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Witness: Robert N. Bell
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Sponsoring Party: Kansas City Power & Light Company
KCP&L Greater Missouri Operations Company
Case No.: ER-2010-0355/ER-2010-0356
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2010-0355/ER-2010-0356

REBUTTAL TESTIMONY

OF

ROBERT N. BELL

ON BEHALF OF

**KANSAS CITY POWER & LIGHT COMPANY
KCP&L GREATER MISSOURI OPERATIONS COMPANY**

**Kansas City, Missouri
December 2010**

*** [REDACTED] *** Designates "Highly Confidential" Information.
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*Bell
Rebuttal
NP*

REBUTTAL TESTIMONY

OF

ROBERT N. BELL

Case No. ER-2010-0355/ER-2010-0356

1 **Q: Are you the same Robert N. Bell who provided Direct Testimony in this proceeding?**

2 A: Yes, I am.

3 **Q: What is the purpose of your Rebuttal Testimony?**

4 A: The purpose of my Rebuttal Testimony is to: (1) respond to the Missouri Public Service
5 Commission Staff Report regarding the Construction Audit and Prudence Review, Iatan
6 Construction Project for Costs Reported as of June 30, 2010 ("Staff's Report") regarding
7 KCP&L's cost controls, management, risk mitigation and oversight of the Iatan Unit 2
8 Project; (2) respond to criticism of the project management team's experience by the
9 Missouri Retailers Association's witness, Walt Drabinski; and (3) provide an update to
10 my Direct Testimony regarding the Risk Assessment and the status of start-up of Iatan
11 Unit 2.

12 **Q: Please provide a summary of the substance of your Rebuttal Testimony.**

13 A: I explain my 30 years of construction management and start-up experience on various
14 power generation facilities all over the world. Until coming to KCP&L in February
15 2009, my most recent experience was as a project executive for an internationally known
16 engineering firm and I was responsible for an EPC contracting consortia in the design,
17 procurement and construction of power plants in the Middle East.

18 Based on my experience, the Iatan Unit 2 Project has been an enormous success
19 from both a schedule and budget standpoint. While Iatan Unit 2 was in its planning

1 stages and before I joined KCP&L, I experienced the same market forces that other
2 Company witnesses have described; scarcity of human resources, escalating prices for
3 materials and services, long-lead times for engineered equipment and contractors whose
4 risk aversion increased along with their profits. Given that severe economic
5 environment, for Iatan Unit 2 to complete within 3 months of its original target schedule,
6 experience a cost increase of only 16% and perform as well as it has to date indicates to
7 me that this was a well conceived and well managed project from its very earliest stages.
8 I believe that the Project's management personnel have been sufficient in both numbers
9 and capabilities, and their effectiveness during the start-up phase of the Project proves
10 this to be the case. I also have been impressed by the collection of talent among the
11 outside advisors that senior management has committed to have helping us through the
12 Project. In my time on the Project, the Schiff Hardin team including Packer Engineering
13 has been instrumental in helping management understand certain risks and mitigation
14 strategies around those risks. Schiff Hardin has also provided legal counsel throughout a
15 number of extremely complex commercial issues and allowed the Project Team to
16 simultaneously resolve those issues and remain focused on the construction work.

17 I also address in my Rebuttal Testimony the typical reasons for engaging in a fast-
18 track project, which I have found to be the most cost-effective strategy for performing
19 major projects. Finally, I address the tremendous success KCP&L had in the Start-up of
20 Iatan Unit 2. KCP&L effectively mitigated the risks to the start-up schedule and put the
21 unit in-service forty-two (42) days prior to the best case scenario as projected in the April
22 2010 Risk Assessment, Schedule RNB2010-1. Additionally, the planning and execution

1 of the Iatan Unit 2 start-up was consistent with industry best practices and the most
2 successful I have been associated with during my career.

3 **INDUSTRY EXPERIENCE AND BACKGROUND**

4 **Q: Please provide a general description of your career in the utility construction and**
5 **start-up business.**

6 A: I have worked in the utility industry in various capacities for over thirty years. During
7 the course of my career, I have been involved in some way in the construction
8 management and start-up of approximately thirty plants. I have seen all aspects of the
9 process from the first shovel in the ground to turning the completed plant over to
10 operations. There have been projects where I have been on board for the entire duration,
11 and other projects where my role was limited to particular assignments. For the decade
12 prior to joining KCP&L, I was a project executive in a large international firm engaged as
13 the lead in engineering-procure-construct ("EPC") power projects around the world.
14 During this time, I participated in executive decision-making regarding EPC bids and
15 participated in the executive oversight of the construction budgets of over a dozen major
16 projects. I have attached my resume as RNB2010-3.

17 **Q: Describe your experience at the Tennessee Valley Authority.**

18 A: From 1978-82, I worked as a co-op and field engineer and my responsibilities included
19 operation and maintenance of a large coal plant, testing and troubleshooting of nuclear,
20 coal, and hydro power plants, transmission systems, and distribution equipment.

