) increases to certain fixed and semi-fixed costs that were more clearly defined; and (4) time-function expenses

Q: Why did the budget for start-up increase since the 2009 Cost Reforecast?

A: At the time the 2009 Cost Reforecast was prepared, the project team had developed only a conceptual estimate for start-up and commissioning. As the project's start-up and commissioning plans matured, the project team's knowledge increased and associated costs became more clear.

Q: Do you believe the increase in the project's start-up and commissioning cost projections from 2009 to 2010 significantly increased the overall cost of the Iatan Unit 2 Project?

A: No. The increase in the start-up budget was due to increased knowledge and understanding of the precise processes and vetting of the same so as to derive a more accurate cost estimate. Had the project team performed the same analysis with the same or similar level of detail in 2009 as it did in the first quarter of 2010, the majority of the projected increases in start-up costs would have been identified at that time and included with specificity in the 2009 Cost Reforecast.

Q: With respect to the changes in test power revenue, why did this projection change?

A: There were two primary reasons: (1) the change to the project's in-service date pushed the power sales from the summer 2010 to fall 2010 when demand is typically significantly lower; and (2) projected changes in the demand and market price for electric power.

Q: What are fixed and semi-fixed costs in the 2010 Cost Reforecast?

A: Fixed and semi-fixed costs are those that are not primarily time function in nature. These costs include changes in the project's scope that became more defined since the 2009 Cost Reforecast.

Q: What are the time function expenses that were projected in the 2010 Cost Reforecast?

A: Time function expenses are those costs that are dependent on the project's schedule. The projected cost increases in the 2010 Cost Reforecast account for the revised in-service date discussed in Company Witness Robert Bell's testimony. These time function expenses generally include personnel cost, overhead expenses and additional consumables and the like required to complete the project based on the project's revised in-service date as well as certain other, similar costs that were always planned to continue past the in-service date.

Q: What in-service date did the project team use for the basis of projecting time function expenses?

A: The project team assumed an in-service date of mid-December 2010. Time function expenses typically shift with schedule performance time, so if the project is completed earlier or later, that would impact the final project cost.