Exhibit No.:
Issue: Iatan Prudence
Witness: Dr. Kris R. Nielsen
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Kansas City Power & Light Company
Case No.: ER-2010-0355
Date Testimony Prepared: December 8, 2010

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.

Nielsen
Rebuttal
NP

REBUTTAL TESTIMONY

OF

DR. KRIS R. NIELSEN

Case No. ER-2010-0355

INDEX

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

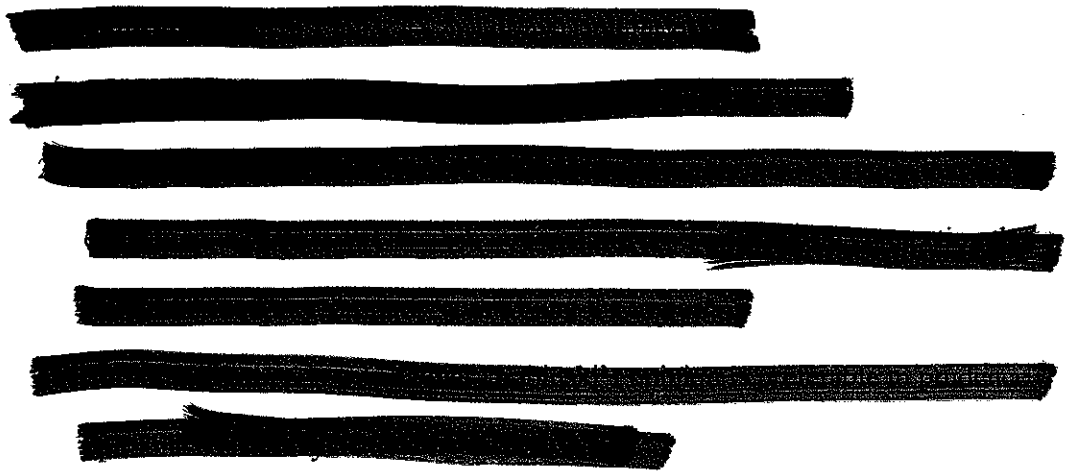
prevented the Staff from being able to complete its prudence review of the Iatan Project.

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.



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*

---

[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]

---

[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.

---

[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?

---

[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]

[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

---

[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,