- Employee skills.

- Commodity price volatility:
  - Already volatile commodity markets were even being further impacted by 2005 hurricanes which impacted the timing and availability of major steel contracts.
- Base operations affected by weather and natural gas volatility, coal conservation and unit outages;
- Fuel and energy prices exhibited volatile movement:
  - Coal transportation performance and costs.
- Environmental regulations;
- Rising interest rates which drive down share price, valuation and increase financing costs;
- Capital liquidity markets; and
- Tight budgets which strained technology, training and staffing

Q: Did Pegasus-Global find KCP&L's Project Budget and Cost Management systems prudent?

A: Yes. Pegasus-Global found that KCP&L employed the industry standards in both areas, and that decision making and decisions regarding Iatan Unit 2 costs were prudent.

Q: The Missouri Staff report discusses at page 34 alleged unexplained cost increases in the reports by KCP&L of cost changes from the Control Budget Estimate. Do you agree with Staff's statements?

A: No, I do not. The Staff asserts that KCP&L has not complied with section III.B.1.q of the Experimental Alternative Regulatory Plan Stipulation and Agreement filed in Case No.

EO-2005-0329. In that stipulation the Company agreed to "develop and have a cost control system in place that identifies and explains any cost overruns above the definitive estimate" during the construction of the Iatan Unit 2 project. Staff defines the cost overrun to be the "amount of actual costs incurred that exceed the sum of (1) the budget plus (2) the contingency, plus (3) other cost areas, where the actual costs incurred were less than the budget." [Staff's report at page 3]. The Staff requested a list of all cost overruns and an explanation of each cost overrun. KCP&L responded that the information requested was included in reports that had been provided to Staff, including the Cost Portfolio. Pegasus-Global has reviewed the available cost data and has determined that the information requested by Staff is available and can be understood by knowledgeble construction cost professionals.

Each month KCP&L project management produced a Cost Package that provided detailed information regarding the budget as it currently stood and cost tracking to show actual costs and any pending or approved Change Orders. The Cost Package was detailed by major cost category, as well as, by budget line item within each major cost category. In addition there are details of the Change Orders showing the reason for the change and the amount of cost impact.

The major changes to the budget were implemented throughout the reforecast process as discussed above. In that process there is detailed justification for each revision to the CBE over time. The monthly reports described above showed changes from the then current approved budget level.

Q: On page 35 of the Missouri Staff report they state that KCP&L did not respond properly to Staff Data Request Nos. 969 and 970 which asked for a listing and

description and explanation of all overruns from the Control Budget Estimate. In its response to these data requests, KCP&L advised Staff how it could track budget variances. Have you attempted to make such an analysis and what were the results?

A. Yes, I have. As I discussed in my deposition by the Staff on April 21, 2010, there was a period of time when the Pegasus-Global team first started working on this audit that we had some questions about how the cost tracking and budget analysis system worked. To remedy this situation we conducted interviews of project personnel and reviewed cost documents. We found it very easy once it was explained how the cost tracking system was setup for project management. As with any complex project cost system, if the auditor doesn't understand how the system works, you ask. That is standard audit procedure. After reviewing the documentation and conducting discussions within our team Pegasus-Global met with the project team and explained our understanding of the process and were assured that our understanding was correct. It is one of those occasions that occur in an audit when the light bulb comes on and everything makes sense.

Q: Did Pegasus-Global review the Drabinski Testimony regarding the KCP&L Project budget and cost management systems?

A: Yes.

Q: **[redacted]**

A: **[redacted]**

[redacted]**

Q: Mr. Drabinski has testified at page 48 that the cost control system for the Iatan Unit 2 project was not in place in a timely fashion. Did Pegasus-Global examine this assertion?

A: Yes. As with other project control systems discussed within this testimony, initial cost control was accomplished using the KCP&L corporate level cost and accounting systems. Through early 2006 the primary project costs involved either KCP&L internal costs (i.e. project management salaries), limited engineering functions (i.e. development of the turbine generator and boiler island specifications) and consultant advisory services, using the corporate level cost and accounting system was appropriate. By August 2006, KCP&L had initiated work developing the Iatan Project specific cost accounting and control system, establishing the Iatan Project CBE, code of accounts and reporting

[81] Iatan Audit Report, July 17, 2007, page 5

procedures and systems. By December 2006 the Iatan Project cost management and control systems were fully in place and, by January 2007 the first status reports were issued under that Iatan Project specific cost control system. In context to the Iatan Project status, procurement had continued and accelerated moving through 2006, with two major engineered equipment contracts awarded to Toshiba and Alstom, and the owner's engineer scope of work awarded to B&McD. In the fall of 2006 the first of the construction contracts was let to Kissick, with initial site work starting in the last quarter of 2006.

Pegasus-Global found that KCP&L had adequate control over project costs throughout 2006 and found that prior to the full onset of construction the Iatan Project specific cost control system was fully in place. KCP&L's cost control processes during that developmental stage were reasonable and prudent.

Q: Mr. Drabinski has asserted that the cost control system used by KCP&L was inadequate because it was not "integrated" and it was a "manual" system. Did Pegasus-Global examine that assertion?