21 **Q: Describe your work experience at General Electric ("GE").**

22 A: I worked in various power plant construction and startup positions over my fifteen (15)
23 years at GE. Between 1982-88, I worked in international construction and

1 commissioning for GE Technical Services Company. During this time, I was a
2 construction and/or commissioning manager for two gas-fired boiler thermal power
3 plants in Egypt, a combined-cycle power plant in Yokkaichi, Japan, five power plants in
4 Saudi Arabia, and one power plant in Oman. I also worked as the operations and
5 maintenance manager for the Nasiriyah power plant, in Riyadh, Saudi Arabia.

6 Between 1988 - 1994, I worked in GE's Power Generation Services on the
7 following projects: (1) electrical construction and commissioning manager for the TVA
8 Memphis, Tennessee Plant Allen Combustion Turbine (CT) retrofit ("Allen Project") for
9 an electrical and controls retrofit project of twenty combustion turbines; (2) electrical
10 construction and commissioning manager for PWC Fayetteville, North Carolina plant
11 ("Fayetteville Project") conversion from simple cycle to combined cycle where we added
12 three new Heat Recovery Steam Generators (HRSG) and one new Steam Turbine (ST)
13 and upgraded the controls systems of the existing 8 CTs, (3) electrical construction and
14 commissioning manager for the Virginia Power, Richmond, Virginia combined cycle
15 power plant ("Virginia Project") for the addition of one CT, one ST and one HRSG; and
16 (4) commissioning manager for Florida Power & Light's Indiantown, Florida power plant
17 ("FPL Project") that included the addition of four 7FA Dry Low NOx CT's, two
18 HRSG's and two ST's.

19 Between 1994-1997, I worked for GE Electric International as an electrical
20 construction and commissioning manager on the following projects: (1) Crocket,
21 California Cogen power plant, which was the first single shaft 7FA DLN 2 GE machine
22 built that included a HRSG and a ST; (2) Harry Allen Las Vegas, Nevada which is a 2 -
23 7EA DLN 1 dual fuel CT power plant; and (3) WWP Rathdrum, Idaho, which is a 2 -

1 7EA DLN 1 CT power plant. I also lead the performance tuning of 8 – 9FA DLN 2 CT
2 combustion systems in Tokyo, Japan and 4 - 9FA DLN 2 CTs in Eemshaven,
3 Netherlands.

4 **Q: While at GE, did you have any experience managing craft labor in the field?**

5 A: Yes. I managed craft labor on the following projects: (1) on the Allen Project, where I
6 managed an eighty-three (83) man crew of union electricians and engineers; (2) on the
7 Fayetteville Project, where I directed a one hundred and fifty-five (150) man open shop
8 crew of electricians and engineers; (3) the Virginia Project involved a seventy-three (73)
9 man union crew of electricians and engineers; (4) the FPL Project involved a thirty-five
10 (35) man start-up crew; and (5) all six Saudi Arabia and Oman projects I managed all
11 crafts for the construction and start-up.

12 **Q: Describe your work experience at Black & Veatch.**

13 A: From 1997 to 2001, I was the Director of Strategic Initiatives in the Power Division of
14 Black & Veatch. In this role, I centralized the Division's procurement to leverage vendor
15 relationships to reduce overall costs. I also served as the Project Director for the
16 corporate worldwide Y2K program. This project required the management and
17 implementation for both Black & Veatch and nine different utilities simultaneously. I
18 also implemented GE's Six Sigma program which focused on quality control
19 improvements within utility organizations.

20 In 2001, I was promoted to Vice President of Strategic Initiatives where my
21 responsibilities included operational control of the Construction Equipment and Fleet
22 Services business, an internal reorganization of the Power Division and regional

1 operation centers to support one hundred and fifty-seven (157) projects and realigned
2 corporate processes including implementing an electronic payment platform.

3 Between 2004-2006, I was the Vice President, Division Operations and from
4 2006-09, I was Vice President and Project Executive International Programs for Black &
5 Veatch's Special Projects Corporation. This business unit was the lead of a consortium
6 that performed power projects on an EPC basis. My experience in this role included
7 accountability for the execution of multiple energy projects included in the \$1.4 billion
8 U.S. Agency for Infrastructure Development ("USAID") Afghanistan Infrastructure and
9 Rehabilitation Program. My duties included responsibility for the home office support
10 and in-country EPC activities. The projects included as a part of the USAID program
11 included a new power plant, transmission and distribution, hydro-electric dams, and
12 establishing power purchase agreements.

13 In 2004, I was also the Project Manager of the U.S. Army Corp. of Engineers
14 Transatlantic Programs Center ("CETAC 1") reconstruction contract in Iraq. My
15 responsibilities included the fast track construction and start-up of two new combustion
16 turbine power plants.

17 **Q: Did your experience at Black & Veatch include any budgeting or finance**
18 **responsibilities?**

19 **A:** Yes, in my role as the Vice President and Director of Special Projects Corp., I was the
20 business unit representative for the Corporate Services Board, which is the group that
21 develops and implements all budgets, processes and procedures for Black & Veatch
22 Corporation. My role included budgeting and managing all business-unit overhead costs
23 as well as managing the costs from Corporate Shared Services which includes finance,

1 CIO/IT, procurement, insurance/risk management and human resources. Additionally, as
2 the Director of Strategic Initiatives, I sat on the executive board that reviewed monthly
3 progress and financial reports for all large EPC projects and I developed the financial
4 briefs for our external auditors and financial institutions.

