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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2010-0355

REBUTTAL TESTIMONY

OF

DR. KRIS R. NIELSEN

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
December 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.

REBUTTAL TESTIMONY

OF

DR. KRIS R. NIELSEN

Case No. ER-2010-0355

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I. INTRODUCTION AND QUALIFICATIONS

Q: Please state you name and business address.

A: My name is Dr. Kris R. Nielsen. My business address is 1750 Emerick Road, Cle Elum, Washington 98922.

Q: What is your occupation?

A: I am the President and Chairman of Pegasus Global Holdings, Inc. (Pegasus-Global), a management consulting firm that provides services to the utility industry and other industries. I am the Director of this engagement for Pegasus-Global.

Q: Please summarize your educational background and professional experience.

A: I have earned a doctorate in Infrastructure Systems (Civil) engineering from Kochi University of Technology in Kochi, Japan in 2005, a Doctorate of Jurisprudence from George Washington University Law School in Washington D.C. in 1970, and a Bachelor of Mechanical Engineering degree from Princeton University in 1967. I have over 40 years of experience, including 27 as a management consultant in utility prudence and management reviews, evaluations and audits. I have been personally involved, usually in a managerial and testifying role, in power plant prudence audits on 35 separate generating units. I have also evaluated prudence on other aspects of regulated utilities, including transmission and distribution and water utility operational prudence. I have performed extensive work on behalf of utilities and commission staffs, public and private sector clients, on a wide-range of complex, global engagements involving the construction, engineering, and procurement of large projects with long-lead times. I have an extensive background in engineering, construction and project management, including controls and scheduling. I have been involved with pre-design, engineering, procurement, construction, and commissioning work for mega and large, complex projects like the development of the Iatan Project. This work includes significant experience for such projects in bidding and bid solicitation, procurement, constructability reviews, schedule resource loading and activity evaluation, code and permitting processes, due diligence studies, overhead calculation, quality assurance and control, startup and operations, commissioning, testing and maintenance. I have worked on engineering and construction projects in over 60 countries. My work experience is described in my curriculum vitae, which I have attached as Exhibit No.1 (KRN-1) to my testimony. My power plant experience is attached as Exhibit No.2 (KRN-2).

As a Senior Pegasus-Global leader or member on risk managements or strategic consulting engagements, I have led management performance and prudence audits, and evaluations and assessments of project-specific and corporate risk. These assignments have at times involved testimony in regulatory proceedings. They are identified in Exhibit No. 3 (KRN-3) to my testimony. Other management performance and prudence reviews have not required testimony in regulatory proceedings. These assignments are identified in Exhibit No. 4 (KRN-4) to my testimony.

I have authored over 150 papers and publications including papers in the area of prudence and utility management. I have also participated in lectures on industry including management prudence. These papers, publications, and lectures are identified in my curriculum vitae included in Exhibit No. 1 (KRN-1) to my testimony.

I have presented expert witness testimony in legal proceedings around the world, including numerous commission dockets, regarding the prudence of multiple power plants. I have testified approximately 90 times of which 40 involved power plant projects. As indicated above, my previous experience testifying in regulatory proceedings involving utility prudence issues is listed in Exhibit No. 3 (KRN-3) to my testimony.

I hold a Certificate in Director Education from the National Association for Corporate Directors and have also served on several corporate boards for both private, for-profit corporations and private, non-profit corporations. My current and past service on corporate boards is included in my curriculum vitae included in Exhibit No.1 (KRN-1).

I have served on and as Chair of Independent Review Panels/Boards evaluating the design and construction of mega-projects, including my current role as Chair of the Vogtle 3 & 4 Nuclear Plant Project Construction Review Board.

Q: Who were the other Pegasus-Global Team members who assisted you in your review and evaluation of prudence of the Missouri Staff report/testimony and Mr. Drabinski's testimony on the Iatan Project?

A: Under my direction, the following Pegasus-Global principal consultants assisted me in the prudence evaluation on the Iatan Project and review of the Missouri Staff report and testimony and the testimony of Mr. Walter Drabinski:

- Dr. Patricia D. Galloway, Chief Executive Officer, Pegasus-Global
- Jack L. Dignum, Senior Vice President, Chief Operating Officer, Pegasus-Global
- John L. Owen, Specialist Consultant, Pegasus-Global
- Gerald W. Tucker, Specialist Consultant, Pegasus-Global
- Jenelle Black, Supporting Consultant, Pegasus-Global

Q: Dr. Nielsen, will you describe the general qualifications of these principal consultants?

A: Yes. In Exhibit 5 (KRN-5) are the detailed resumes of Dr. Galloway, Mr. Dignum, Mr. Owen, Mr. Tucker, and Ms. Black. In a summary manner, however, the following information is provided regarding their broad and applicable experience:

A. *Dr. Patricia D. Galloway* holds a Certificate in Director Education from the National Association for Corporate Directors, is a licensed professional engineer in fourteen U.S. States, Canada and Australia, a certified Project Management Professional (PMP) by the Project Management Institute, and a Certified Forensic Claims Consultant (CFCC) by the AACEI (Association for the Advancement of Cost Engineering International). Dr. Galloway is known for her experience and expertise in global engineering and construction. Her industry experience spans over 30 years

and includes power, oil and gas, transportation, infrastructure, process and specialty structures. She is a globally recognized expert in risk management, project management, project controls, and management issues. She has conducted prudence audits on over 26 different power plants and has testified extensively in public rate hearings on her work, on behalf of both public utility commissions and regulated public utilities. She has served as an arbitrator and is a prolific author and presenter of technical papers on prudence, project management, project controls, and related topics. She is an elected member of the National Academy of Construction and the Pan American Academy of Engineering. She is member of the National Science Board, which oversees the National Science Foundation and served as its Vice Chair from 2008-2010. Dr. Galloway is also a Past President of the American Society of Civil Engineers. She holds a PhD in Infrastructure Systems Engineering from the Kochi University of Technology in Japan, an MBA from the NY Institute of Technology and a BS in Civil Engineering, specializing in structural design and construction managements from Purdue University. A listing of Dr. Galloway's power plant audit experience and testimony is included with her resume in Exhibit 5 (KRN-5).

B. *Mr. Jack Dignum* is a recognized expert in program and project management, management control systems, cost estimating and control, risk management, and corporate governance. With over 35 years of domestic and international experience he has worked for and consulted with government agencies, private owners, contractors and investors on all aspects of capital program and project planning, management, control and execution. He has led and conducted both program management audit

reviews and prudence reviews for both the public and private sectors. He holds degrees in Industrial Psychology from the University of Oklahoma (BA) and Program Management from the North Texas State University (MA). Mr. Dignum holds a Certificate in Director Education from the National Association for Corporate Directors and is a Certified Forensic Claims Consultant (CFCC) by the AACEI (Association for the Advancement of Cost Engineering International). He has extensive experience in the power industry, including nuclear, coal, hydro and combined cycle gas power plants. Mr. Dignum has designed, implemented and audited capital construction risk management programs for mega-projects internationally for both governmental agencies and private firms, including both owners and contractors. He has taught courses in program and project management, project control systems, risk management, and corporate governance. A listing of Mr. Dignum's power plant experience, including performance and prudence audits is included with his resume in Exhibit 5 (KRN-5).

C. *Mr. John Owen* is a recognized expert in project and operations management, forensic engineering and operational facility performance. As an electrical engineer, he has led the engineering and design efforts on more than 10 power plant prudence audits in the United States, as well as, conducting performance audit reviews in the UK and Canada. Mr. Owen has presented testimony before public utility commissions regarding all types of management (project, engineering, commissioning, and operations), scheduling (delay, disruption, etc.), cost damages and other issues. He holds a H.N.C in Electrical Engineering, Salford Technical College, Salford, England. Prior to joining Pegasus-Global, Mr. Owen had 30 years of experience in the

engineering, procurement and construction of electrical power facilities. This experience includes five nuclear power plants in North America, South America, Asia and the United Kingdom. His experience also includes coal, oil and hydroelectric power plants and transmission facilities. A listing of Mr. Owen' power plant audit and testimony experience is included with his resume in Exhibit 5 (KRN-5).

D. *Mr. Gerald Tucker* has over 40 years of utility experience and has provided assistance in the development of rate filings on behalf of electric and gas utilities for over 30 years. He previously was employed by Southwestern Electric Power Company as Manager of Accounting Services with responsibility for regulatory filings in four jurisdictions and as Controller and Chief Accounting Officer for Central Power and Light Company, co-owner of the South Texas Nuclear Project. As Controller he was responsible for all accounting functions of a major electric utility including monitoring and recording the company's investment in the South Texas Nuclear Project. The monitoring of construction controls and cost systems were part of his responsibilities as a member of the owners accounting committee and attendance at most meetings of the owners finance committee. He has also testified on behalf of municipal clients in Texas, in exercising their original jurisdiction over electric and gas rates within incorporated areas. Mr. Tucker has also been involved with numerous prudence audits. A listing of Mr. Tucker's power plant testimony is included with his resume in Exhibit 5 (KRN-5).

E. *Ms. Jenelle Black* has over 25 years of experience in engineering and science implementation and has extensive experience managing complex projects for both private entities and governmental organizations. She has worked on all aspects of

projects from initial scoping through completion and frequently advises on project design, contracting and overall project strategy, including managing contracting and execution of research and monitoring projects, assisting in the scoping and project design development, reviewing and evaluating reports, and coordinating efforts of analysis teams. In addition she has managed and advised on environmental research and monitoring projects for agencies and environmental and engineering firms across the western United States. She has extensive experience in designing, managing, analyzing, and presenting results from large environmental data sets. She develops study plans for research, engineering, and monitoring projects, relying on her experience in field implementation and data management to guide those plans. She has worked with multiple landowners and agency personnel to engage them in large multi-cooperative projects and managed those relationships throughout the projects. She works with and advises project team members in developing and presenting reports. Her project management experience includes projects that involve numerous subcontractors, regulating entities, and stakeholders. She holds a BSE degree in Aerospace Engineering from Princeton University and a MS in Forest Hydrology from the University of Washington.

Q: Have you spoken or written on the subject of utility prudence and / or project management (including engineering, construction, procurement, etc.)?

A: Yes. In Exhibits 1 through 5 (Exhibits KRN-1 to KRN-5) to this testimony are complete lists of papers and articles and lectures on prudence and other matters for the six of us. With respect to prudence, the following articles that have been authored/co-authored by Dr. Nielsen and Dr. Galloway are noted:

- "Leadership and Risks during a Global Financial Crisis", co-authored with P. Galloway, Fifth Civil Engineering Conference in the Asia Region (CECAR5), Sydney, Australia, August 9, 2010
- Contributing author to "European Oil Services-Gulf of Mexico Exposures and Implications", June 2010 Pit Stop, Deutsche Bank, London, UK
- "New Day for Prudence", co-authored with P. Galloway and C.W. Whitney, *Public Utilities Fortnightly*, December 2009 edition
- "Design-Build/EPC Contractor's Heightened Risk-Changes in a Changing World." P. Galloway, *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction,* American Society of Civil Engineers, Volume 1, February 2009
- "A Management System for Infrastructure Construction, Meeting the Needs of the Next Two Decades," K. Nielsen, *International Symposium on Social Management Systems, Annual Conference for the Society of Social Management Systems*, Kochi, Japan, March 5-8, 2009
- "The Multi-Billion Dollar Issue Facing the Nuclear Power Industry: Decommissioning Versus Life Extension," K. Nielsen, *The Future of the U.S. and International Environmental Industry*, Washington, D.C., November 10 - 12, 1997
- "Multiple Jeopardies," *Cogeneration & Resource Recovery*, Volume 8, No. 3, April 1990
- "Combining PURPA, Prudence and Avoided Cost Rate Design; A New Cost Engineering Environment," co-authored with P. Galloway, *AACEI Professional*

Practice Guidelines, No. 7, 2nd Edition, 2007, American Association of Cost Engineers 9th Annual Mid-Winter Symposium Transactions, San Francisco, California, February 1987; Reprinted, *Cost Engineering*, Volume 31, No. 1, p. 16, January 1989

- "Outages Different Regulatory Technical Standards," K. Nielsen, *American Association of Cost Engineers, 10th Annual Mid Winter Symposium Transactions*, Phoenix, Arizona, February 1988
- "Effect of Current State Regulatory Environment on Outage Management," K. Nielsen, *6th Annual Project /2 Outage Symposium*, Cambridge, Massachusetts, June 29 - July 1, 1987
- "The 5-Year Living Schedule," P. Galloway, co-authored with R. Cochran, *AACEI Professional Practice Guidelines, No. 7, 2nd Edition, 2007, American Association of Cost Engineers Annual Convention*, Atlanta, Georgia, June 1987
- "Preparing for the Utilities' Future-Managing the Prudence Issues," co-authored with P. Galloway, *Electric Potential*, Volume 2, No. 4, July-August 1986
- Interview with Kris R. Nielsen, President, The Nielsen-Wurster Group, Inc., *The Advisory*, July 3, 1986
- "Utilities Forced Delays-Controllable or Uncontrollable," co-authored with P. Galloway, *AACEI Professional Practice Guidelines, No. 7, 2nd Edition, 2007, American Association of Cost Engineers Annual Convention Proceedings*, Chicago, Illinois, June 1986
- "Preparing for the Utilities' Future An 'Attack Plan' for Minimizing Disallowable Costs In Outage and Future Capital Construction," co-authored with P. Galloway,

American Association of Cost Engineers, 8th Annual Mid Winter Symposium Transactions, New Orleans, Louisiana, February 1986; Project 2, 5th Annual Outage Symposium Proceedings, Cambridge, Massachusetts, May 1986

- "New Directions in Project Control for the Utility / Construction Industries," K. Nielsen, *8th Annual Mid Winter Symposium Proceedings*, New Orleans, Louisiana, February 13 -14, 1986
- "Preparing for Utilities Future An 'Attack Plan' for Minimizing Disallowable Costs in Outage and Future Capital Construction," co-authored with P. Galloway, *American Association of Cost Engineers Utility Conference Proceedings*, New Orleans, Louisiana, February 1986
- "Second Guessing the Engineer," co-authored with P. Galloway, *Civil Engineering*, American Society of Civil Engineers, November 1985
- "Calculating Utility Prudence Issue Costs," K. Nielsen, *AACEI Professional Practice Guidelines, No. 7, 2nd Edition, 2007, 1985 American Association of Cost Engineers Annual Convention Transactions*, Denver, Colorado, July 1985
- "Utility Prudence Time Impact Evaluation," P. Galloway, *AACEI Professional Practice Guidelines, No. 7, 2nd Edition, 2007, American Association of Cost Engineers Annual Convention Transactions*, Denver, Colorado, July 1985
- "The Prudence Management Audit: A New Challenge For the Civil Engineer," co-authored with P. Galloway, *American Society of Civil Engineers Spring Convention Proceedings*, Denver, Colorado, April 1985

- "Performance Audits," P. Galloway, co-authored with D. Law, Proceedings, *Project Management Institute Symposium*, Toronto, Ontario, Canada, October 1982"

II. PURPOSE AND SUMMARY OF TESTIMONY

Q: What is the purpose of your Rebuttal Testimony?