5 **INDUSTRY CONTEXT FOR IATAN UNIT 2 PROJECT**

6 **Q: What are your current responsibilities with respect to the Iatan Unit 2 Project?**

7 A: I described my role on the Iatan Unit 2 Project in my Direct Testimony since starting with
8 KCP&L. *See* Bell Direct Testimony at p. 1. My role has not changed.

9 **Q: Are you responsible for Iatan Unit 2's current budget?**

10 A: Yes, I am.

11 **Q: Are you familiar with the Iatan Unit 2 Project's budget history for the overall
12 Project?**

13 A: Yes, I am generally familiar with the overall Project's cost history through my
14 participation in multiple project cost reforecasts since I joined the Project.

15 **Q: What is your recent general experience with cost increases on projects in the power
16 construction industry?**

17 A: During the last decade, experiencing cost increases in the construction industry was the
18 rule, not the exception. Company witness Mr. Kenneth Roberts cites a number of
19 statistics regarding the overall impact on the industry at that time, and his testimony is
20 consistent with my experience. With the boom of new plants in the U.S., China and
21 elsewhere in the developing world, the construction market was so overheated that
22 ordinary commodities like structural steel and electrical cable were in short supply.
23 Between price escalation from commodities and vendors offsetting their risks through

1 increased costs and higher contingency, the best hope to maintain cost control was
2 identifying ways of mitigating the tide of rising prices as they occurred.

3 **Q: How would you describe the market for EPC contractors during the planning phase**
4 **of the Iatan Unit 2 Project, circa 2004-05?**

5 A: Well, I was an executive for an EPC contractor then, and I can tell you that the mindset of
6 EPC contractors had shifted radically in only a few years. By the mid-2000's, EPC
7 contractors had migrated away from taking any risks. Target price contracts became the
8 norm, and fixed-price work was largely a thing of the past. Even the most aggressive
9 companies engaged in contracting at that time looked to offload any risk possible because
10 owners were forced by the market to pay higher fees and premiums.

11 **Q: Company witness Mr. Giles has testified regarding the contracting strategy**
12 **proposals to KCP&L in late-2005 to perform the Iatan Unit 2 Project. See Giles**
13 **Direct Testimony at pp. 8-9. Neither Black & Veatch nor Burns & McDonnell**
14 **advanced an option to perform the Project on a "full-wrap" fixed price basis and**
15 **meet the scheduled completion date. Does that surprise you?**

16 A: Not at all. Given the market, when I joined the Iatan Unit 2 Project, I was surprised to
17 find that ALSTOM had contracted on a fixed-price EPC basis given the amount of work
18 it had in its scope for Iatan Unit 2 and that KCP&L obtained such a good price from
19 ALSTOM. This contract helped KCP&L manage the cost variances for the entire
20 Project.

21 **Q: Mr. Giles also has testified that KCP&L's senior management was told by its**
22 **advisors in 2005 that the premium EPC contractors were charging their customers**

1 **at that time was likely 12-15% of the total contract. Based on your experience at**
2 **that time, do those figures sound reasonable?**

3 A: Yes. During that time, EPC contractors were able to charge as much as the market would
4 bear due to the scarcity that I spoke of earlier. Such premiums were normal, and they
5 would have been added on top of both a project's base cost and its contingency. Based
6 on my experience, I believe that the premium an EPC vendor would have charged for
7 Iatan Unit 2 would have been in addition to KCP&L's full Control Budget Estimate of
8 \$1.685 billion for Iatan Unit 2 had there been one willing to bid the work on a fixed-price
9 basis. But as I stated earlier, that is purely speculative because it is my understanding
10 that there was no market interest in this type of deal.

11 **Q: Do you have experience performing and managing work on a fixed-price basis?**

12 A: Yes. I have considerable experience with fixed-price work.

13 **Q: Have you ever been on a fixed-price project in which the contractor with the fixed-**
14 **price arrangement had no change orders?**

15 A: No. A fixed-price project with no change orders is a virtual impossibility. There are
16 always changes on a large construction project, and in my experience, no contractor is
17 willing to take the risk that there wouldn't be changes. If it did, it would add a significant
18 price cushion in its bid to offset that kind of risk resulting in a sky-high total contract
19 price.

20 **Q: Prior to joining KCP&L, did you have experience with projects on "brownfield"**
21 **sites where there were existing plants and your contract was to rehabilitate the**
22 **existing plant, build a new plant on site or both?**

23 A: Yes. I have done all three combinations on brownfield sites.

1 **Q: Is there typically added complexity in constructing on a brownfield site?**

2 A: Yes. Depending on the site and the layout, the added complexity could be extreme,
3 especially where there is limited laydown and workspace for the contractors and the
4 utility's priority is maintaining the operation of the existing plant(s). These limitations
5 and complexities typically increase the contractor's price.

6 **Q: How would you rate the Iatan Project's site?**

7 A: Iatan is better than some and worse than others. I would say that the added complexity of
8 construction on the Iatan site is about average. Of course, I was not on site when Iatan
9 Unit 1 was under construction, so my perspective has been based on only one unit under
10 construction.