A: Kansas City Power & Light (KCP&L) asked Pegasus Global Holdings, Inc. (Pegasus-Global) to perform an independent review to determine whether KCP&L made reasonable and prudent decisions regarding the Iatan Project, Unit 1 and Unit 2. In conducting the evaluation, Pegasus-Global focused on the management processes employed by KCP&L to make decisions and applied generally accepted prudence standards to KCP&L's decision making processes. This evaluation considered whether management followed a rational and deliberate process in making those decisions, including whether there was an appropriate management structure in place to make such decisions and an appropriate process in place to ensure that management makes an informed decision. The evaluation also considered whether management reasonably and prudently implemented the decision. This evaluation involved:

- Assessment of the management processes used by KCP&L to plan, execute and control engineering, procurement, and construction activities.
- Identification of management strengths and positive actions which may have had an impact on cost and/or schedule.
- Identification of any management shortcomings which may have impacted cost and/or schedule.

- Determination of the reasonableness of overall design, procurement and construction management practices and the extent to which these management practices avoided, mitigated or resulted in cost and/or schedule impacts.

In addition, Pegasus-Global was requested to read, analyze, evaluate, and compare the Missouri Staff (Staff) findings and the findings of Mr. Walter Drabinski, a consultant engaged by the Missouri Retailers Association.

I, Dr. Kris Nielsen, am the "sponsor" of the Pegasus-Global analysis. I directed and actively participated in our evaluation and I prepared this testimony.

Q: Do you have any exhibits to your testimony?

A: Yes. I have the following exhibits to my testimony:

- Exhibit No. 1 (KRN-1), which is my curriculum vitae and identifies my industry papers and publications and Board service;
- Exhibit No. 2 (KRN-2), which is my power plant experience;
- Exhibit No.3 (KRN-3), which identifies my prior management prudence reviews involving my testimony in regulatory proceedings;
- Exhibit No. 4 (KRN-4), which identifies my prior management prudence reviews that did not involve testimony in a regulatory proceeding;
- Exhibit No. 5 (KRN-5), which are the curriculum vitae and the power plant experience of the principal Pegasus-Global consultants who assisted me;
- Exhibit No. 6 (KRN-6), which is a listing of examples of Pegasus-Global risk management engagements.
- Exhibit No. 7 (KRN-7), which is the Change Order Support documentation that I refer to in **Section V** of this testimony.

These exhibits are true and correct.

Q: Dr. Nielsen, have you provided prior testimony before the Missouri Public Service Commission (MPSC) on behalf of Kansas City Power & Light (KCP&L)?

A: Yes, I have. I provided rebuttal testimony in the Iatan Unit 1 proceeding on behalf of KCP&L, Docket No. ER-2009-0089, on the independent prudence audit of Iatan Unit 1 Pegasus-Global performed. (Rebuttal Testimony of Dr. Kris R. Nielsen in MPSC Docket No. ER-2009-0089 hereafter "Nielsen Unit 1 testimony"). I also provided additional rebuttal testimony in the Iatan Unit 1 proceeding on behalf of KCP&L Docket No. 09-KCPE-246-RTS. In addition, I provided oral testimony in the MPSC hearing, MPSC File No. EO-2010-0259 explaining, as the independent auditor retained by KCP&L that Pegasus-Global was able and did conduct a prudence audit of the Iatan Project and to explain the difference between a Construction Audit and a Prudence Audit.

Q: Please provide a high level Executive Summary of Pegasus-Global's testimony.

A: Based upon the Independent Prudence Audit performed by Pegasus-Global of KCP&L's management decisions and decision making regarding the Iatan Project, Pegasus-Global has concluded the following, which is addressed in detail in this testimony:

I. KCP&L's management decisions on the Iatan Project were reasonable and prudent with two exceptions on the Iatan Unit 2 project, as discussed below, based on the information known and that reasonably should have been known by KCP&L management at the time the decisions were made.

1) KCP&L made rational, deliberate, and prudent decisions based on an established process for making management decisions. KCP&L used this process to collect the best available information, evaluate that information, identify viable

alternatives or options and make decisions. There were no rash decisions; rather, KCP&L prudently took steps to update information in light of evolving conditions and circumstances affecting prior decisions with respect to the Iatan Project. KCP&L carefully considered the estimated costs and impacts and potential benefits, both in the short and long term, to KCP&L and its customers under each alternative or option. This deliberate process produced reasonable and prudent management decisions with respect to whether and how to proceed with the Iatan Project in light of the conditions and circumstances facing KCP&L at the time.

2) KCP&L reasonably and prudently implemented its management decisions. KCP&L employed existing terms and conditions of the Agreements that included addressing situations that arose, such as the Alstom Settlement. These particular terms and conditions of the Alstom Settlement were reasonable and prudent under the circumstances, and they were reasonably and prudently employed by KCP&L to preserve the contractual benefits under the Agreement. Pegasus-Global found that KCP&L followed the procedures and processes for resolution of disputes by negotiating omnibus settlements that were balanced, addressing the issues and concerns of both parties without resorting to a formal adversarial and costly claims process.

II. As noted above, KCP&L made reasonable and prudent decisions regarding the Iatan Project with two exceptions on the Iatan Unit 2 project:

1) KCP&L's decision to reimburse Alstom for premium costs to engage Welding Services Inc. as a welding subcontractor was imprudent, and the related foreseeable costs of $12,714,596.40 should be disallowed for recovery; and

2) KCP&L's decisions and subsequent actions relative to the removal and re-addition of an auxiliary boiler to the Iatan Unit 2 Project were imprudent and the foreseeable additional costs of $5,346,049.00 caused by those decisions and actions should be disallowed for recovery.

III. With respect to specific decisions made and the decision-making process employed by KCP&L, I made the following conclusions:

1) The KCP&L executive management and the Board of Directors oversight of processes employed on the Iatan Project were thorough, complete, and what would be expected of a reasonable and prudent utility. KCP&L senior management, executive management, and the Board of Directors had an effective oversight process in place, focused on important Iatan Project issues, participated fully in the strategic decision making process, were active in issue resolution and remained fully informed and engaged throughout the Iatan Project execution.

2) KCP&L's decision to fast-track the Iatan Project was reasonable and prudent. Fast-track essentially means that engineering is not fully completed prior to the initiation of major procurement or construction of the project; rather engineering would "pace the project" by being just ahead of procurement and construction needs rather than be fully completed prior to the initiation and construction of the project. A fast-track project reduces the total time for project execution by essentially overlapping the engineering, procurement and construction phases. In volatile market conditions such time savings can have a significant cost benefit to the owner and ratepayer. KCP&L acted reasonably in its decision to fast-track the

Iatan Project based on market conditions and KCP&L's Unit 1 joint owner generation needs forecast.

3) KCP&L's decisions regarding the Iatan Project organization and staffing were reasonable and prudent. The early decisions regarding organization and staffing reflected the fact that KCP&L had a limited construction program for almost 20 years. KCP&L identified timely that the project management organization and staffing needed to be increased. KCP&L further recognized that the Iatan Project was schedule driven which did not allow time for recruitment and training of an all KCP&L staff. KCP&L decided appropriately to enhance their project management staff and organization with experienced consultants until the KCP&L PMT was fully developed. The evolution of project structure, organization, and staffing and the constant follow up that Pegasus-Global observed is evidence of management attention and action. Decisions by KCP&L were timely and based upon timely information. New decisions cannot be implemented immediately, but the project documents show steady improvement and further refinement as more information was received. KCP&L continued project management and staffing decisions and decision-making processes exhibited good management throughout the project and fell within a zone of reasonableness.

4) KCP&L's selection and management of its Owner's Engineer (OE) was reasonable and prudent. KCP&L's use of B&McD early in the Iatan Project under a general services agreement (GSA) was appropriate and is normal in the industry and provided KCP&L the services of a qualified power plant engineering

organization. This arrangement provided KCP&L flexibility, from both a scope and schedule perspective, until the project definition and contracting approaches were finalized. Pegasus-Global found that KCP&L's actions to continue to "retain" B&McD engineering services under the GSA enabled KCP&L to move forward with critical procurement of long lead equipment were reasonable and prudent for a mega project. Pegasus-Global also found that KCP&L's decision after the PDR was prepared in 2004 to obtain further project definition on the Iatan Unit 2 project before releasing B&McD to proceed with any significant level of engineering also reflected reasonable and prudent utility management practice. KCP&L engaged Black & Veatch (B&V), another experienced power plant engineer to prepare technical specifications for the Iatan Unit 2 engineered boiler equipment and turbine generator. The development of the boiler technical specification was the most critical element of the completion of the Iatan Unit 2 project preliminary definition, establishing the basis for which the majority of basic and detailed engineering of the project would flow. By the fall of 2005, the project definition was sufficiently defined to a stage where the selection of one engineering organization under a formal commercial project engineering relationship was possible. Up to this point, two engineering power plant engineering firms, B&McD and B&V had participated in the development of the preliminary project definition. Thus, reasonably, KCP&L solicited proposals from both of those qualified power engineering firms. Each of these proposals was subjected to a formal review process by KCP&L from which KCP&L formally awarded the engineering scope for the Iatan Unit 2 project to B&McD.

5) KCP&L's contracting approach reflected reasonable and prudent utility management practices. Pegasus-Global found that KCP&L management followed a systematic process in selecting the project delivery methodologies and contracting approaches and found KCP&L's management to be prudent and reasonable. In summary, KCP&L:

   a. Showed a good understanding of the initial conditions and circumstances,

   b. Examined its project risks, goals and objectives,

   c. With the assistance of industry experts, examined the market and industry conditions and circumstances during its review of delivery methodologies and contracting approach, and

   d. Made appropriate adjustments to the project delivery decisions as the project unfolded during execution.

6) KCP&L's project control systems used to manage the Iatan Project were consistent with industry standards and practice and reflected reasonable and prudent utility management practices. The project control systems used to manage the Iatan Project in the initial stages were existing KCP&L systems and internal controls. Where it was determined that existing systems and internal controls had to be improved to reduce potential risk for specific projects, KCP&L enhanced those systems and internal controls to function appropriately for the Iatan Project as needed. Pegasus-Global found that KCP&L, with detailed input from its advisors, assessed its current project control processes and systems in a timely and thorough manner, then initiated efforts specifically intended to address the enhancements needed to those control processes and systems. Pegasus-Global

found that the evolution of project control decisions and the decision-making process on the Iatan Project were reasonable and prudent.

7) The estimating and budgeting process utilized for the Iatan Project was reflective of reasonable and prudent utility management practice. For the Iatan Unit 1 project, KCP&L utilized an initial high level budgeting process in the 2002 time period which was revised in conjunction with the development and negotiation of the CEP program with the Missouri and Kansas Commissions. The development of the budget for the Iatan Unit 2 project prepared from a high level conceptual estimate in 2004 to a detailed definitive estimate, referred to as the Control Budget Estimate (CBE), in 2006 and was updated with design maturation in 2008, and updated as necessary in following periods. The Kansas Corporation Commission (Kansas Commission) in its November 22, 2010 Order[1] also agreed, as discussed later in this testimony, that the KCP&L CBE was, in fact, the definitive estimate for the Iatan Project and from which any cost variance would be viewed. Additional reforecasts were required as a result of ongoing reviews of the cost to complete the Iatan Project. This process is evidence of prudent management of the project to ensure that responsible management is aware of the progress of the plant and can make necessary changes to address changed conditions. This development is consistent with other projects that I am familiar

[1] State Corporation Commission of Kansas, Docket No. 10-KCPE-415-RTS, Order: 1) Addressing Prudence; 2) Approving Application in Part; & 3) Ruling of Pending Requests, November 22, 2010

with and shows that KCP&L was diligent in updating cost estimates as the project progressed.

8) KCP&L actions and decisions relative to its budget reforecasts were reflective of reasonable and prudent utility practice. KCP&L based its decisions and conducted it decision making process through analyses of several key factors and risks, which it continued to review and evaluate through project execution. KCP&L also continued to recognize and evaluate several market drivers. KCP&L further recognized that it understood its risks, and developed and implemented prudent management techniques to mitigate them.

9) KCP&L reasonably and prudently implemented a cost management system that identified cost variances on the Iatan Project. KCP&L is a regulated utility and thus is subject to FERC regulation. FERC regulations are prescriptive and there is no leeway in how regulated utilities must maintain their corporate accounts. Pegasus-Global found that KCP&L's actions in searching for a single integrated project and corporate cost program were reasonable and prudent. Pegasus-Global also found KCP&L's ultimate decisions to keep and maintain the matrix integration process already in place reasonable in light of the intense amount of time or the ultimate cost to modify the Skire system to take the place of a system that while it may not have been optimal, was meeting the needs of the Iatan Project and KCP&L.

10) KCP&L's actions and decisions regarding the Iatan Project scope and change management were reasonable and prudent. Pegasus-Global observed numerous examples of efforts to identify and respond to scope changes and to deal with

Change Order issues. Pegasus-Global also reviewed the cost audits conducted for the Iatan Project conducted by Great Plains Energy, KCP&L's parent company, with the assistance of Ernst and Young (E&Y) where the Change Order process was reviewed and improvements recommended. In subsequent audit reports, it became clear that improvements had resulted through management attention to the needs for change in the processes that are an indication of responsive management, which is evidence of prudent management. Pegasus-Global found that the KCP&L management of the cost and scope change process on the Iatan Project was appropriate in a project of this nature, falls squarely within a zone of reasonableness and thus was prudent. This Pegasus-Global opinion is also agreed with by the Staff. Based on its Engineering review of KCP&L's Change Orders, the Engineering Staff "found no engineering concerns with any of the Iatan 2 or Iatan common plant Change Orders reviewed." (Missouri Staff November 3, 2010 Report, p.29)

11) The cost changes on the Iatan Project compare with what other similar utilities were experiencing during the same time period of the Iatan Project. The Iatan Project budget was affected, in large part, by commercial and economic conditions that were impacting a wide range of other utility projects that were under construction during the same period of time. These types of comparisons with other projects were used by KCP&L management in their budgeting process. The fact that costs increase is not in and of itself evidence of imprudence. In this situation, reasonable and prudent managers were making the same or similar decisions based on the same knowledge, facts and conditions and incurring

similar results. The current estimate at completion of $1.9B of the Iatan Unit 2 project is comparable to other similar coal plants being constructed in the same period. The cost increases are also comparable to other super critical pulverized coal (SCPC) plants engineered and constructed over the same period for similar reasons. It is Pegasus-Global's determination that the information available to KCP&L during the course of the Iatan Unit 2 project execution for its decision making process and decisions made demonstrates that the decisions made by KCP&L were consistent with the industry information available to it. The cost per kW and the cost increases experienced by the Iatan Unit 2 project are comparable with those in the industry.

12) KCP&L's schedule process and reporting were appropriate and evolved with the evolution of the Iatan Project and project management needs. Pegasus-Global found that KCP&L, based on the conditions at the time and weighing all its options and advice presented to it, took a prudent management approach in its monitoring of the Iatan Project schedule as a whole and with respect to each individual contractor. Pegasus-Global found that the Iatan Project schedule management decisions and decision making process were reasonable and prudent.

13) KCP&L's quality management of the Iatan Project was reflective of reasonable and prudent utility management practice. KCP&L's project management assumed an oversight role of the quality assurance function, as Pegasus-Global would expect of a utility overseeing construction of a project the size and complexity of the Iatan Project. Quality Control was the contractual responsibility of the specific contractors. As quality issues were identified over the course of the Iatan Project,

KCP&L continuously monitored those issues and consistent with what would be expected, participated in the identification of root causes, evaluations of inputs to project cost and schedule, and consistently held responsible contractors accountable.

14) KCP&L's Contract Administration was reflective of reasonable and prudent utility practice. Pegasus-Global found that KCP&L actively monitored execution under each contract awarded per the terms and conditions of those contracts. In every instance KCP&L acted as Pegasus-Global would expect a Contract Administrator to act. Specifically, KCP&L always responded in writing to any submittal or notification by a contractor. KCP&L always cited to the contract conditions and provisions in formulating its responses; and KCP&L always took allowable actions commensurate with the situation without automatically resorting to the default position of rejecting outright a contractor position or request. KCP&L has shown the ability to execute flexibility in its administration of the contracts when diligently enforcing the contract provisions may have established a barrier to effective or efficient execution for the project. Pegasus-Global's review of KCP&L primary contract control records including cost, schedule, quality, and safety records and documents indicates that KCP&L reasonably administered the contracts for which it was responsible.

15) The review of the Iatan Project conducted by the Missouri Staff and Missouri Retailers Association's Consultant, Mr. Walt Drabinski of Vantage Consulting, was inappropriate, improper and flawed for the reasons set forth below:

Missouri Commission Staff (Staff)

1) The Staff did not perform a prudence audit, but rather, engaged in what essentially is an inappropriate mixing of construction claims and construction / financial audit approaches based upon a relatively small sampling of the total project costs.

2) The Staff incorrectly asserts that KCP&L has not produced documentation demonstrating the risks and consequences of making decisions to initiate construction and enter into significant procurement contracts for the Iatan Project were thoroughly assessed.

3) The Staff incorrectly relies upon the analysis and opinions of the Kansas Corporation Commission (Kansas Commission) Staff's consultant, Mr. Walter Drabinski in the Kansas Commission prudence docket as one measure of imprudence and disallowances based on the fact that the Kansas Commission November 22, 2010 Order, as discussed below, completely disregarded and gave no weight to the analysis of Mr. Drabinski in that order.

4) The Staff incorrectly states that KCP&L has neither identified the cost overruns nor provided any explanation of the cost overruns on the Iatan Project. As detailed elsewhere in this testimony, Pegasus-Global was able track cost overruns back to root causes for those overruns through the project records maintained by KCP&L during the execution of the project.

5) The Staff improperly asserts that confidential and privileged documents not disclosed to the Staff (and also not disclosed to Pegasus-Global) somehow

prevented the Staff from being able to complete its prudence review of the Iatan Project.

6) The Staff incorrectly asserts that KCP&L's decision to fast-track the Iatan Project caused cost overruns and documentation issues.

7) The Staff incorrectly asserts that KCP&L's internal control systems were inadequate and that KCP&L senior management was not in compliance with the internal control systems.

8) The Staff incorrectly identifies the KCP&L CBE at $1.465 billion.

9) The Staff inappropriately uses KCP&L's internal audits to criticize KCP&L's decisions ignoring the fact that the process of conducting on-going internal audits during a complex construction project is considered part of the prudent management decision making process. Project records demonstrated that KCP&L responded to every audit finding and recommendation, thereby closing those findings and recommendations.

Mr. Walt Drabinski of Vantage Consulting (Drabinski)

1) Drabinski applied an erroneous standard for prudence reviews.

2) Drabinski finds imprudence as a consequence of the results attained rather than evaluating decisions and the decision making process, causally connecting the allegations and then properly quantifying the impact.

3) Drabinski improperly asserts that Drabinski's opinion is preferable to prudence opinions which may be held by the MPSC.

4) Drabinski improperly asserts that Drabinski's opinion is preferable to KCP&L's management decisions and improperly employs hindsight in doing so rather than evaluating management decisions at the time.

5) Drabinski did not perform a prudence audit, but rather, engaged in what is essentially an inappropriate mixing of construction claims approaches and construction/financial audit approaches.

6) Drabinski failed to recognize the Iatan Project as a mega-project and thus, failed to evaluate the Iatan Project within the proper context of that definition.

7) Drabinski used selected "sound bites" drawn from internal audits and consultant reports performed by or at the request of KCP&L to support Drabinski's assertion of imprudence, ignoring information from those audits which runs contrary to Drabinski's position and not presenting these selections in context, including the proper time context.

8) Drabinski inappropriately uses KCP&L's internal audits to criticize KCP&L's decisions ignoring the fact that the process of conducting on-going internal audits during a complex construction project is considered part of the prudent management decision making process.

9) Drabinski's opinion relies upon an incorrect understanding of facts, and often directly conflicts with documented evidence regarding events on the Iatan Project, and conditions and circumstances that were known and/or reasonably known by KCP&L management.

10) Drabinski submits conclusions of imprudence without providing supporting explanation or documentation other than the selected "sound bites".

11) Drabinski fails to provide a connection between Drabinski's allegations of imprudence and any actual costs incurred as a direct result of the alleged imprudence.

12) Drabinski's analyses and conclusions display a lack of experience and understanding of construction industry practices, procedures and standards on a project like the Iatan Project. For example, Drabinski's analyses and conclusions display a misunderstanding of the cost estimating process and the proper use of various levels of cost estimates created during the planning and execution phases of a mega-project like the Iatan Project.

13) Drabinski substitutes his judgment rather that analyzing whether KCP&L's decision-making processes and procedures, and KCP&L's decisions fell within a zone of reasonableness, and thus would be prudent.

14) Drabinski uses impermissible hindsight to determine prudence.

15) Drabinski's analyses and conclusions filed in this MPSC case are inconsistent with testimony filed by Drabinski in the Kansas Commission case in July 2010. For example, in the Kansas Commission case Mr. Drabinski testified that the project peer review differential it calculated supported a disallowance of $530 million while in Drabinski's filed testimony in this MPSC case the project peer review differential he calculated supported a disallowance of $316 million, a difference of $214 million. The Kansas Commission in its November 22, 2010 Order (Docket No. 10-KCPE-415-RTS) also found that Drabinski's analysis was flawed for similar reasons noted above and stated in that order:

"Some decisions alleged as "inappropriate or poor" are not linked to the presentation of various "management decisions" embedded in Drabinski's report. Therefore, we decline to place much weight on Drabinski's analysis...we previously found...that Mr. Drabinski's testimony was flawed...Drabinski's 'holistic' analysis is severely undermined when his starting point for the cost overruns is corrected from a claim of being 49% over budget to about 18%, which is well within reasonableness for definitive cost estimates. Moreover, much of Mr. Drabinski's analysis builds on his perception that there was an imprudent decision to contract using a multi-prime rather than an EPC approach. As established elsewhere, we found that KCPL did not have that option. Therefore, the Commission concludes that the 'holistic' approach used by Staff's expert, which resulted in many attempts to "assess reasonable percentage disallowances," is prone to being speculative and arbitrary. Not only is the method far afield from a reasoned, auditable methodology, we agree with KCPL that it runs afoul of standards articulated by our Courts for expert testimony." [Kansas Commission Order pages 25, 30, and 32]

III. IATAN PRUDENCE EVALUATION STANDARDS AND METHODS

A. PRUDENCE STANDARDS

Q: Are there generally accepted prudence standards for management decisions?

A: Yes, the best definition of a prudent management decision is as follows:

Decisions are prudent if made in a reasonable manner in light of conditions and circumstances which were known or reasonably should have been known when the decision was made.

This definition is consistent with the prudence standard applied in Missouri, Kansas and other regulatory jurisdictions. This prudence definition is also consistent with the prudence standard used in numerous publications on the subject of prudent management decisions. This is the definition that I have used in the prudence reviews that I have conducted. In essence, management makes prudent decisions when management makes an informed decision under the circumstances at the time the decision is made.

Prudence, therefore, cannot be judged from a hindsight perspective. Only those circumstances that were known or that should have been known at the time the decision is made can be considered. The Kansas Commission, for instance, in its November 22, 2010 Order regarding the Iatan Unit 1 and Unit 2 projects also noted that, "After these decisions are identified, they must be reviewed, without the benefit of hindsight..." [Kansas Commission Order, p.25] Management decisions are not made in static conditions. Circumstances change over time and a management decision cannot be deemed imprudent based on unknown changes in the conditions or circumstances at the time the decision was made. Prudence, therefore, recognizes and relies on the concept of forseeability in two ways: first, an action or lack of action of a utility manager is not unreasonable or imprudent if it involves or is affected by events which were unforeseen and unforeseeable at the time; and second, the cost calculations for any imprudence found properly reflect only the foreseeable consequences of the imprudent decision-making processes or performance.

Prudence also involves the evaluation of facts at the time the decision was made. The issue is whether management considered factual circumstances and conditions that management should have considered in making its decision, not whether someone else would make a different decision under the same circumstances and conditions. Management decisions are seldom black and white; rather, more than one decision can prudently be made based on the same circumstances and conditions. The fact that someone else may make a different decision does not mean that management's decision was imprudent. Differences in opinion or judgment do not render a management decision imprudent. There is a zone of reasonableness in which management judgment is exercised and decisions are reasonable and prudent. Prudence is not a test of optimality. The Kansas Commission also, in its November 22, 2010 Order on the prudence of the Iatan 1 and 2 projects noted that its goal in a ratemaking case should be to determine a rate within the "zone of reasonableness", citing a Kansas Supreme Court case of this point. [Kansas Commission Order, p. 9]. Although I found that KCP&L's decisions generally fell within a zone of reasonableness and are therefore prudent, I have drawn no conclusion as to whether another reasonable course of conduct would have resulted in different consequences or costs. It is improper in a prudence review to substitute your judgment for that of management.

Prudence, however, is not merely the application of a test that accepts just any rational basis for acceptability of a decision. Rather, the prudence determination requires the evaluation of the concurrent context of the decision, the process for making the decision, and the performance or implementation of that decision by management. This does not mean that prudence is synonymous with efficiency. Prudence does not require that

decisions be made and executed in the most efficient manner. It means that there must be some rational, deliberate process that accounted for the circumstances and conditions facing management that was employed by management to make and implement the decision.

Q: Are these prudence standards consistent with prior standards used by the MPSC in evaluating prudence?

A: Yes. Specifically, in identifying the proper Missouri prudence standard to apply in this case I reviewed the MPSC decision in the Union Electric Company's Callaway Nuclear Plant case, 1985 Mo. PSC Lexis 54; 27 Mo. P.S.C. (N.S.) 183; 66 P.U.R. 4th 202, which articulated clearly the Missouri prudency standards, and a later court of appeals decisions, Associated National Gas Company vs. Public Service Commission of the State of Missouri, 954 S.W.2d 520; 1997 Mo. App. Lexis 1621 (1997) which reaffirmed the use of the Callaway principles. I also consulted with experienced regulatory counsel to insure that we were correctly stating and applying those principles.

In addition, Empire in its September 10, 2009 Brief of Prudence to the Kansas Commission noted that the MPSC has adopted this prudence standard which was originally expressed by the New York Public Service Commission in the case *In Re Consolidated Edison Company of New York, Inc,* and which is also quoted by Professor Charles F. Phillips, Jr. in his treatise The Regulation of Public Utilities: Theories and Practice (p.329) and as used in MPSC *Union Electric Co.* 1985 Order:

> *"The company's conduct should be judged by asking whether the conduct was reasonable at the time, under all the circumstances, considering that the company had to solve its problems prospectively rather than in reliance on hindsight. In*

effect, our responsibility is to determine how reasonable people would have performed the task that confronted the company." [Empire Brief 9/10/2009 on Prudence Review and legal standard, Before the State Corporation Commission of the State of Kansas, Docket No. 04-KCPE-1025-GIE, p. 13]

These prudence standards are consistent not only with those in Missouri but they are also consistent with the laws of most other jurisdictions. I reviewed those standards in a number of articles that I published and for presentations that I have made that are identified in Exhibit No.1 (KRN-1) to my testimony. They are also consistent with the Government Auditing Standards issued by the U.S. General Accounting Office ("GAO") for prudence audits, especially with respect to capital projects, that I have often used as a guide in my prudence evaluations.[2]

Q: Dr. Nielsen, are you familiar with the testimony filed by Mr. Walter Drabinski in the Missouri regulatory proceeding on behalf of the Missouri Retailers Association relating to the Iatan Project?

A: Yes, I am.

Q: In that Iatan Project testimony, did Mr. Drabinski indicate any standard of prudence evaluation that he was using to measure management's actions?

A: Yes, he did. According to Mr. Drabinski, "The decisions and actions of the utility can be judged prudent, if the utility relied on reasonable, credible information and assumptions to make its decision; if the utility utilized a robust process that incorporated the best information and most knowledgeable personnel to make timely decisions; and if the

[2] Government Auditing Standards, United States General Accounting Office, GAO-03-673G, June 2007, Sections 1.25 – 1.26, page 17, July 2007, (the so-called "Yellow Book" standards).

information, assumptions and processes used by the utility compared favorably to that used by other utilities making similar decisions in the same time frames." [Drabinski at page 29 lines 16 through 22]. Mr. Drabinski also stated that he attempted "... to judge the reasonableness of the Company's actions/decisions based on the circumstances present at the time the action/decision was taken." [Drabinski at page 29, lines 8 – 9]

Q: Is the Drabinski standard used in the Missouri Iatan Project testimony basically the same as the standard you used on the Iatan Project?

A: They are similar as we both testify that we would look at management decisions in light of the circumstances known at the time those decisions were made and not use hindsight. Likewise we both testified we would evaluate the decision based on facts known or that reasonably should have been known at the time of that decision. However, our standards differ in two important points:

1) Mr. Drabinski's definition states that a decision is prudent if the "... most knowledgeable personnel ... make timely decisions" [Drabinski at page 29, lines 19 – 20]. This caveat by Mr. Drabinski, that the "most knowledgeable personnel" make a decision, is a completely subjective element of his definition. I would not attempt to judge who, in a mega-project involving many management and staff personnel is the "most" knowledgeable among those personnel. In my experience significant decisions on mega-projects are never made in a vacuum by a single individual; rather they are made after soliciting input from a wide variety of sources and careful consideration of that input. Attempting to judge a decision as prudent on the basis of whether or not the full group of individuals that supplied that input were the "most knowledgeable personnel" is unrealistic, as each

individual may bring a different perspective to the decision in which they may be the most knowledgeable, but no one person may be the most knowledgeable about every element or consideration which must go into that decision. Therefore, I do not agree with judging the prudence of a decision on my personal opinion as to whether or not the "most knowledgeable" person made that decision.

2) Mr. Drabinski's definition also states that a decision is prudent if the "...information, assumptions and processes used by the utility compare favorably to that used by other utilities making similar decisions in the same time frame" [Drabinski at page 29, lines 20 – 22]. While I do believe that it is valuable to have information from knowledge of the decision making processes used by other utilities when examining prudence, the information and assumptions upon which utilities rely in making decisions are completely predicated upon the individual circumstances which are specific to each project. It is entirely possible for two utilities executed at the same to reach entirely different decisions because the specific circumstances critical to those two utilities will always to some extent be different. Ultimately, just because two utilities with similar processes, information and assumptions reach different conclusions and therefore make different decisions does not automatically mean that one of those decisions was imprudent. Under Mr. Drabinski's definition, one could judge a decision imprudent simply because a utility with similar information and assumptions chose one acceptable alternative while other utilities chose a different acceptable alternative.

B. PRUDENCE EVALUATION PROCESS

Q: How did you determine that KCP&L made reasonable and prudent decisions?