11 **Q: Do you know the original value of the ALSTOM contract?**

12 A: Yes. I believe it was ****[REDACTED]**** for both Iatan Unit 1 and Iatan Unit 2.

13 **Q: Do you know the current estimate at completion cost for ALSTOM is currently
14 projected to be?**

15 A: Yes. Based on the most recent cost reforecast, ALSTOM's projected cost is
16 approximately ****[REDACTED]****. This represents an increase to its base contract of
17 approximately 10%.

18 **Q: In your experience, how does KCP&L's record of cost management with ALSTOM
19 compare with other large, fixed-price EPC contracts?**

20 A: In my experience, holding a contractor like ALSTOM to change orders of approximately
21 10% on a 2-unit brownfield site is phenomenal, especially given the aggressive price
22 ALSTOM provided in its original bid for the base contract work.

23 **Q: What is your experience with fast-track projects?**

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1 A: Fast-track construction, in which aspects of the project's engineering and construction
2 schedule are compressed and performed concurrently in a "just-in-time" approach, has
3 become a normal and accepted option in the power construction market. Early in my
4 career, projects tended to be built on a "design-bid-build" basis where the engineering for
5 a project was essentially completed before the contractor bid the work and then built the
6 project. During the 1990's and early 2000's, the industry changed due to the sudden
7 explosion of combustion turbine plant construction by independent power producers
8 ("IPP"), who came into being after deregulation of the utility industry. Contractors like
9 those for whom I worked developed fast-track plans for executing combustion turbine
10 plant construction that involved repetitive design and modular construction. Such
11 projects also require sophisticated project controls to optimize and track schedule
12 performance. The use of fast-track methods not only saved time but also saved owners
13 money, because the duration of plant's development was significantly reduced, and less
14 schedule time equated to lower cost construction. These methods have been adapted to
15 all types of power construction in the last two decades. The industry has continued to
16 develop increasingly sophisticated project controls to insure that fast-tracked aspects of
17 the project are well run and efficient.

18 **Q: Do you believe that KCP&L had the capability from an owner's perspective to**
19 **manage a fast-track project?**

20 A: Yes. From what I saw when I joined the Iatan Unit 2 Project to today, KCP&L had the
21 necessary personnel, talent and project controls capability needed to manage fast-track
22 work.

1 **Q: Staff contends that fast-tracking the Iatan Project resulted in additional and**
2 **unexplained cost overruns. Do you agree?**

3 A: No, I do not. While I was not here for the first several years of the Iatan Unit 2 Project, I
4 was involved in managing and coordinating approximately the last forty percent (40%) of
5 the Iatan Unit 2 Project's construction and the entire start-up process. I have also been
6 involved in the Iatan Unit 2 Project's last three cost reforecasts, and have reviewed in
7 detail the supporting documentation for the budget increases on the Project. I would not
8 associate any of the variances that have occurred with unnecessary costs due to fast-
9 tracking the work. In fact, as I have stated, it is quite likely that KCP&L saved a
10 considerable amount of money by performing the work as it did. Any such cost savings,
11 like Staff's contention regarding cost increases, is difficult, if not impossible, to quantify.

12 **Q: Based on your experience is a sixteen percent cost increase on a project the size and**
13 **complexity of Iatan indicative of poor management?**

14 A: Absolutely not, for the reasons I have just explained.

15 **Q: In your opinion, is specific experience on a project involving supercritical boilers**
16 **necessary to be qualified to manage a project such as the Iatan project?**

17 A: No. Supercritical equipment does not change the nature or complexity of the
18 construction or start-up of a unit. The designation of "supercritical" relates to the unit's
19 operating temperature and pressure. As Mr. Davis explained in his Direct Testimony,
20 supercritical units operate at temperatures and pressures greater than the critical point of
21 water which increases thermal efficiency. *See* Davis Direct Testimony at p. 6. The
22 higher energy efficiency of operation reduces fuel costs, emissions, sorbents
23 consumption, ash and waste production, and well as water consumption. *See id.*

1 Experience constructing any other generating facility is relevant to the
2 management of the construction of a supercritical coal-fired unit. On the construction
3 side, supercritical designs might actually be easier to build than subcritical units because
4 there is no steam drum and less piping. The start-up process is very similar for any boiler
5 regardless of the type or even the size: coal, natural gas or diesel fuel, and I have built all
6 of these types of plants. In my opinion, someone can also obtain relevant experience
7 participating in the construction and start-up of a unit smaller in size than Iatan Unit 2.
8 Regardless of the size, the start-up process is the same for any generating unit using a
9 boiler including flushing activities, planning and execution considerations, and the
10 associated risks.

11 **Q: Prior to joining KCP&L, had you worked on a project involving large boilers?**

12 A: Early in my career when I was an engineer with the Tennessee Valley Authority, I
13 worked on three larger units including two 700 mW units and an 1150 mW unit in
14 Paradise, Kentucky. It is important to note that due to the downturn in the US market of
15 coal plants in the 1970's and early 1980s, people who are my age or older would be the
16 only ones with such direct experience from a pure construction standpoint.

17 **Q: Has your experience included projects of similar size and complexity as Iatan?**

18 A: Absolutely. I have built projects from the ground up that were larger than Iatan including
19 large combined cycle units with heat recovery steam generators ("HRSGs"). For
20 example, I was the Project Manager for a TEPCo project in Japan that was a 9FA project
21 of approximately 2800 megawatts. Additionally, I was the Project Manager on the
22 Florida Power & Light Project in Martin City that was approximately 900 megawatts. I

1 also worked as the Project Manager in an EPON project in Holland which was
2 approximately 800 megawatts.

3 **Q: During your career, have you witnessed changes to the pool of available**
4 **construction management talent with experience in large coal plants?**

5 A: Yes. There have been multiple boom and bust periods. Due to the lull in the market in
6 the 2000-2003, many engineering firms projected that there would be limited or no more
7 new coal-fired generating unit construction in the continental U.S. Instead, the industry
8 was predicting that future power construction and growth would be in the construction of
9 combustion turbine and combined cycle plants due to low natural gas prices. As a result,
10 many construction and engineering firms incented their seasoned leadership who had
11 immense experience during their career in building coal-fired generating facilities to
12 retire.

13 **Q: What is the impact of this on current construction of power plants?**

14 A: There was a boom in the mid-part of the last decade in the building of new coal plants
15 both here and abroad, and current environmental regulations have and will require
16 retrofits of environmental equipment to many existing coal-fired plants to meet state and
17 federal emissions requirements that are set to take effect in the next few years. But,
18 because of the generation of workers that retired prior to 2003 and the number of
19 Americans working overseas, there is a deficit in experienced engineering and
20 construction management expertise to meet the existing demand.

21 **Q: Did the Iatan Project Team suffer from this industry-wide problem?**

22 A: No. When I joined the Project, I was very surprised at the level of experience that the
23 Iatan Project Team members did have. Based on the market availability, I believe that

1 KCP&L did an exceptional job putting together a seasoned and knowledgeable team to
2 manage the Project.

3 **Q: Based on your experience, how well did KCP&L identify and manage the risks for**
4 **the Iatan Unit 2 Project?**

5 A: KCP&L's internal and external reporting is very thorough and based on data from project
6 controls, the construction management organization, and the contract managers. The
7 Project Team successfully and accurately identified and reported relevant risks
8 throughout the Project. The Project Team showed its full understanding and ability to
9 identify risks and mitigate them during the start-up phase, which I will discuss in greater
10 detail later in my Rebuttal Testimony.

11 **Q: Do you know the total projected budget for construction management costs for the**
12 **Iatan Unit 2 Project?**

13 A: Yes. Construction management expenses, which are a subset of the overall budget for
14 Indirect Costs, are projected to be approximately \$94.6 million at Project's completion
15 based on our most recent reforecast of the Iatan Unit 2 Project's estimate at completion
16 ("EAC").

17 **Q: Based on your experience developing budgets for major project initiatives, is your**
18 **experience regarding the typical amount of indirect costs on a project similar to**
19 **Iatan?**

20 A: Based on a projected total project cost for Iatan Unit 2 of \$1,948 million, the total of
21 \$94.6 million for Construction Management would constitute 5% of the Project's total
22 budget. That is certainly in line with my experience for complex projects.

1 **Q: On the projects that were similar in size and scope to Iatan, how did the size of the**
2 **owner's construction management organization compare to Iatan?**

3 **A: I believe that the size of the Iatan Project's Project Team is comparable to others I have**
4 **seen.**

5 **Q: Based on your experience, was KCP&L's staffing of the Iatan Unit 2 Project,**
6 **including the number of personnel over the life cycle of the project, within industry**
7 **standards?**

8 **A: I believe so, yes.**

9 **Q: Based on your experience, did KCP&L timely staff the construction management**
10 **team?**

11 **A: Yes. We have also prudently managed the de-staffing plan as Iatan Unit 2 is now in-**
12 **service, in order to limit the ultimate final cost.**

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 **Q: Based on your day-to-day contact with the contractors and consultants that KCP&L**
21 **hired for the Iatan Project, what is your opinion regarding their experience and**
22 **qualifications?**

1 A: I believe that KCP&L did an excellent job of selecting the Project's contractors.
2 ALSTOM has enormous capability and for this project combined three separate entities
3 in order to take on the EPC role. ALSTOM has a reputation in the industry for driving a
4 hard bargain, which is all the more reason why holding ALSTOM's change orders to
5 around 10% for the total Iatan Project is a tremendous achievement.

6 Kiewit Power Constructors Co. ("Kiewit") is a highly regarded company with an
7 excellent reputation. Kiewit provided professional management to the Balance of Plant
8 work. Its performance was exemplary, and when Kiewit's executives recognized its team
9 was at fault for some of the delays to the beginning of start-up, it took responsibility for a
10 portion of additional costs.

11 Burns & McDonnell is a good local firm that also has a presence in the power
12 industry across the U.S. Burns & McDonnell has not only supplied engineering
13 expertise, it has also provided high-quality construction management personnel as part of
14 its staff augmentation to the Project. The ultimate measure of engineering work has to be
15 whether the plant that was designed actually works. The fact that Iatan Unit 2 is running
16 so well is a testament to the quality of Burns & McDonnell's overall design work.