A: In conducting my evaluation, I focused on the management processes employed by KCP&L to make decisions and applied the generally accepted prudence standards to KCP&L's decisions. This evaluation involved the determination that management followed a rational and deliberate process in making the decisions with respect to the Iatan Project. There must be a management structure in place to make such decisions and a process in place to ensure management makes an informed decision. Management makes an informed decision if, at the time the decision is made, management considers the factors management should have reasonably considered based on information that was known or shown have been known at the time the decision was made. An informed decision includes the identification of risks that might arise on the Iatan Project and an appropriate consideration and evaluation of those risks in reaching that decision. Having determined that management made informed decisions I evaluated whether those decisions fell within a range of reasonable business judgment. Most if not all management decisions do not involve right or wrong answers, rather, there typically are more than one decision that can be made that are equally reasonable and prudent under the circumstances facing management at the time the decision is made. As long as management's decision falls within this range of reasonable business judgment its decision is a reasonable and prudent one.

My evaluation also considered whether management reasonably and prudently implemented the decisions it made with respect to the Iatan Project.

Q: How did you evaluate the management decision-making process used by KCP&L?

A: My evaluation of the prudence of the decision-making process and the decision implementation included the following evaluation steps: (1) data development, (2) information flow, (3) analysis, and (4) decision. These steps are described below.

Data development addresses what information was available and determines if the management systems and procedures were organized and implemented in a way to produce available information in a reliable manner to management for analysis. It must be remembered, however, that the evaluation of the data development cannot be made with the advantage of 20-20 hindsight. Thus, we judge prudence from the position of utility management and based upon the varying sources of input that they had or reasonably could have had at the time of making a decision. Management never has the time to obtain or luxury of obtaining all information that they desire when making a decision. If management waited until management had all possible information it desired to make a decision, management would never make a decision. The very essence of management is making decisions on less than perfect information.

Information flow addresses to whom and when the available data was transmitted and communicated and in what format the information was made available to management. The evaluation of the information flow determines if management timely received the information in an understandable manner to make its decision.

The analysis step addresses how the information was evaluated, what alternatives, if any, were identified based on the available information, and what benefits and impacts are projected by management based on the information.

Finally, the decision step addresses what decision was made, when the decision was made, how the decision was made, how the decision met project, corporate, and customer

needs, and whether the decision was reviewed as assumptions and circumstances changed. This requires management techniques and systems to monitor performance and use that information to continue to improve performance. Nowhere is this truer than in major capital construction projects and especially for capital construction programs, such as, KCP&L's Iatan Project

Q: How did you approach your prudence review?

A: I used the same qualitative approach to the prudence review for the Iatan Project that I have used for each of the prudence reviews that I have conducted. We requested, obtained and reviewed project documentation sufficient to be reasonably sure that I could derive supportable conclusions from the documentation. The documentation consisted of such things as status reports, correspondence, meeting minutes, presentations, cost estimates and reforecasts, change orders, purchase orders, cost reports and other written material and data related to project events, decisions, responses and actions.

Our review, for instance, included the review of various independent third party audit reports that were prepared over the course of the Iatan Project. It is Pegasus-Global's experience that owners regularly retain outside consultants to review, audit and make recommendations relative to findings and facts at the time within the scope of the audit review. We find that conducting, using, and reviewing findings of audits to be prudent management practice. The fact KCP&L extensively employed and used audits on the Iatan Project represents prudent management and represents a higher level of transparency then Pegasus-Global typically encountered in the industry. Using audit findings taken out of context to attack an owner, including a utility owner, is a disincentive for that owner to continue using such transparent processes during its

management of complex projects. That being said, audit findings contained within audit reports are not necessarily conclusive of prudent actions. Audits are conducted for many purposes. The purposes can be as diverse as providing "reasonable assurance" of: accounting practices, financial reporting, engineering quality practices, construction execution such as for welds, potential risks, and project management performance. And, in the context of regulated utilities, prudence audits which provide reasonable assurance that a utility management was prudent in their decision making regarding capital expenditures. Audit reports are specifically designed to look at potential management issues or problems and/or to confirm the reasonableness of approaches. Audit recommendations typically are designed to improve performance and execution in the future. But audits are merely one of a selection of sources of information that a utility should and does take into account in making decisions.

In addition, we identified and interviewed project personnel, including key Iatan Project team members and KCP&L executives charged with direct oversight of the Iatan Project. The interviews were conducted to establish the basis or underlying explanation for decision making. In our opinion, the conduct of these interviews is a necessary element of a comprehensive review to provide the rationale or justification not otherwise determinable solely from review of documentation. These interviews consisted of:

- Bill Downey, KCP&L President and CEO and GPE President and COO;
- Chris Giles – Regulatory Affairs Director, (ret.);
- Forrest Archibald – Iatan Project Cost Manager;
- John Park – KCP&L Corporate Property Accounting Director;
- Dustin Harmon – Burns and McDonnell Kiewit Contract Manager;

- Mike Boyd – Burns and McDonnell Alstom Contract Manager;
- Myra Burgess – Iatan Project Engineering Manager;
- Denise Schumaker – former Iatan Project Risk / Compliance Manager;
- Lynda Snedegar – Current KCP&L Compliance Manager;
- David McDonald – Current Iatan Procurement Manager;
- Michael Cline, KCP&L Treasurer and GPE Treasurer and Chief Risk Officer; and
- Jeff Daniels, Enterprise Risk Manager.
- Carl Churchman – Vice President - Construction
- Terry Bassham – Chief Financial Officer & Oversight Committee Member
- Brent Davis – Project Director
- Steve Jones – Senior Procurement Director
- Terry Foster - Director of Project Controls

Pegasus-Global also toured the Iatan Project site as further input for our evaluations.

The final approach step is to relate causality to the specific actions, if any, that Pegasus-Global finds imprudent and quantify the cost of such imprudence. This step is as important as the prior steps. Often times where we find imprudent decision making, it has no or minimal impact or the impact is "cut off" by subsequent decisions that were prudent. Quantification must be tied to a real cause for which the utility has culpability.

Q: Dr. Nielsen, did you encounter any difficulties or problems in gathering information that you needed from Kansas City Power & Light?

A: No, we did not. In fact, we were treated equally with the Staff and the Kansas Commission Staff and Mr. Drabinski.

Q: Was the information that you gathered in a format that was understandable and in a form that you could use to conduct your prudence analysis?

A: Yes, but like most prudence reviews you have to evaluate data from many sources, including project controls sources which may not present data in the form you would like. In the case of the cost variance reporting used on the Iatan Project, we typically had to evaluate the data gathered from different documents available at the time the decisions were made, and as is typical of large, complex capital construction projects, project controls systems evolved over time and with changes in the project conditions; a review of all those systems and documents sources had to be evaluated as well. The contemporaneous documentation which was produced to us and to the Staff and Mr. Drabinski during the execution of the Iatan Project was voluminous and consisted of every type of project record one would expect to see for a project of this size, scope, cost and duration, including formal progress reports, meeting minutes, independent audit reports, correspondence, contract documents, Purchase Orders, payment records, schedules, etc. For almost any decision one might wish to examine, it is possible to develop a document record of the Iatan Project as it existed at that point in time; it is possible to, and we did, identify the exact information that project management had at its disposal in seeking alternatives and making a decisions; and it is possible to, and we did, follow the thought processes through which project management reached its decision. Using hindsight one may argue that the decisions reached was not the least expensive or the most efficient; however, if one confines oneself to the contemporaneous records and information available at the time it was possible to, and we did, determine whether or not a decision was prudently taken at the time it was made by management.

Q: Was there sufficient information provided to you to conduct a prudence audit and arrive at an opinion in regard to prudence?

A: Yes. Pegasus-Global was able to conduct the audit and reach conclusions as so contained in my testimony.

Q: Did you receive privileged documents in your review?

A: No.

Q: Do you find that unusual?

A: No.

Q: How did you determine what areas to focus on during your review?

A: Pegasus-Global identified a number of areas that were criticized in the Staff and Mr. Drabinski's Iatan Project testimony. Those areas were:

- Delivery Methodology and Contracting Approach;
- Project Management Organization and Staffing;
- Selection and Management of the Owner's Engineer;
- Project Controls (Monitoring and Controls);
- Project Time Management (Schedule);
- Project Cost Management; and
- Project Scope and Change Management.

Q: Did you address the issues raised by the Missouri Staff and Mr. Drabinski, identified above, as part of your review?

A: Yes. Pegasus-Global analyzed each area, reviewed management's actions, and provided conclusions regarding prudence, together with the factual basis for those conclusions as presented within this testimony.

Q: Have all of Pegasus-Global's and your work with regards to those prior prudence reviews and audits been on behalf of regulated utilities?

A: No. Approximately 50% of the generating units Pegasus-Global evaluated were for utilities and the other 50% were for commission staffs – 15 of the clients have been utilities and 14 have been for commission staffs.

Q: Does Pegasus-Global also have experience with construction audits?

A: Yes. Pegasus-Global performs construction audits on major construction projects or programs in the Power Generation, Oil & Gas, and Infrastructure sectors for public and private owners, engineering and construction contractors, and financial firms. For instance, Pegasus-Global has conducted construction audits previously for:

- Red Hills (MS) Coal Fired Plant;
- Northside (FL) Combined Cycle Power Plant;
- Nations Petroleum (CA) Construction Program;
- All Capital Construction Agencies for the City of Winnipeg (Canada);
- Operational Audit of the Reid Gardner Unit 4 Power Plant for the California Department of Water Resources;
- Washington State Joint Legislative Audit Review Committee;
- Princeton University (NJ) Capital Program Management Process Assessment;
- Management Audit of the Vancouver Island Highway project for the British Ministry of Transportation and Infrastructure;
- Management Audit of the West Point Expansion Project (WA);

- Management Audit on the Generation of Consumers, New Grey Water Company (TN);
- Audit of Project Management Processes, Change Order Values and Decision re: B2 Outbound Baggage Facility Project – Port of Seattle (WA); and
- The Asheville – Bencombe Water Authority, Management and Operations Study of the Water Department of the City of Asheville, (NC).

Q: Is it necessary to conduct a construction audit prior to conducting a prudence audit?

A: No, it's not.

Q: Can you explain the difference between a prudence review/audit and a construction audit?

A: Yes. First of all, construction audits and prudence reviews are two different tasks. A prudence review is conducted to determine whether or not the decision made and actions taken by management during the execution of a project were prudent. As I have testified earlier:

> *Decisions are prudent if made in a reasonable manner in light of conditions and circumstances which were known or reasonably should have been known when the decision was made.*

The ultimate goal of a prudence review may be to determine whether or not any decisions found to have been imprudent had any negative impacts on the ultimate cost of the project. In fact, it is entirely possible for a decision by management to have been imprudent but find that the decision ultimately had no negative impact on the final cost of the project.

As I also testified earlier, the Government Accounting Office (GAO) developed and issued standards for what it terms Performance Audits:[3]

> "*Performance* [Prudence] *audits are defined as engagements that provide assurance or conclusions based on an evaluation of sufficient, appropriate evidence against stated criteria, such as specific requirements, measures, or defined business practices. Performance* [Prudence] *audits provide objective analysis so that management and those charged with governance and oversight can use the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.*"

A prudence review or audit is a category of performance audit within which the auditor or reviewer is objectively examining the decision making processes and the decisions made during the execution of a project to establish if those processes and decisions were prudent.

A construction audit is generally understood to be an examination of the costs to execute a construction project; in short a financial audit. Financial audits have a long and fairly stable set of guidelines and standards which are accepted across many industries, including construction. In general:[4]

> "*Financial audits provide an independent assessment of and reasonable assurance about whether an entity's reported financial condition, results, and use*

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[3] Government Auditing Standards, Comptroller General of the United States, United States General Accounting Office, 2007 Revision, Chapter 1, page 17, Section 1.25

[4] Government Auditing Standards, Comptroller General of the United States, United States General Accounting Office, 2007 Revision, Chapter 1, pages 13 - 14, Section 1.22

of resources are presented fairly in accordance with recognized criteria. Reporting on financial audits performed in accordance with GAGAS also includes reports on internal control, compliance with laws and regulations, and provisions of contracts and grant agreements as they relate to financial transactions, systems and processes. Financial audits performed under GAGAS include financial statement audits and other related financial audit:"

Relative to financial audits, according to the Generally Accepted Government Accounting Standards (GAGAS) for financial audits:[5]

"*Under AICPA standards and GAGAS, auditors must plan and perform the audit to obtain sufficient appropriate audit evidence so that audit risk will be limited to a low level that is, in their professional judgment, appropriate for expressing an opinion on the financial statements. The high, but not absolute, level of assurance that is intended to be obtained by auditors is expressed in the auditor's report as obtaining reasonable assurance about whether the financial statements are free of material misstatement (whether caused by error or fraud). Absolute assurance is not attainable because of the nature of audit evidence and the characteristics of fraud. Therefore, an audit conducted in accordance with generally accepted auditing standards may not detect a material misstatement.*"

In addition, according to the GAGAS:[6]

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[5] Government Auditing Standards, Comptroller General of the United States, United States General Accounting Office, 2007 Revision, Chapter 4, page 64, Section 4.01

[6] Government Auditing Standards, Comptroller General of the United States, United States General Accounting Office, 2007 Revision, Chapter 4, page 67, Section 4.07

"*Under AICPA standards and GAGAS, tests of internal control over financial reporting and compliance with laws, regulations, and provisions of contracts or grant agreements in a financial statement audit contribute to the evidence supporting the auditor's opinion on the financial statements or other conclusions regarding financial data.*"

Typically, financial audits are intended to be "*tests*" of financial statements produced by the entity being audited. The goal is to establish with reasonable certainty that the auditing party can rely on what is reported within those financial statements. Once the test is completed, and assuming it is determined that those financial statements issued present a reliable source of information relative to the financial actions of the party audited, the financial test is "passed" and the financial statements are then used for such other purposes for which they are intended.

According to GAGAS there are four generally accepted standards for reporting audit results and conclusions:[7]

"*a. The auditor must state in the auditor's report whether the financial statements are presented in accordance with generally accepted accounting principles (GAAP)*

b. The auditor must identify in the auditor's report those circumstances in which such principles have not been consistently observed in the current period in relation to the preceding period.

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[7] Government Auditing Standards, Comptroller General of the United States, United States General Accounting Office, 2007 Revision, Chapter 5, pages 78 - 79, Section 5.03

c. When the auditor determines that informative disclosures are not reasonably adequate, the auditor must so state in the auditor's report.

d. The auditor must either express and opinion regarding the financial statements, taken as a whole, or state that an opinion cannot be expressed, in the auditor's report. When the auditor cannot express an overall opinion, the auditor should state the reasons therefore in the auditor's report."

While the results of the construction cost audit may ultimately be used in calculating an ultimate cost impact for an imprudent decision, the final total cost of construction in and of itself is not a test of, or proof of, management's prudence during the execution of that project. Simply because a project met its original budget does not mean that every decision made was prudent; likewise just because an element of a project cost more than expected does not mean that the decisions made by management involving that element were imprudent. There are myriad forces at work during any large construction project which can result in changes in the cost of any element of that project or in the total cost of the complete project, and the majority of those factors are simply not under the control of the project's management. In a prudence review the task is to examine management's decisions, then determine if those decisions by themselves were responsible for negative cost impacts to the project.

Q: Do you have an opinion as to whether either the Missouri Staff or Mr. Drabinski conducted a prudence review per the standards that you employed and have described earlier?