17 **Q: You mentioned the expertise that Schiff Hardin supplied. How did Schiff Hardin**
18 **and its consultants help the Project Team understand and mitigate risks on the**
19 **Iatan Unit 2 Project?**

20 A. KCP&L received significant help in this regard from Schiff Hardin and its consultants,
21 who assisted the Project Team in project schedule mitigation, cost tracking and technical
22 evaluation. As an example, when issues developed with ALSTOM's use of T-23
23 material in the Iatan Unit 2 boiler, Schiff Hardin and Packer Engineering were

1 instrumental in helping the KCP&L team identify the root causes of the boiler tube
2 cracking, develop an independent testing method and provide management with a risk
3 assessment regarding the future operations of the unit. ** [REDACTED]

4 [REDACTED]
5 [REDACTED] ** Schiff Hardin's
6 project controls team helped the KCP&L Project Team evaluate the potential schedule
7 impacts from T-23 and assisted the team in preparing its Risk Assessment. In its
8 oversight capacity, Schiff Hardin has provided its independent reporting of these risks
9 and events to KCP&L's senior management. Schiff Hardin has provided an integrated
10 approach to oversight unlike any I have seen in my career.

11 **Q: Have you had experience with other oversight groups?**

12 A: Yes. While at Black & Veatch in particular, there was oversight of the work we were
13 performing for the U.S. government.

14 **Q: Are you familiar with the rates that these other oversight groups charged?**

15 A: Yes.

16 **Q: You are also familiar with the rates Schiff Hardin charges KCP&L for its services?**

17 A: Yes, I am.

18 **Q: How do Schiff Hardin's rates compare to other firms providing oversight that you
19 have seen used in prior projects?**

20 A: Schiff Hardin's rates are very favorable, particularly when compared to the Washington
21 D.C. firms that have been on my past projects. Plus, Schiff Hardin's team has much
22 broader experience and capability than those D.C. firms.

23 **Q: In working with the Schiff Hardin Team, what was the role of Schiff's lawyers?**

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1 A: Based upon my observations, Schiff Hardin's lawyers and paralegals worked almost
2 exclusively on legal issues regarding the contractors. The one exception to this is Ken
3 Roberts who works primarily with the oversight team. The legal issues for which we rely
4 on Schiff's lawyers include drafting and negotiating contracts, resolving commercial
5 disputes through the dispute resolution provision of the contracts and helping with day-
6 to-day contract interpretation issues with respect to change orders, back charges and other
7 field issues. I have found it extremely beneficial to have lawyers on-site on a day-to-day
8 basis who can provide timely advice. Because they have been involved on the project
9 from day one, Schiff's lawyers do not need to bill time to "get up to speed" and are
10 tremendously efficient and getting to the needed answer.

11 **Q: Based on your experience, what is your opinion regarding the level of**
12 **documentation that KCP&L has kept during the Iatan Project?**

13 A: I am familiar with the processes and procedures that KCP&L implemented for the
14 Project. As a part of my responsibilities, I have reviewed a lot of the Project
15 documentation, including documentation created prior to my arrival on the Project.
16 Based on my experience, the type of documentation, level of detail, organization of the
17 project documentation is consistent with industry best practices.

18 **Q: What is your opinion regarding the level of transparency that the contractors,**
19 **specifically ALSTOM and Kiewit, provided to KCP&L on this Project?**

20 A: I have never seen an owner receive as much information from a contractor, particularly a
21 fixed price contractor, such as ALSTOM. Typically, a fixed-price EPC contractor
22 provides little information to the owner mostly because the owner doesn't think the
23 information is required on a 'turn-key' project. As Company witness Roberts testifies,

1 KCP&L was extremely committed to obtaining project controls data even though
2 ALSTOM initially pushed back on KCP&L's project controls requirements. *See Roberts*
3 *Direct Testimony at pp. 15-16.*

4 As for Kiewit, it has provided a significant amount of information to KCP&L as
5 well. KCP&L's ability to obtain information from these contractors was a result of good
6 contract language requiring these contractors to be transparent that KCP&L enforced
7 through the active management of the project. Both KCP&L's project team and its senior
8 management believe strongly in making contractors meet their obligations. KCP&L's
9 assertive management philosophy of being forthcoming and fair in its enforcement of the
10 contracts has had very positive impact on the Project. Had KCP&L taken either an
11 overly aggressive or very passive approach, the contractors would have provided a
12 significantly less information and it would have been of much lower quality. Because
13 KCP&L was commercially reasonable in its management and focused on the best
14 interests of the Project, the contractors were comfortable that their transparency would
15 help resolve the issue and that they would be treated fairly from a commercial and legal
16 perspective.

17 **IATAN UNIT 2 START-UP**

18 **Q: Please provide an update regarding the start-up of Iatan Unit 2.**

19 A: As of my Direct Testimony filing, we projected that due to the schedule risks to the start-
20 up schedule, the projected in-service date for Iatan Unit 2 would occur between October
21 7, 2010 and December 14, 2010. *See Bell Direct Testimony at p. 14.* Since my Direct
22 Testimony in June 2010, the remaining milestones occurred earlier than projected and the
23 Project did not experience any significant latent defects or equipment failures. The steam

1 blows were completed and the piping systems were restored. The Unit was synched to
 2 the grid and first fire on coal occurred on July 20, 2010. KCP&L initiated in-service
 3 testing in August 2010 and Iatan Unit 2 successfully met the in-service criteria on August
 4 26, 2010. ALSTOM met the contractual conditions for Provisional Acceptance on
 5 September 23, 2010. Company witness Brent Davis provides more information
 6 regarding the in-service testing in his Rebuttal Testimony. A summary of the major
 7 milestones is provided below:

Milestone	Base Case	Likely Case	Worst Case	Actual
First Fire on Coal	03/30/10	03/30/10	04/10/10	03/27/10
Refire on Oil	06/18/10	06/30/10	07/26/10	06/24/10
Synchronization	07/09/10	08/04/10	09/10/10	07/20/10
First Fire on Coal	07/10/10	08/08/10	09/16/10	07/20/10
In-Service Date	10/07/10	12/15/10	02/12/10	08/26/10

8
 9 The actual in-service date was a forty-two (42) day improvement over the “best case”
 10 scenario identified in the Schedule Risk Assessment, Schedule RNB2010-1, and one
 11 hundred and eleven (111) days better than the “likely” in-service date.

12 **Q: To what factors do you attribute the improvement of the start-up schedule?**

13 **A:** KCP&L’s active management of the start-up process put it in the best position to mitigate
 14 the risks of potential delays identified in the Risk Assessment and execute the start-up
 15 with as little disruption as possible. KCP&L took the following actions that contributed
 16 to the start-up success: (1) understanding and forecasting the start-up risks; (2)
 17 developing a detailed start-up schedule and using metrics for tracking manpower and
 18 resources to effectively manage the work and effectively deploy personnel; (3)
 19 overcoming obstacles such as the steam blow piping problem and mitigating the
 20 associated impact; (4) avoid major delays due to T-23 through advance planning; and (5)
 21 leverage performance of the key contractors.

1 The following summarizes how the non-occurrence of the risks to the start-up
2 schedule discussed in my Direct Testimony and the Schedule Risk Assessment resulted in
3 a better than expected in-service date:

4 (1) Equipment Breakage. None of the major components had start-up
5 difficulties, failed or otherwise caused an extension to the start-up activities. As a result,
6 there was approximately one month of savings from the “likely” scenario.

7 (2) T-23 Tube Leaks. The Risk Assessment based the potential schedule delay
8 from those experienced at Xcel’s Comanche 3 plant. To the extent possible, prior to
9 start-up, KCP&L took proactive steps to mitigate potential problems including closely
10 monitoring water quality and securing high quality welding of the boiler by using
11 Welding Services, Inc., a specialty welding subcontractor. The assumption regarding the
12 timing of boiler tube leaks, if they were to arise, did prove to be accurate. As anticipated,
13 a large number of tube leaks (174) occurred after First Fire on Coal as the boiler reached
14 operating temperature and pressure and stretched out the residual stresses from
15 construction. However, these tube leaks were not severe. Only one leak took the unit off
16 line and the rest were corrected during planned or brief outages. In total, the T-23
17 material’s impact on start-up was less than 10 days which resulting in approximately six
18 (6) weeks of savings from the “likely” scenario, much of this time was assumed to have
19 been concurrent with other potential delays, like equipment failures that did not occur.

20 (3) Advancing Work in the Schedule. When possible, KCP&L pulled work
21 forward in the schedule. For example, we were able to advance the start-up of certain
22 pieces of equipment during the extended steam blows. ALSTOM also contributed to
23 schedule savings by commissioning six pulverizers in advance of the schedule. Emerson

1 also contributed to schedule savings by completing the check out of the controls system
2 ahead of schedule. KCP&L's ability to manage the start-up was enhanced by the detailed
3 schedule and earned value tracking which permitted appropriate allocation of resources to
4 maximize efficiency. The early completion of the work described above significantly
5 shortened the period between First Fire on Coal to operation at 80% load.

6 (4) Water Quality and Flushing. We have focused on achieving very good water
7 quality by the conducting chemical clean and flushes of major systems for the specific
8 purpose of avoiding problems in the future and allowing for safer and more reliable
9 operation. This appears to have been effective because the water quality has not been an
10 issue with respect to the T-23 material and the initial quality has streamlined the clean-up
11 necessary after each outage.

12 (5) Training of Operations Staff. As I stated in my Direct Testimony, KCP&L
13 implemented a comprehensive operator training program. This program provided the
14 operators detailed exposure to the equipment before start-up in part to decrease the
15 likelihood of operator error during start-up and operation. This goal was achieved
16 because during the execution of the start-up there was no incident in which operator error
17 caused the unit to trip.

18 The Unit is still undergoing tuning and the final performance testing is anticipated
19 to begin during the fourth quarter 2010. The achievement of in-service criteria and
20 commercial Provisional Acceptance with ALSTOM has mitigated a significant amount of
21 the risks associated with the Unit 2 start-up.