A: Yes. From my review of both the Staff's and Mr. Drabinski's review, it is my opinion that neither the Staff nor Mr. Drabinski performed a prudence audit, but rather, engaged

in what is essentially an inappropriate mixing of construction claims and construction/financial audit approaches. The Staff essentially says its opinions are buttressed by the Kansas Commission's Staff consultant, Mr. Drabinski, but the Kansas Commission has already dismissed Mr. Drabinski's analysis in total as stated in its November 22, 2010 Order. Further, while the Staff purports to have conducted its activities in accordance with GAAS, as required by the MPSC's July 7, 2010 Order regarding construction and prudence audits in File No. ER-2010-0355, the Staff did not conduct a prudence audit and did not, by their own admissions, conduct its review per GAAS:

> *"While the Staff auditors have conducted their audit in accordance with the General Standards and Standards of Field Work listed below, they have not necessarily reviewed and applied all of the detailed specific interpretations of the individual SAS to this audit. Such an undertaking would require an extensive investment in training and personnel that has not been viewed as necessary for the work performed in this audit."* [Missouri Staff Report November 3, 2010 report, pp. 19 - 20]

In addition, Mr. Drabinski does not identify any auditing standards to which his review and evaluation was conducted, thus making all of his findings and opinions suspect and unreliable, as was found by the Kansas Commission in its November 22, 2010 Order.

Q: Why is the distinction of whether an evaluation is conducted from a prudence audit or construction/claims audit standpoint important in the context of your evaluation of KCP&L's management prudence relative to Iatan Project?

A: What Pegasus-Global evaluated was prudence. As I discuss in more detail later in this rebuttal testimony, what the Staff and Mr. Drabinski did was to review changes to the original project costs, including a review of Change Orders, to determine their effect on the overall change in project costs. This evaluation purportedly demonstrates evidence of imprudence. Mr. Drabinski then suggests actions that "prove" imprudent decisions. This use of hindsight is precisely what is not allowed in determining management prudence. In addition, the Staff and Mr. Drabinski are not even consistent with construction audit standards, but seemingly take a construction audit approach in the first instance, but then do not even express "*an independent assessment of and reasonable assurance about whether an entity's reported financial condition, results, and use of resources are presented fairly in accordance with recognized criteria.*"[8] The "mixing and matching" of parts of two different standards leads to misleading information clothed in terminology that suggests the presentation and evaluation were done according to recognized standards and thus are "reliable," which creates a condition which prudence audits or financial audits are designed to avoid.

The purpose of a construction audit or a financial audit is not to identify imprudent actions or to judge the results compared to an alternative course of action. A construction audit verifies the actions that have been taken and the results that have been reported to management and the public.

Q: Does Pegasus-Global also have experience with Risk Management and Construction Claims on large, complex projects?

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[8] Government Auditing Standards, Comptroller General of the United States, United States General Accounting Office, 2007 Revision, Chapter 1, page 13, Section 1.22

A: Pegasus-Global performs Enterprise and Project Risk Management evaluations for public agencies and private corporations. In addition Pegasus-Global team members have evaluated and testified for either owners or operators, or engineer-constructors in proceedings all over the world. Representative engagements are set forth in **Exhibit 6 (KRN-6)**.

Q: Are potential or actual construction claims a proper measure of prudence?

A: No, they are not. Contracts are the foundation of claims. That is, the parties measure their obligations through their contract, especially so in relation to the large number of documents which are used in construction. That document can be the payment by one party for meeting the promised delivery by the other party. In engineering, procurement and/or construction contracts, the performing party (the contractor) commits to the owner to engineer, or manufacture, or construct the facility according to parameters that are established in the contract. These parameters are embodied in requirements or specifications. In the case of power plants these requirements and/or specifications can be quite detailed. But even in spite of the detail, the parties often reasonably disagree whether the required engineering, manufacture or construction is included within their contract obligations. Whether the contract is services, delivery, performance, or construction, it is the actual result judged with the measure of hindsight that is used. You must look to the contract documents to determine the obligation. You examine that obligation in light of actual performance and determine whether the party performed. The proper measure of damage is to place the injured party (the party asserting the claim) in the position that it would have been in if the other party's performance had been as required. What makes construction claims so difficult is complexity, duration, number of

parties, the number of conditions defined in an equally large number of documents, changing circumstances over the engineering-construction execution duration, and the myriad of factors that can contribute to cost or schedule impacts. Construction is one of the most party and document intensive commercial transactions that can be undertaken, and proof of causation can be very complex. The duration of the construction period for a mega-project adds a complexity seldom found in other types of commercial claims. I can truly say that no power plant has ever been constructed exactly as first planned.

Construction claims arise from many issues. For example, engineering errors and omissions occur on projects, as do changes to the design requirements. In those instances, the vendors and contractors are paid for the resulting changes. A vendor or contractor may err in the equipment or construction from that was specified, and in those cases they would typically not be entitled to additional compensation for such error. Likewise, an owner may change their requirements, and both the engineering and the vendor or contractor may be entitled to more compensation. These issues may appear to be easy to ascertain, they are not. Despite the detail in Purchase Orders and contracts for power plant construction, issues such as these arise, and disputes or the interpretation are very complex and difficult to resolve.

From a management perspective, you can undertake many actions which are appropriate at the time and under the circumstances. But circumstances and party actions may make such decisions look inappropriate when reviewed in hindsight. Construction claims cannot be prevented, although KCP&L was prudent in mitigating disputes with contractors as they arose on the project, as discussed later in this testimony. Ultimately, parties may seek to settle their differences through some form of contractually agreed

dispute resolution, or ultimately parties can turn to the courts to resolve differences. But under the conditions and circumstances of construction, one result is the longer claims and disputes take to resolve, the more costly they become, even if one party is ultimately found to be correct. I would like to say, in my experience over the last 40 years, seldom is a construction claim or dispute that moves toward arbitration or litigation "clear cut." Thus, the potential of expending more money to resolve claims and disputes and the potential to divert management from other issues lead to many "commercial" settlements of their differences.

As a result of all of these factors, merely relying on claims and allegations is not appropriate to make prudence assessments because claim analyses are primarily "after the fact" type of issues, such as, delay and/or cost issues. The fact that a claim was submitted on a project does not suggest that a management decision was imprudent. In fact, even the validity of a claim does not suggest that a management decision was imprudent. One must review and understand the circumstances giving rise to the claim, and the event to which an allegedly imprudent decision of management – based upon facts known or reasonably available at the time of the decision – caused the costs being claimed.

As is discussed later in this testimony, both the Staff and Mr. Drabinski improperly use "its determination" of success in making KCP&L's contractors perform to the "letter" of the contracts of contractors and vendors, in essence assuring a "claims free" project. For instance, **[redacted]

[redacted] ** This is purely speculation, unsupported by any analysis. Nevertheless, this broad, conclusory claims approach exemplifies the Staff and Mr. Drabinski's determination, unsupported by any facts or analysis. The Staff and Mr. Drabinski also, as discussed later in this testimony, attempt to quantify its hindsight allegations of imprudence by merely making an arbitrary allocation of omnibus settlements with contractors and vendors, which is even inconsistent with proper construction claims methodologies. Again the "mixing and matching" of standards and approaches is misleading and improper.

Q: Several times you referred to the Iatan Project as a "mega-project". Can you define that term?

A: Yes. Mega-projects are defined as very large-capital investment projects that attract a high level of public attention or political interest because of substantial direct and indirect impacts on the community, environment, and companies that undertake such projects. They are generally defined as major projects that cost more than $1 billion (US). Other attributes which may be exhibited by mega-projects include: execution of an engineered facility or structure which is complex or unusual, an extended execution schedule (greater than 3-4 years measured from initial concept development to final completion), involves multiple equipment and material suppliers, involves multiple specialty trade contractors, involves multiple project stakeholders/investors, and has multi-national party involvement.

Q: In Pegasus-Global's opinion was the Iatan Project a mega-project as defined within the industry?

A: Yes. An examination of the Iatan Project reflected the following attributes:

- Total final cost at completion will be approximately $1.9B (US);
- The power plant being executed is very complex from both an engineering and construction perspective;
- Total execution duration from 2004 PDR to final completion was approximately 6+ years;
- There are multiple specialty equipment and material suppliers;
- There are multiple specialty trade contractors;
- There are multiple project stakeholders at both the ownership and the consumer levels;
- There are off shore (from the US) engineered equipment suppliers.

By every measure generally used within the industry the Iatan Project would be classified as a mega-project.

Q: Has Pegasus-Global had experience with mega-projects?

A: Yes. Pegasus-Global has experience, for instance, as part of Project or Program Management audits on mega-projects. In the Power Generation industry sector, Pegasus-Global has evaluated or been a contributing member of the project management on multiple nuclear units as previously described. In the other sectors, we have similarly been involved, for instance, globally, in the following projects:

- BASF Fina Steam Cracker, TX
- Scherer Fossil (4 Unit Coal) Power Plant, GA

- Guri Dam & Hydroelectric Complex, Venezuela
- Casecnan Multi-Purpose Project, Philippines
- City Link, Australia
- Vancouver Island Highway Project, Canada
- Kuala Lumpur International Airport, Malaysia
- Regional Fast Rail Project, Australia
- Parramatta Rail Link, Australia
- Milwaukee Water Pollution Abatement Program (WI)
- PET Production Plants Program, Holland, Spain and Argentina
- Combisa Cantarell EPC 22, TX
- Oman LNG Project, Oman
- Murrin Murrin Nickel – Cobalt Refinery, Australia
- London Crossrail Project, UK
- Venice Lagoon Floodgate Project, Italy

Q: **Do mega-projects require different project management systems than other construction projects?**

A: No. Mega-projects like all construction projects generally require systems which enable the management cadre to manage and control such things as project planning, scope, cost, schedule, safety, quality, vendors and contractors. The primary difference between a mega-project and a typical project, beyond their total cost and duration, is difference in the mega-project risk profile, complexity of the mega-project, extended duration of the mega-project, and the overlapping execution staging of a mega-project.

Q: Can you explain why Pegasus-Global's experience with Risk Management is relevant to your evaluation?

A: In reviewing both the Staff and Mr. Drabinski's testimony, both appear to confuse the purpose of making decisions that assign, allocate, raise or reduce project or corporate (enterprise) risk with the success in doing so (again an impermissible use of hindsight), and /or evaluating risks which may emerge. Risk is defined as *"any activity, event, or action which tends to cause a negative impact to the planned goals of project scope, quality, performance, execution time, or cost*[9]*,* and the management of risk is defined and consequently typically embodies four constantly updated efforts as follows:

"Execution Risk Management is a systematic process by which risk elements or conditions may be identified, evaluated and avoided, mitigated or eliminated, in order to preserve the achievement of project cost schedule and quality goals...

1. The *identification* of potential or actual risks.
2. *Management action review* to accomplish project risk minimization and control.
3. *Execution reviews* on a regular basis to assure project management responsiveness.
4. *Adjusting management* to account for project dynamics."[10]

These efforts can be applied to a project as a whole, a specific portion of the project, or the operations of one or more parties. Risk Management is a process which most

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[9] Nielsen, K.R. *"International Construction Projects – Managing Risk in the Field,"* World Congress on Construction Risk, Paris, France, April, 1994 and Nielsen, K.R., *"Execution Risk Management in Design-Build Infrastructure Projects,"* Proceedings of the Construction Institute Atlantic Coast Construction Conference, Tysons Corner, VA May 2004

[10] Nielsen, K.R. and Galloway, P.D. "Anticipating Problems: Project Risk Assessment and Project Risk Management, Collaboration Management: New Project and Partnering Techniques, edited by H. Shaughnessy, John Wiley & Sons, 1994

programs and projects employ to properly assess and respond to potential or emerging risks. It is not intended to prevent consequences, but assure a reasoned and proper consideration of potential risks to achieving project goals.

Again, the Staff and Drabinski testimony are misleading because of inappropriate and misrepresented comments regarding risk management processes, results and applications. Later in this testimony Pegasus-Global goes into this in more detail.

Q: Can you explain the difference in a risk profile of a mega-project and a typical construction project?

A: Yes. A risk profile for any construction project is predicated on the knowledge that at some point during the execution of any stage of a construction project there will be elements of risk which have the potential to impact the successful attainment of project goals and objective. However, the risk profile of a mega-project has to address myriad risk elements that typical projects do not have to consider. For example, a simple gas fired combined cycle plant and the Iatan Project are both power generation facilities. However, the combined cycle power plant will be executed at a relatively low cost and over a relatively short execution period, using a well known technology and set engineered design using "off the shelf" equipment and materials. The Iatan Project was to be executed at a high cost over an extended execution duration, using unique (and proprietary) technology requiring purpose specific engineering and design, using purpose specific engineered and manufactured equipment and materials from manufacturers located around the world. If one were to compare the risk profile of a typical construction project to a mega-project there would be a noticeable difference in the second level risk elements and lower, and the probability and impact metric analyses contained within

those risk profiles would be very different. For every significant risk element the project participant that was allocated that risk must develop appropriate avoidance and mitigation response plans to address that risk.

Q: What is meant by "second tier and lower risk" element?

A: For a simple example, every construction project has as a first level risk element "Schedule Impact." However, below that first level risk are a series of linked individual risk elements which are tailored to the project conditions for that specific project. In a typical construction project the first level risk element will be linked to a second level risk such as "valve vendor late delivery." In a mega-project a second level risk may have to address up to 10 individual and specific valve vendors each supplying a system crucial control valve, with the various valve vendors located in five different countries, etc. Mega-project risk profiles generally show a greater number of first level risk elements (addressing the unique conditions of that mega-project) and will generally reflect a boarder and much more complex set of risk elements below that first level.

Q: Explain what is meant by the statement that mega-projects are more "complex" than a typical construction project?

A: The unique conditions of a mega-project are the genesis of its complexity when judged against more typical construction projects. For example, while it would seem that the simple way for the owner of a mega-project to avoid any of the risk for such a project would be to execute that project under a EPC delivery method linked to a Fixed Price, Completion Date Certain contract approach, the reality is that there are only a handful of contractors in the world that can take on a $1 billion plus project on a EPC, Fixed Price, Completion Date Certain basis. Even those contractors that are capable of taking on a

mega-project under an EPC do not have the ability to take on multiple mega-projects at the same time. However, it should be noted that even under an EPC arrangement, the owner has not really managed to shed all of the risk onto the contractor, as demonstrated by the construction claims history generated between EPC contractors and owners over various mega-projects around the globe.

If an owner cannot find a contractor capable of or willing to take on its mega-project this leaves the owner with a more complex risk allocation environment which will most likely involve multiple contractors working under different delivery methods and contract approaches, all of which ultimately have to be managed and controlled by the owner. As demonstrated by this single example, one project condition, in this case the lack of an available EPC contractor can radically increase the complexity of managing a mega-project. Similar complexity is inserted into mega-projects due to the wide variety and huge number of equipment and material procurements needed, which almost always prevent an owner, for example, from simply issuing a single Purchase Order for valves, piping, electrical equipment or materials.

Q: **What impact does the extended execution duration of a mega-project have on managing that project?**

A: It is a given in life that the further one attempts to see into the future the less reliable one's predictions of future conditions will be. The same given applies to mega-projects. The only thing anyone really knows for certain about the future insofar as a mega-project is concerned is that there will be changes which will impact the planned execution of that mega-project and that these changes must be managed which fall on the shoulders of the Owner. If the current approach is not working as expected, you analyze the situation,

evaluate the options, and you change the approach to avoid or mitigate risk. The risk profile of every major construction project faces some risk element which is tied to its duration, for example: a change in the available electrical labor pool at the exact point in time when trade electricians are needed for the project. If a project knows that it will need those electricians 8 to 10 months in the future there are fairly accurate indicators of the state of the industry at that point in the future and specific plans can be made to address that industry condition insofar as the need for electricians at that point in time.

On a mega-project the extended duration means that one is basing plans on the need for electricians three years into the future and the industry predictions that far into the future are "informed guesses" at best over that period of time. Construction projects are announced daily, as are project cancellations; both of those factors will affect the availability of electricians throughout that three year period, up to and including the point at which the mega-project plans made three years earlier were made. For example, the announcement of one major stadium project made 20 months after the mega-project plans were set can soak up the majority of the available ironworkers pool just prior to the need for ironworkers hits the mega-project.

Q: What does Pegasus-Global mean by "overlapping execution staging of a mega-project."

A: Construction stages generally consist of a number of separate stages, the most common of which are Initial Project Planning, Engineering/Design, Procurement, Construction, and Commissioning. Depending on the project there may be additional stages, such as testing and start up of process systems, however almost every construction project includes the

stages cited above. Within the construction industry there are two methods by which one can stage the execution of a project:

1) One can move sequentially through those stages generally in the order in which they are listed above, or:
2) One can overlap those stages, initiating each subsequent stage as the preceding stage reaches a point at which it can maintain a lead over the subsequent stage. This is generally referred to in the construction industry as a "fast track" project schedule.

In a typical construction project, the owner or its agent has an option as to which sequencing method it will follow over the execution of the project.

Q: Does a mega-project have the same choice of project sequencing methods?

A: From a practical perspective, no. All mega-projects are executed on a fast track schedule simply due to the fact that sequential staging adds a tremendous amount of time to full execution of a mega-project. As noted above, the more time it takes to execute a mega-project the less reliable the future project condition predictions, and the less reliable the future project condition predications the higher the probability that risk elements will impact project goals and objectives. For example, again using the Iatan Project: the engineering and construction of the balance of plant ("BOP") systems is dependent on the engineered equipment which those BOP systems will support. For example, the boiler is the single most crucial piece of engineered equipment and as it can take a year or more to fully engineer a boiler and its appurtenances; if the start of BOP engineering had to wait until the completion of that boiler design time, then the construction of the BOP had to wait until the completion of the BOP design, then the boiler equipment installation could

not be started until BOP construction was complete, then the time it would take to execute a project such as the Iatan Project would be much longer than was planned and has occurred.

Again, from a number of perspectives, project duration is one of the primary risk elements faced by a mega-project. Therefore, mega-projects take advantage of the more complex process involved in fast tracking the project sequence, balancing the need to keep the execution duration as low as practicable while at the same time recognizing the added stress that will be placed on the owner, contractors and suppliers.

Q: Is there a specific example of the stress which accompanies the fact that mega-projects are fast tracked?

A: Yes. Again, using the Iatan Unit 2 project as an example, the sequence required Alstom to provide the engineered equipment load data to B&McD so that B&McD could engineer the foundations needed to hold that equipment. That foundation needed to be in place and ready to receive Alstom boiler components as they were scheduled to arrive at the site so that the installation of the boiler could coincide exactly with the receipt of that equipment and material. The date scheduled for the completion of the foundation was August 14, 2007. As might be imagined, both Alstom and B&McD were under considerable stress to meet interim engineering and information exchange dates so that the foundation constructor could be given the designs in time to place the foundations within the time period required. That stress manifested itself in what KCP&L referred to as a "do-loop" which simply meant that both Alstom and B&McD took the position that the other party was the one responsible for holding up the completion and release of the

boiler foundation. In this instance, KCP&L successfully managed and controlled the situation, with the result that the foundation was completed as scheduled.

Q: Are such situations common on mega-projects?

A: Yes, this is a common situation in a mega-project. The goal of Project Management is to control these stress situations in order to avoid or mitigate the additional impact of that risk element on the execution of the project. There are several such examples of such stresses addressed by Pegasus-Global within the body of this testimony.

Q: Given the unique circumstances involved in mega-projects and recognizing the stress which accompanies those circumstances, how does the management of a mega-project differ from that of typical construction projects?

A: The greatest difference lies in management's willingness to understand and accept that conditions will change. Management and control approaches, processes, procedures and systems must be flexible and adaptable to those changing conditions. Mega-project management must be able to adjust its focus repeatedly among myriad competing forces in order to maintain the greatest possible control over the project environment as it evolves. Management of a mega-project never gets the opportunity to simply sit back and say "everything is going according to plan," because the plan may, and often does, literally change every day. Without this ability to be flexible, or adapt to the changing project conditions, the management of the mega-project may suffer under the stress which we covered earlier in this testimony.

Q: What are these differences in mega-project management in the context of a prudence review of the Iatan Project?

A: The Iatan Project, by virtue of being a mega-project, was faced with having to engage in a constant decision making process. KCP&L management understood that executive management would have to be on constant vigil. This involved the use of consulting expertise, coupled with regular management questioning and evaluation of decisions already made and implemented. KCP&L did an exceptional job in matching important decisions to the needs of the full CEP Program and the Iatan Project, taking into account the actually required decisions that had to be made at the time. This approach also recognized that KCP&L management decisions may have to be altered when conditions, circumstances, or performances were different than when the decision was made. The constant KCP&L requirement of performance evaluation of all parties involved in the Iatan Project, including itself, was innovative and consistent with the changes that are faced in all mega-projects. The very change over the course of the Iatan Project demonstrated this decision making process and the reasonableness because of decision making processes by conditions made to enhance management and performance by project parties. Additionally, because they were transparent, decision making process and change assured good governance and accountability. This type of self critical management decision-making processes is consistent with mega-projects today.

Q: Does the Missouri Staff or Mr. Drabinski recognize the evolving context of a mega-project?

A: No. Throughout its testimony both the Staff and Mr. Drabinski apply smaller construction project management concepts and expectations or express opinions that indicate that they expect no change during the execution of a mega project against which the Staff and Mr. Drabinski then compare the actions and decisions made by KCP&L during the execution

of the Iatan mega-project. For example, Mr. Drabinski consistently attacks KCP&L management within his testimony for "seriously considering" an EPC project delivery methodology linked to a fixed price contract approach for the Iatan Unit 2 project scope of work. This assertion is made in spite of testimony by KCP&L witnesses and a number of document references to the fact that KCP&L had surveyed the contractor pool and found no interest among that pool in executing the Iatan Unit 2 project on an EPC, fixed price basis. As is discussed in more detail later in my testimony, Mr. Drabinski simply ignores the reasons for that lack of interest in an EPC fixed price contract for the Iatan Unit 2 mega-project.

The Staff's and Mr. Drabinski's persistence in applying contractor concepts and expectations that do not reflect the Iatan Project circumstances is also reflected in how KCP&L management decisions are treated throughout the Staff Report and Mr. Drabinski's testimony. For example: **[redacted]

[redacted]** Mr. Drabinski's criticism of KCP&L is founded on applying a construction management understanding which essentially states that once a decision has been made it is not revisited or changed absent some negative impact has rendered that decision untenable. It is essentially a "decide", "monitor" and, if required, "react" management methodology which as a rule has been followed within the traditional construction industry of small projects. However in modern mega-projects, by the time the monitoring detected a problem or issue it is generally too late for project management to react in time to mitigate or avoid the problem, which then ripples out from that problem to impact other areas of the project. The ultimate results can be, and in the case of the first wave of

nuclear projects built within this country were, devastating to the cost and schedule of the mega-project.

Lessons learned from these early mega-projects spurred the adoption of revised management techniques, such as risk management and risk profiling, which were directed towards early identification and quantification of risk elements which may impact the execution of that mega-project. The theory is that the earlier a potential risk is identified and treatment options are developed, the better able management will be to anticipate and either avoid or mitigate those risks during execution. However, managing to a risk profile and set of treatment options demands that management adopt a flexible decision making posture throughout the execution of the mega-project. It requires that the project risk profile be constantly updated, as the project matures and evolves because that risk profile will also change in response to evolutionary changes in the project. Management decisions, which under a small construction project have a project life of months, have a project life of years within a mega-project. As a result, every crucial decision must be weighed against the current status of the project and the most current risk profile exhibited by that project. It is this constant change in management focus, timing and evolution which the Staff and Mr. Drabinski have ignored within their analysis of the KCP&L actions and decisions.

**[redacted]

[redacted]**

Interestingly, Mr. Drabinski originally testified in the Kansas Commission prudence docket that "Given the documentation and process, one could conclude that the decision [to executed the BOP under a multi-prime methodology] was reasonable, and not in itself, imprudent" Drabinski at page 38, lines 14 – 16). Yet throughout his testimony Mr. Drabinski constantly refers to that decision as being at the heart of all many of KCP&L's problems and, ultimately, the disallowances he recommends.

I and the Pegasus-Global team examined the same documents, and many other project records, and found that KCP&L made decisions and took actions following a pattern which is consistent with current mega-project management practice. KCP&L and its advisors constantly updated and modified the project risk profile, identifying changes in risk elements and their possible impact, and developing the most reasonable treatment options for each of those risk elements as they arose. Using the BOP delivery method example cited repeatedly by the Staff and Mr. Drabinski, Pegasus-Global interpreted the

same documents and information differently based upon our engagements and experience for both Commission Staffs and Utility management:

- The BOP multi-prime delivery method decision was a result of the fact that no capable industry contractor expressed any interest in executing that scope of work under and EPC delivery methodology or at a fixed price.
- A reasonable alternative was to execute the BOP scope of work under a multi-prime method, with KCP&L acting as the construction manager. This option was explored in depth by KCP&L and its advisors, with significant attention paid to the risks inherent in that methodology, the risks which were particular to KCP&L's current project and construction management status, and the development of mitigation treatment options to address both of those risk factors. For example; staffing needs were identified, management and organization plans initiated and recruitment efforts started to fill the most critical positions in the most logical order.
- Although the risk profile evolved with each staff addition and each process developed by KCP&L, the risk profile of the multi-prime delivery method remained significant at the end of 2006, at which point an unexpected event provided KCP&L with an alternative delivery methodology which had the potential to shift a significant portion of the current risk profile to Kiewit. Any reasonable mega-project manager or owner would examine the Kiewit offer to determine if accepting that offer provided the project with a way to mitigate project risk over the total duration of the project; which is just what KCP&L, with input from its advisors, did in early May 2007.

- Having profiled the risks of both alternatives – continuing with the Multi-Prime method under direct KCP&L control or shifting the bulk of that work and risk to Kiewit under a GC methodology – KCP&L's decision was to shift the risk to Kiewit.

Testimony filed by the Staff addresses approximately that same period in the Iatan Unit 2 project history, but provided little detail relative to its findings or conclusions of that 2005 to 2007 time period. Staff simply concluded that "By late 2006, the Iatan Project had been committed to a course that made the risk of cost overruns and schedule delays for the Iatan 1 AQCS segment high, and this is one of the, if not the most, significant factor causing the cost overruns and the documentation issues Staff encountered on this audit" [Missouri Staff November 3, 2010 Testimony at page 25, lines 17 – 20].

The Staff included some testimony relative to the multi-prime BOP decision at pages 22 line 9 through line 24, which quoted from an Ernst &Young (E&Y) Risk Assessment of March 2007. **[redacted]**

Beyond that I found no testimony by the Staff which addressed the mega-projects, or any specific finding of imprudence which may have occurred during that 2005 – 2007 period. Likewise, I found no Staff testimony to the effect that the initial decision to adopt a multi-prime BOP delivery methodology and the later decision to revise that decision contracting with Kiewit to execute the BOP work was imprudent.

Pegasus-Global's examination of the Iatan Project record does not reflect a project in any danger of eminent failure as of the spring of 2007. The risk profile of the project reflected

the effort which KCP&L would have to expend to mitigate those risks over the life of the project, and those expenditures would be significant. The documents indicate that KCP&L was, in fact, expending the anticipated level of effort throughout 2006 and into 2007. However, the Kiewit option provided KCP&L with an opportunity to address those risk elements almost immediately, with a lower expenditure of effort required. From a mega-project perspective, the decision making process which was followed throughout that period by KCP&L is exactly what Pegasus-Global would expect to see under the conditions described in great detail within the Iatan Project records. The Iatan Project is a mega-project. Recognizing this circumstance enables Pegasus-Global to place the actions and decisions taken by KCP&L within the actual contextual conditions of the project.

IV. KCP&L'S MANAGEMENT DECISIONS WITH RESPECT TO THE IATAN PROJECT WERE REASONABLE AND PRUDENT UNDER THE CIRCUMSTANCES

Q: How did Pegasus-Global determine what decisions to evaluate as part of its prudence review?

A: Pegasus-Global's opinions are in respect to the performance of KCP&L in executing its management responsibilities over the duration of the Iatan Project. The review scope in each of these areas was comprehensive and reflects the experience of the Pegasus-Global team in the conduct of similar reviews. In Pegasus-Global's review of the critical decisions affecting all aspects of the Iatan Project, Pegasus-Global reviewed the following areas:

- Corporate Management and Project Management organization, staffing and evolution;

- Project planning and approach, including contracting methodology and its evolution;
- Contract Management and Administration processes and decision-making, including Project Control Systems, Project Budget, Change Management, Project Schedule, Quality Management.

Within each of these areas, an evaluation was conducted with respect to the following subjects:

- Management concept;
- Roles and responsibilities;
- Organization and staffing;
- Procedures;
- Control Systems and processes; and
- Execution

These subjects thus relate to the development of a management framework for implementation on the Iatan Project and performance execution within that framework by KCP&L and its contractors which allegedly encompass the areas found imprudent by the Staff and Mr. Drabinski. The conduct of this review addressed each of the above subjects and provides adequate breadth and depth of review to support the presentation of an objective and independent evaluation of each functional area.

A. CORPORATE MANAGEMENT & PROJECT MANAGEMENT, ORGANIZATION, STAFFING & EVOLUTION

Q: Did KCP&L have a management structure in place for a rational and deliberate process with respect to the planning and execution of the Iatan Project?

A: Yes. Pegasus-Global concluded that the management oversight process was thorough, complete, and what would be expected of a reasonable and prudent utility. A team of KCP&L executives was formed in the summer of 2005 and met throughout 2006 to discuss and make decisions regarding the Iatan Project.[11] This committee evolved into a more formalized CEP Executive Oversight Committee (EOC) in October 2006. Great Plains Energy (GPE) formalized the EOC upon the recommendation of GPE's CEO, M. Chesser, and GPE's internal audit department. The EOC was formed to provide program management assurance to minimize the risk of program failures and to assure that every one of the CEP Projects in the Program was strategically aligned in terms of scope, quality, cost and schedule. The responsibilities, structure and attributes were established at that time for the EPC by Mr. Chesser in an attachment to his communication to KCP&L CEO, Bill Downey:

Oversight Committee[12]

Committee Structure and Responsibilities

- Be chaired by the Chief Executive of Utility.
- Be comprised of a selection of executives of the organization who are affected by the change or have responsibility for its outcome.
- Confirms the project in terms of strategic alignment, overall costs, benefits, deliverables, and scope.
- Work closely with the Project Executive to ensure that the project's progress is on schedule.