22 **Q: Based on your experience, what is your opinion regarding the execution of start-up**
23 **at Iatan?**

1 A: In my experience, KCP&L's planning and execution of the start-up of Iatan Unit 2 is
2 consistent with industry best practices. KCP&L took the lead with the contractors to
3 develop a detailed start-up schedule including contractor buy-in regarding the associated
4 construction turnover ("CTO") dates. The management decision to invest in training the
5 operators assisted in the mitigation of start-up risks identified in my Direct Testimony.
6 *See Bell Direct Testimony at pp. 10-11, 14-15 and Schedule RNB2010-1.*

7 **Q: Based on your experience, what is your opinion regarding KCP&L's management**
8 **of the construction and start-up process for the Iatan Project?**

9 A: KCP&L has been actively engaged in the Project from design development throughout
10 the start-up process. The level of involvement of Senior and Executive Management,
11 internal and external auditors, and outside oversight groups have contributed to the
12 effective management of the Project.

13 **Q: Does that conclude your testimony?**

14 A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Kansas City)
Power & Light Company to Modify Its Tariffs to) Docket No. ER-2010-0355
Continue the Implementation of Its Regulatory Plan)

AFFIDAVIT OF ROBERT N. BELL

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

Robert N. Bell, being first duly sworn on his oath, states:

1. My name is Robert N. Bell. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Director of Construction for the Iatan Unit 2 Project.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Kansas City Power & Light Company consisting of twenty-four (24) 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.



Robert N. Bell

Subscribed and sworn before me this 2nd day of December, 2010.



Notary Public

My commission expires: July 28, 2013

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

Robert N. Bell

SUMMARY

Successfully manage the installation, startup and operation of power plants utilizing over 30 years of hands-on experience.

EXPERIENCE

03/09 to Present

Kansas City Power & Light, Kansas City, MO
Senior Director, Construction

- Project Director for the construction completion and startup of the Iatan 2 Coal Fired Supercritical 930MW Plant. Record 42 day completion from synchronization to completing in-service testing.
- Project Director for the construction and startup of the LaCygne Environmental Retrofit of two 800MW Coal Fired units. Retrofit includes SCR, Baghouse and Scrubbers.
- Project Director for the construction and startup of the Sibley Unit 3 Environmental Retrofit of a 360MW Coal Fired unit. Retrofit includes Baghouse and Scrubber.
- Department Director for all large Construction projects.

01/04 to 03/09

Black and Veatch Special Projects Corp, Overland Park, KS
Vice President and Director of Programs

- Program Director of the energy projects for the \$1.4 billion USAID Afghanistan Infrastructure and Rehabilitation Program. Responsible for all Home Office support and in-country EPC activities. Projects include Power Plants, T&D, Hydro, Power Purchase Agreements and Capacity Building.
- Project Manager of the US Army Corp of Engineers CETAC 1 reconstruction contract in Iraq with responsibility for the installation and startup of two new combustion turbine power plants.
- Responsible to budget and manage all business unit overhead costs. Interface with and manage the costs from Corporate Shared Services (Finance, CIO/IT, Procurement, Insurance/Risk Mgmt, HR). Business unit rep for the Corporate Services Board where all budgets, processes and procedures for our Corporation are developed and implemented.

01/99 to 01/04

Black and Veatch, Corporate and Power Divisions, Overland Park, KS
Vice President, Strategic Initiatives

Strategic realignment of AP/AR processes.

- Moved from check payment platform to electronic platform.
- Used P-Card payment methodology to improve retained cash by 15 days.
- Permanent cash impact improvements to the firm of \$5.5 MM.
- Collected outstanding 180+ day receivables on 127 projects.

- Achieved a 25-day DSO improvement in A/R.
- Implemented GE Six Sigma program.
- Team Leader for centralization of company's \$1.3 Billion procurement.
- Renegotiated \$22 MM airline spend for \$1.5 MM savings.
- Implemented T&E corporate card program with annual rebate of \$250,000.
- Developed and managed the corporate world-wide Y2K program.
- Reorganized Construction Equipment and Fleet Services business through consolidation of four regional operation centers into three for net savings of \$1.5 MM.

09/97 to 01/99

Black and Veatch, Power Division, Overland Park, KS
Project Manager, Year 2000 Projects

Developed and managed a Y2K Remediation program and sold to nine major utility clients producing record profit margins for the corporation.

09/82 to 09/97

General Electric International, Schenectady, NY
Construction Manager / Startup Manager / Senior Controls Specialist

Construction / Startup Manager.

- Abu Sultan Steam Turbine Power Plant, Egypt.
- Misr Spinning and Weaving Steam Turbine Power Plant, Egypt.
- Six CT Power Plants, Saudi Arabia and Oman.
- Yokkaichi Combined Cycle Power Plant, Japan
- TEPCO Combined Cycle Power Plant, Japan
- EPON Combined Cycle Power Plant, Netherlands
- PWC Combined Cycle Power Plant, Fayetteville, NC.
- Virginia Power Combined Cycle Power Plant, Richmond, VA.
- TVA CT Power Plant, Memphis, TN.
- FPL Martin Power Plant, Indiantown, FL.
- Crockett Cogeneration Power Plant, Crockett, CA
- WWP CT Power Plant, Rathdrum, ID
- Nevada Power Harry Allen CT Power Plant, Las Vegas, NV

05/81 to 09/82

TVA, Power System Operations, Chattanooga, TN
Field Engineer

Testing and troubleshooting Nuclear, Coal and Hydro generation, transmission and distribution equipment.

EDUCATION

University of Kentucky, Lexington, KY
Bachelor of Science Electrical Engineering, 05/81

REFERENCES

Provided Upon Request