[11] Downey testimony, December 17, 2009, page 5, lines 16-17.
[12] CEP Oversight Committee 10-26-06

- Objectively review the direction and progress of the project at key intervals to ensure that the aims of the project are being met and that the Benefits Plan is on schedule to realize expected benefits.
- Make decisions pertaining to the project's external influences.
- Assess resource requirements and team's performance throughout the course of the project.
- Constantly review and evaluate the Project as it may become necessary to re-direct or stop the project (mid-stream) if it becomes clear that it is no longer relevant to the company objectives or is unlikely to deliver the expected benefits.
- Ensure that the project follows the corporate policies and procedures of the organization.
- Ensure that the project complies with the performance criteria defined in the Project Business Case.
- Monitor the decision making process.
- Designate an individual to organize the Oversight Committee meetings, take notes and distribute minutes and action items.

Attributes

- Be accountable for achieving planned benefits within budget, on schedule and within scope.
- Exercise organizational leadership with regard to the project and all parties involved.

- Contribute to finding solutions if access to resources falters.
- Manage all internal and external business issues related to the project.

The CEP EOC Committee members originally consisted of:

- Terry Bassham, KCP&L CFO and GPE Executive VP, Finance and Strategic Development and CFO
- Bill Downey, KCP&L President and CEO and GPE President and COO
- Barbara Curry, Sr. VP – Corp. Svcs. And Corporate Secretary
- Lora Cheatum, VP – Admin. Svcs.
- Chris Giles, VP – Regulatory Affairs
- Bill Riggins, VP – Legal and Environmental Affairs and General Counsel
- Michael Cline, KCP&L Treasurer and Chief Risk Officer
- John Marshall, Sr. VP – Delivery
- Steve Easley, Sr. VP – Supply[13]

Committee members listed at the April 2008 meeting also included:

- John Wallis, Director – Budget and Planning[14]

And the minutes from the March 26, 2010 CEP EOC meeting list the following additional attendees as committee members:

- Curtis Blanc
- Maria Jenks
- Scott Heidtbrink – KCP&L Sr. VP Supply[15]

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[13] CEP Oversight Committee.102606.pdf, page 8
[14] CEP EOC, April 25, 2008 minutes
[15] CEP EOC Meeting, March 26, 2010, minutes, page 1

The CEP EOC started functioning in October 2006 and was formally approved at the beginning of February 2007. After October 2006, the EOC met regularly, approximately monthly, and the meetings were well attended. The meeting agendas and presentation materials indicate that the EOC was focused on critical issues affecting CEP success, including the Iatan Project safety, cost, schedule, status, contractor performance indicators, contractor issues and conflicts, and actions to mitigate indentified project risks.

Q: Did this management structure develop available information and ensure that it was provided to management to make informed decisions?

A: Yes. The CEP EOC arranged with the GPE Internal auditor and E&Y to provide one source of input to allow KCP&L executive management to monitor project decision making to assist in the normal conflicts of competing stakeholders, including external influences and project management executives. The proposal of the audits was proactive on the part of KCP&L management and indicative of good, prudent management process. The sequence of events for all audits, including those conducted on the Iatan Project, consists of a series of steps, rather than merely the delivery of a final report. First is to define and clarify the audit scope, including the time frame of data/information to be audited. Then data is collected from the available project files and interviews with personnel are conducted. An initial reporting of findings is made after the field work is completed which consist of audit summaries which are provided to management of the affected areas. These findings are be reviewed by affected management and written comments are provided to the audit team. These written comments to the audit findings provide additional information, comments, and any relevant actions that will be or may

already have been taken since the audit data were collected. The auditor then finalizes the report, including the responses from KCP&L. Therefore, it is important to understand that actions in response to the external audit initial findings are often taken long before an audit report's final issue date. The final audit report is then presented to senior management of KCP&L and the Audit Committee of the Board of Directors, including the response of company management to the findings. This process illustrates that KCP&L management demanded and received differing opinions that were used to inform them of their choices and that audit findings were communicated to the relevant management levels in the normal course of management of the project.

**[redacted]

[16] CEP Risk Assessment Report 3-27-07

[redacted]

[redacted]

[redacted]

[redacted]

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[redacted]**

In addition, the CEP EOC reviewed reports from Schiff Hardin that provided KCP&L with outside expertise with respect to the CEP program and specific projects. Schiff Hardin reports provided even more detailed, operating level recommendations with

respect to specific project management for the Iatan Project. Again, this is a process of decision making that we look for – the seeking out of potential risks and possible solutions regularly from outside sources which exemplifies good and prudent management.

Consideration must also be given to the particular point in the execution period when the CEP EOC was being formed. For example, KCP&L was delayed from their 2004 plans by the need to obtain permits from various jurisdictions agencies and by the regulatory process leading to formal approval of the CEP. Once the overall CEP program was approved, KCP&L found themselves faced with a considerably different construction market. Today, KCP&L is faced with construction market conditions that were unforeseeable just six months ago. Circumstances and conditions seldom remain the same over the extended durations of major capital construction. When judging the prudency of decision making, we place decision making in the factual context of what could reasonably be known at the time. Once the decision is made, there also must be recognition of the time to implement or respond to the decision, during which circumstances and conditions are not static. From the end of 2005 to today the shifting issues and resulting circumstances have gone through many changes. Pegasus-Global found that KCP&L's organization and staffing also evolved over the course of the Iatan Project as circumstances and conditions changed. For that reason Pegasus-Global place the decision making process into time context or continuum that existed at the time the decision was made.

Q: Were there any other KCP&L senior management involvement in the Iatan Project?

A: Yes. KCP&L executive managers involved themselves with the Iatan Project in other ways beyond just serving on the EOC. Executive level managers were directly involved in contract negotiations, dispute resolution and had responsibility for approval of major contracts. **[redacted]**[18]

[redacted]

[redacted][19]

Q: Did the KCP&L management and organization evolve during the Iatan Project execution?

A: Yes. As I pointed out earlier, KCP&L formed the CEP EOC in October 2006 so that every one of the CEP Projects in the program was strategically aligned in terms of scope, quality, cost and schedule. The EOC met, received reports, and made corporate level

[17] Proposed Resolution, Board of Directors Teleconference October 7, 2008
[18] Iatan 2 Joint Owners Meeting Minutes of May 14, 2009
[19] CEP EOC Presentation 2008 03 28 – Meeting Minutes; CEP EOC Presentation 2008 04 25 – Meeting Minutes

decisions approximately every 2 to 3 weeks and the Iatan Project was addressed at every single meeting.

For example, the EOC was very involved in interface and claims issues that arose between B&McD and Alstom, and various adjustments that were made to attempt to get both firms to live up to their obligations. The failure of a contractor to perform at the expected level is, in and of itself, not evidence of imprudence. At this stage of a project a proper prudence review looks at the facts and circumstances known to management at the time (such as stage of the project, causes for non-performance, other commercial options available, budget impact, corrective action plan, etc.) to determine whether the response to non-performance was appropriate and prudent. Here, when project management determined at the beginning of 2006 that the strategic plan requirement of a schedule driven project would be enhanced by limiting the multi-contract approach to equipment procurement only, the CEP EOC concurred. Kiewit was engaged under a Limited Notice to Proceed (LNTP) to serve in this role while Kiewit and the Project Management staff worked out details of Kiewit's contract to handle all field construction required for the Balance of Plant (BOP) work and outage work required. **[redacted]

[redacted][20] **

The evolution of project strategy structure and organization and the constant follow up that Pegasus-Global observed is evidence of management attention and action. Decisions by KCP&L were timely and based upon timely information. New decisions cannot be implemented immediately, but the project documents show steady improvement and further refinement as more information was received. One of the decisions that stands out is the decision to use Kiewit under a LNTP while the parties took the time necessary to appropriately establish definitions and scope to enable a contract. Pegasus-Global finds the evolution of the Iatan Project management and contract approach and the decision making process reflective of appropriate management practices that fell within a zone of reasonableness. Pegasus-Global concludes these decisions and decision making processes were prudent.

Q: Was the KCP&L Board involved in the Iatan Project?

A: Yes. The CEP program was discussed at each Board of Directors meeting, and the Iatan Project was by far the largest part of the program. Each meeting featured a presentation on the Iatan Project activities, usually presented by KCP&L CEO Bill Downey. The Board was involved and/or informed on all major decisions on the CEP Program and the Iatan Project. On decisions that called for Board actions, their decisions were duly recorded in the minutes.

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[20] Iatan Construction Project Organization Audit Report-FINAL

Q: Based on Pegasus-Global's review has Pegasus-Global formed an opinion regarding whether KCP&L senior management executives and the Board of Directors acted prudently in their oversight of Iatan Project?

A: Yes. KCP&L senior management, executive management, and the Board of Directors had an effective oversight process in place, focused on important Iatan Project issues, participated fully in the strategic decision making process, were active in issue resolution and remained fully informed and engaged throughout the Iatan Project execution. The KCP&L executive management and Board of Directors' oversight of the Iatan Project were thorough and reasonable, and Pegasus-Global found the decision-making processes and decisions fell within a zone of reasonableness and to be prudent.

Q: Did the KCP&L Project Management organization and staffing for the Iatan Project evolve beyond the initial plan?

A: Yes, it did. Into late 2006 KCP&L worked within a project environment shaped in part as follows:

- Major engineered equipment was set, including the Turbine Generator (Toshiba) and Boiler Island (Alstom).
- The Toshiba was a supply only agreement, with installation to be included in the BOP scope of work under Toshiba guidance.
- The Alstom Boiler Island was a full EPC agreement with fixed price and completion date certain; the scope of work was set to specific boundary limits.
- Engineering was ramping up as crucial data was received from the engineered equipment suppliers which would enable detailed engineering for foundations.

- KCP&L was staffing to meet its role as both Project Manager and Construction Manager, assuming direct responsibility for the BOP multi-prime project execution.
- KCP&L was focused on procurement as a critical early element in the project execution both in order to support engineering needs (size, capacity, loads, etc.) and to gain firm pricing and delivery commitments for critical equipment and materials in what was an overheated construction market.
- As project staff was engaged, KCP&L initiated efforts to enhance its corporate and operations level policies and procedures to a level commensurate with the needs of a major construction project.

As the Iatan Project entered 2007, KCP&L continued to increase its project management and staffing. **[redacted]**

Pegasus-Global found KCP&L management reasonably knew the environment in which it was trying to recruit new project management level staff. As already noted, the large number of major construction projects being executed across the country put a high

[21] CEP Risk Management Report 3-27-07, pages 41, 45
[22] Schiff Hardin Report, May 23, 2007, page 1; Iatan Audit Report, July 2007, page 4

demand on experienced personnel in the 2006-2008 time period. Although KCP&L had begun ramping up staffing in 2006, the availability of qualified, experienced project and construction management staff was low, making that recruitment effort slow.[23] For instance, although KCP&L knew from early in the Iatan Project that a master scheduler was required, in 2006 the position was advertised for months before being filled.[24] As a result, recruitment of new hires, as well as training of internal staff, required long lead times. Since having adequate, qualified and experienced project and construction management staff was essential to the successful execution of KCP&L's role, KCP&L contracted with outside firms such as B&McD, Schiff-Hardin, and Aero-Tek to fill their management and staffing needs, while KCP&L built up internal resources. Despite the difficulties, KCP&L was able to make progress in developing the PMT. An audit performed in early 2007 indicated significant progress had been made between late 2006 and the first half of 2007.[25] These decisions seem reasonable, appropriate and prudent.

Once contracts were in place and project control metrics were established, lower level staffing needs were addressed in order to support implementation of the contractor controls. Many of these staff positions were contracted through workforce agencies. Within this level of staffing, personnel were frequently retrained and shifted positions during the course of the Iatan Project in accordance with changing needs. For instance, as the initial procurement and purchasing phase wound down, people were shifted to project control monitoring roles where needs were increasing as the construction proceeded. The

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[23] Schiff Hardin Report, August 7, 2006, page 3
[24] Iatan No. 2 Weekly Status Update, July 14, 2006, page 1; Iatan Station Weekly Status Update, September 22, 2006, page 5
[25] Kansas City Power & Light Iatan Construction Project Audit, July 2007, page 4

use of contracted staffing at this level was prudent in that much of the workload is of a limited duration (the construction of the project), and so staff levels can more readily be increased and decreased according to project needs than they can be with permanent employees. This is a prudent and typical strategy for a project like the Iatan Project.

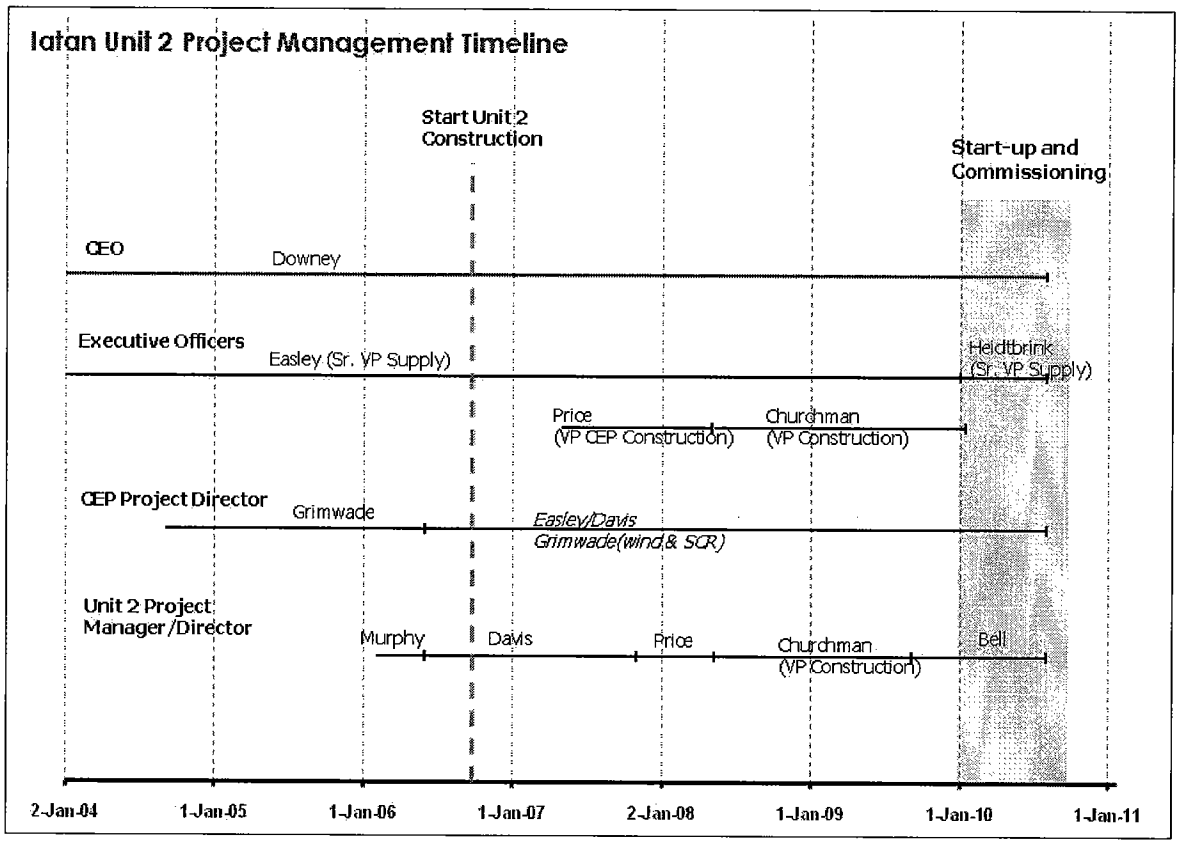
Q: Did KCP&L continue to monitor and adjust the Project Management Team (PMT) and Project Management process as the needs of the Iatan Project changed and the Project progressed?

A: Yes they did. Overall, the Iatan Project organization and staffing progressed in a manner that Pegasus-Global has observed on other major capital projects. The PMT and KCP&L CEP recognized increasing needs and received from various sources information identifying potential risks with respect to the project opportunities to further improve effectiveness. KCP&L was receptive to that input and responded accordingly when it was appropriate.

As noted earlier in this testimony, the Iatan Project is a mega-project. It is usual to have multiple project managers on a mega-project, with each of those managers being to some extent "specialists" in particular phases or elements of execution. For example: one project manager may be chosen for planning and conceptual engineering strengths; another may then be brought on board during the heavy procurement and contracting phase; a third with mega-project construction execution experience may be sought to oversee the completion of detailed coordination and multi-party construction; while a fourth may be inserted for particular experience in commissioning and start-up of complex facilities. It is possible for a mega-project to have three or even four of those "project managers" on board during overlapping periods, with different but equally

critical titles and functions. One clear example of this is the hiring of Carl Churchman in May, 2008 as VP of Construction, bringing experience as a Construction Completion Director on large-scale power plant construction projects to the project executive management level as the Iatan Unit 2 project moved into the most critical construction phase.[26] Farther along in the Iatan Project, Bob Bell – with particular expertise in startup transitions – was hired to direct Iatan Unit 2 construction under Churchman and then was installed as the Unit 2 Project Director under the VP Supply as the project entered the Startup phase.[27] The Senior Management positions relative to the Iatan Unit 2 project are summarized in the following figure:

[26] Business Wire April 28, 2008
[27]Direct Testimony of Robert Bell, page 3, line 22 – page 4, line 6 and CEP Oversight Presentation 2010 02 26, page 6



Examples of organizational changes in response to feedback during the Iatan Project are evident in the Iatan PMT restructuring in November of 2007. The CEP Project Director at that time (Brent Davis) was dedicated to the Iatan Unit 1 project in November 2007 and the VP of Construction assumed direct management responsibility for the Iatan Unit 2 project.[28] Moreover, additional management positions have been added as needs have progressed: BOP construction manager and Startup Manager positions were added in May 2007;[29] separate contract managers for each of the major contractors (Alstom and Kiewit) were hired in mid-2007 under Steve Jones to handle the large workload as the

[28] Iatan Construction Project Organization Audit Report , January 2008, page 21
[29] CEP EOC Presentation 2007 05 23.pdf, pages 17, 21

work under those contracts increased; and, a dedicated Unit 2 Startup Manager was hired in the second quarter of 2007.[30] Management of the Engineering contract with B&McD was also moved from Engineering to Procurement and Contracts in January, 2008 in response to changing management needs and organizational capabilities.

Q: Was KCP&L's overall approach to its Project Management organization and staffing for the Iatan Project prudent?

A: Yes. The early decisions regarding organization and staffing reflected the fact that KCP&L had a limited construction program for almost 20 years. In fact, KCP&L had shifted their corporate strategy early in this decade from growth through unregulated subsidiaries to a future where the dominant business model was the vertically integrated state regulated electric utility. KCP&L recognized that the change in corporate strategy brought with it the certainty of rate cases and the expectation of broad public review of decisions that such rate cases meant.

**[redacted]

[30] KCP&L Strategic Infrastructure Investment Status Report, Second Quarter 2007, page 32

[redacted] **

[31] KCP&L Operations Review 11-01-05, KCP&L Operations Review 02-01-06, KCP&L Operations Review 05-02-06, KCP&L Operations Review 07-25-06, KCP&L Operations Review 10-31-06
[32] KCP&L Business Plan 2007-2011 12-05-06
[33] CEP Risk Management Report 3-27-07

KCP&L identified timely that the project management organization and staffing needed to be increased. KCP&L further recognized that a strategy that was schedule driven did not allow for the recruitment and training of an all KCP&L staff. KCP&L decided appropriately to enhance their Project Management staff and organization with experienced consultants while the KCP&L PMT was fully developed. KCP&L's decisions relative to its initial organization and staffing were consistent with acceptable utility practices under the initial conditions and circumstances of the Iatan Project. KCP&L employed knowledgeable advisors, evaluated options, and made acceptable and appropriate adjustments to the Iatan Project Management organization and staffing.

The evolution of project structure, organization, and staffing and the constant follow up that Pegasus-Global observed is evidence of management attention and action. Decisions by KCP&L were timely and based upon timely information. New decisions cannot be implemented immediately, but the project documents show steady improvement and further refinement as more information was received. Pegasus-Global concludes that KCP&L's continued Project Management organization and staffing decisions and its decision making processes exhibited good management and were reasonable. Pegasus-Global finds the evolution of the Iatan Project Management and the decision making process reflected appropriate management practices, and was reasonable and prudent.

Q: Have you reviewed the Missouri Staff's and Mr. Drabinski's opinions relative to deficiencies in the KCP&L organization and staffing relative to the Iatan Project?

A: Yes. Scattered throughout the Missouri Staff report and Mr. Drabinski's testimony are references to various organizational and staffing decisions and issues which it identified as contributing to the delays and cost overruns on the Iatan Project, among them:

- The Missouri Staff report does not address the issue of management organization or staffing as a discrete element of its report. Rather scattered throughout the report are statements such as the following:
  - In regards to the "fast-track" nature of the project the Staff concluded that KCP&L staff was not experienced enough to effectively manage a fast-track schedule project [Missouri Staff Report at page 38, lines 3 through 8]. The Staff believes that this "fact" was a major factor in the $200 million cost overrun on the Iatan Unit 2 project.
  - In regards to the Alstom claims and settlements the Staff concluded that Alstom "took advantage" of the "inexperienced" KCP&L PMT with regards to the Alstom omnibus settlements [Missouri Staff Report at page 60 lines 8 – 10].
  - The Staff cited an E&Y audit which **[redacted]** [Missouri Staff Report at page 60 lines 12 – 18].
- That KCP&L was not prepared to manage a multi-prime project delivery methodology at the time that decision was made [Drabinski at page 44, lines 2 – 3];
- That KCP&L was late in developing and implementing an integrated Project Execution Plan (PEP) [Drabinski at page 120, line 14 through page 121 line 2];
- That there was dissention among the project team which KCP&L appeared to ignore [Drabinski at page 60 line 7 through page 63 line 16];

- That KCP&L "significantly underestimated" the number of construction management personnel it would need for the Iatan Unit 1 & 2 projects" [Drabinski at page 47, line 14 through page 48, line 2 and page 63 line 18 through page 65 line 1]; and
- That KCP&L had high turnover in the Project Manager position during 2006 and 2007 [Drabinski at page 59, line 1 through page 60, Table].

Nowhere did Pegasus-Global find in Mr. Drabinski's testimony where he directly linked any of these issues to any specific disallowance amount. Rather, Mr. Drabinski has generally identified these KCP&L management issues as major contributing factors to KCP&L's imprudent actions, which in turn resulted in costs which he recommends that the Commission disallow.

Q: Do you agree with the Missouri Staff's assertion that the experience level of KCP&L's staff was a factor in cost overruns on the Iatan Project?

A: No. The Staff has not put its conclusions relative to the experience level into a proper context with specific points in the Iatan Project life cycle. The Staff loosely ties its allegations of the inexperience of the staff to the cost overrun which occurred between the establishment of the CBE (December 2006) and June 30, 2010, the date through which its audit of construction costs runs. As cited in this testimony, in late 2005 and early 2006 KCP&L initiated a major effort to recruit and hire experienced staff to manage the Iatan Unit 2 project, starting with the more senior project management positions then moving to fill the more technical construction management positions. By the time the CBE had been established all of the senior project management positions had been filled and many of the technical construction positions had been filled (i.e. cost management

and control, schedule management and control, contract administration, etc). The individuals hired by that point in time were neither "inexperienced" nor unfamiliar with the cost, schedule and execution plans and procedures for the Iatan Unit 2 project, having, in fact, developed and issued those plans, procedures and systems. By the fall of 2006 all of the cost, schedule and contract management and control procedures and systems were in place and by early 2007 all of those management and control systems were fully populated and in full operation.

Also, the E&Y audit referenced by the Staff actually stated that: **[redacted]**[34] The E&Y report was issued in March 2007, however the actual audit was conducted by E&Y in the fall of 2006, at which point the technical staff positions were still being filled and the project management and control systems were still under development by the senior project and construction management personnel hired by KCP&L. When placed within the context of the project status as of the date of the CBE, Pegasus-Global does not agree with the Staff that the KCP&L staff was "inexperienced" or that the alleged "inexperience" was a major factor in the cost overruns identified by the Staff within its report.

[34] Phase I Risk Assessment, Ernst & Young, March 2007, page 6

Q: Do you agree with Mr. Drabinski's assertion that "KCP&L was not prepared to manage" a multi-prime project delivery methodology for the Iatan Project? [Drabinski at page 44, lines 2 – 3]

A: No. First, Drabinski's ultimate conclusion appears to be that KCP&L should not have made the BOP decision unless or until it had the full organization and staffing available to manage the execution of the scope of work under a multi-prime methodology. In Pegasus-Global's experience all construction projects, and in particular, mega-projects are evolutionary in that decisions made subsequently lead to the response actions necessary to execute the decisions. It would be illogical to staff to the personnel levels and technical specialties needed for a multi-prime if one were to then decide to execute the project under a full EPC methodology. Second, Mr. Drabinski confuses the issue by describing the issue as involving a single decision; whether to execute the entire project under an EPC or a multi-prime methodology. Early in the Iatan Unit 2 project history all project delivery methodologies were under consideration, and it was a series of conditions, events, decisions and actions which ultimately resulted in a mixed delivery methodology; it was not a single point in time decision as Mr. Drabinski would have one believe. That series of decisions, which were made in response to issues, events and conditions which occurred between 2004 and 2007 ultimately lead to a mixture of delivery methodologies ranging from full EPC (Alstom) to a general construction contract with coordination responsibilities utilizing a mixture of unit and fixed prices (Kiewit). Finally, Mr. Drabinski provided no analysis which conclusively demonstrated that KCP&L staffing plans or structure were inappropriate to the decisions made, or that KCP&L did not initiate immediate actions to meet those staffing plans or structures. Nor

did Mr. Drabinski provide any analysis which directly linked this issue to any specific disallowance recommend by Mr. Drabinski. Pegasus-Global's review of the project records shows that each decision KCP&L moved quickly to modify and alter the staffing plans in place, and aggressively recruited for and filled the staff positions to address the various project delivery methodologies in place at a given point in time.

Q: Do you agree with Drabinski's opinion that KCP&L was late in developing and implementing the PEP for the Iatan Unit 2 project?

A: No. Mr. Drabinski cites to a July 2007 construction audit by GPE Audit Services noting that as of the date of that audit **[redacted]** [Drabinski at page 120, lines 14 – 17]. According to Mr. Drabinski "*In the Ernst & Young Audit, it was stated that* **[redacted]** [Drabinski at page 121, lines 1 – 2]. First, Mr. Drabinski is citing to the actual month that the PEP was issued and, in point of fact, various elements of the PEP had been developed and issued as early as the fall of 2006. The fact that the PEP as a complete document was not issued until June 2007 does not mean that the organization, staff and processes for several crucial management elements were not already in place and being used. Second, Mr. Drabinski states that site activities had begun "almost one year" prior to the publication of the PEP document; however, what Mr. Drabinski fails to state is that the only site work under way at that time involved site preparation, pile placement and foundation work, all of which was easily managed under the organization, staff and processes in place throughout that work. None of the primary construction contractors, including Alstom,

had mobilized to site as of June 2007. Finally, Mr. Drabinski provided no documentation or analysis which demonstrates that the issuance of the formal PEP document had any direct impact on the Iatan Unit 2 project's cost or schedule, or was in anyway linked to a specific disallowance amount which he recommended.

Q: Do you agree with Mr. Drabinski's opinion that there was dissention among the Iatan Unit 2 PMT that KCP&L appeared to ignore?

A: No. Pegasus-Global agrees that one consultant, Strategic Talent Solutions (STS) wrote a report that indicated that there were issues in "dissention" among KCP&L managers; however, Mr. Drabinski has taken that report out of context. As I testified before the Kansas Commission:

**[redacted]

[35] Strategic Talent Solutions Construction Project Effectiveness, Kansas City Power & Light, May 2007, page 2

[redacted]** [Kansas Corporation Commission, Docket No. 10-KCPD-415-RTS, Rebuttal Testimony of Dr. Kris R. Nielsen, page 61 line 14 through page 62 line 7, July 26, 2010].

When that report was completed in April 2007 KCP&L was seeking advice from several consultants, including Schiff Hardin and B&McD, as it was in the throes of developing its project management structure and assembling its technical expertise. The pace at which the organization and staffing were progressing naturally led to disagreement and even tension among the various levels of the KCP&L organization, at all levels from project specific to corporate. To assist KCP&L in smoothing those tensions KCP&L hired STS, a consultant it had used previously, to identify the source of the tensions and recommend ways in which those tensions could be overcome. By selectively citing from the STS report and stating that: "*There is no evidence that STS was retained to implement any of its recommendations and there were no follow up audits to verify changes*" [Drabinski at page 63, lines 14 – 16] Mr. Drabinski implies that KCP&L simply ignored the situation, which in turn implies that the management team existed in a state of dissention throughout the entire Iatan Unit 2 project. Contrary to that implication, Pegasus-Global found nothing in the project record indicated that KCP&L ignored the STS recommendations. To the contrary, the project record appears to support the opposite conclusion that KCP&L actively considered and implemented a number of STS's

recommendations, and that ultimately the KCP&L PMT functioned well as an integrated team throughout the execution of the Iatan Project.

Q: Do you agree with Mr. Drabinski's opinion that KCP&L "significantly underestimated" the number of construction management personnel it would need for the Iatan Unit 1 and 2 projects?

A: No. First, Mr. Drabinski cited no project documentation and provided no analysis in support of that opinion or other statements to the effect that KCP&L "*seemed to believe that it could manage this complex project with a minimum level of staff*" [Drabinski at page 64, lines 2 – 3]. Second, the only "fact" Mr. Drabinski presented is that the May 2008 CBE "*showed an increase of $45.6 million for Construction Management, Project Management and Engineering, and a $13.2 million for Field & Office Expense and Miscellaneous*" [Drabinski at page 64, lines 7 – 9]. First, Mr. Drabinski provides no analysis or documentation which directly links those increases to any underestimate of the number of construction management personnel by KCP&L. Second, as construction projects evolve management and staffing needs change. With each decision, event or issue which arises requires the owner to formulate and make decisions and take actions which can, to varying extents, modify and/or expand its planned management structure and staffing. Finally, within the power industry competition for first class project and construction staff during that period, and continuing through to today, is intense. As with any multi-year, mega-project KCP&L experienced staff changes and often those changes can, and often are, costly due to the fact that the experienced management pool has remained relatively static while the number of power projects announced has increased tremendously. As a result, management recruitment costs and salaries are increasing at a