A: Yes. Mr. Drabinski testified that during the development period the cost system was done "manually" and was not "integrated" [Drabinski testimony at page 66, lines 14 – 18]. Mr. Drabinski did not define either of those terms. KCP&L's project cost control system did have two manual elements: the first was to input relevant cost data from original source documents and the second was when the project cost data had to report up into the KCP&L corporate accounting system. First, every cost control system has some manual elements. For example, when invoices are received they must be manually reviewed and

the relevant data has to be manually entered into whatever electronic cost control system is in used by a project.

Second, KCP&L is a regulated utility which means that from a corporate perspective it was required to meet FERC accounting and reporting regulations. At the point where the project level cost control system intersected with the corporate accounting system it was necessary to reorder the project cost account data to meet the corporate level accounting structure. **[redacted]**

Project cost control and corporate accounting worked together to develop an account code matrix that enabled that transition to occur on a routine basis. Simply put, the cost control needs of the project could not be met by the corporate FERC regulated accounting system nor could the corporate FERC required accounting and reporting requirements be

[82] Schiff Hardin Status Report on Comprehensive Energy Plan Projects, page 20, March 28, 2007

met by the project cost control system. That transition does require some manual work following the matrix developed by KCP&L corporate and project staffs.

Q: Mr. Drabinski cites at page 66 an attempt by KCP&L to implement a computerized cost control system entitled Skire. Are you familiar with that issue?

A: Yes. In 2007 KCP&L formed a team to look for ways to improve the total cost control process from the project level through the corporate level, if possible using a totally integrated electronic system. As part of that team's charge they examined what other regulated utilities were doing and found that only one of the companies, Wisconsin Public Service (WPS), had to date been able to directly integrate its project and corporate accounting systems using two different base programs: Expedition and PeopleSoft. Every other regulated utility contacted was using the same process that was in place at KCP&L. Two of the utilities were using the same EXCEL program and one utility was using an Access Database for integrating the project cost data into the corporate accounting structures. In the case of WPS, it reported that it took five months to implement the Expedition software and three months to complete the interfaces between Expedition and PeopleSoft. WPS also reported that it took a full day each month to download and process the data. The ultimate question facing that team was would KCP&L benefit from implementing such an integrated system at this time.[83]

**[redacted]

[redacted].** The Skire system is designed to be a project level cost control program and did not

[83] Cost Tracking System Power Point Presentation at the CEP EOC , KCP&L, June 6, 2007, Slide 7

at that time have the capability of performing the integration function which was at the heart of KCP&L's issue. While the Skire system had features that could benefit the project cost control system (such as the Change Order management feature), the ultimate conclusion by KCP&L was that to modify the Skire system to the point at which the project cost control system and the corporate accounting system could be automatically integrated was simply too costly and would take too long to implement effectively for the Iatan Project. As a result, KCP&L reasonably continued to maintain the interface matrix process between its project and corporate cost control and accounting systems as originally established in early 2007.

Q: **[redacted]**

A: **[redacted]**

Q: **[redacted]**

A: **[redacted]**

Q: **[redacted]**

A: **[redacted]

- [redacted]

[redacted]** Pegasus-Global found that the 2004 PDR estimate was never identified as, or intended to represent a firm, fixed cost for execution of the Iatan Unit 2 project. In fact, B&McD had specifically noted that the cost estimate contained within the 2004 PDR was a "Feasibility

Grade Capital Cost Estimate".[84] The American Association of Cost Engineers, International (AACEI) classifies estimates in relation to expected accuracy level using a 5 Classification Scale. After reviewing the estimate produced within the 2004 PDR Pegasus-Global determined that the estimate was a AACEI Class 4 estimate, used primarily for feasibility studies and generally based on between 1% and 15% design definition (engineering completed at the time), factored costs for equipment (average of vendor non-binding basic costs), and parametric modeling of other costs (statistical averages of labor, etc.).[85] As a Class 4 estimate the accepted accuracy range is from 30% low to 50% high. **[redacted]** Using the AACEI factors, Pegasus-Global found that the 2004 PDR estimate was not a detailed project estimate and was therefore is not an acceptable base estimate from which to calculate a total project cost increase for the Iatan Unit 2 project.

Q: In Pegasus-Global's opinion, which of the cost estimates represent the baseline budget estimate for the Iatan Unit 2 project?

A: The CBE issued in December 2006 represents the first baseline control budget for the Iatan Unit 2 project. The CBE was based upon an estimate completed by KCP&L and B&McD, with assistance from other KCP&L advisors, and the Staff is in agreement with this [Page 34, line 20].

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[84] PDR, August 2004, Section 1.1 page 1.2

[85] AACE International Recommended Practice No. 18R-97, *Cost Estimate Classification System, As Applied in Engineering, Procurement, and Construction for the Process Industries*, page 2, 2005

Q: Why does Pegasus-Global believe the Control Budget Estimate of December 2006 is the first baseline budget for the Iatan Unit 2 project?

A: Pegasus-Global reviewed the December 2006 CBE and determined that it conformed to the factors used in an AACEI Class 3 estimate. According to AACEI, Class 3 estimates typically form the initial Control Budget Estimate against which actual cost will be monitored. According to AACEI Class 3 estimates use more deterministic estimating methods rather than stochastic methods used in Class 4 and 5 estimates. Pegasus-Global found that the estimate performed in 2006 was based in part on actual locked in costs for two of the primary pieces of engineered equipment, the turbine generator and the boiler island. The boiler island was awarded on a fixed price contract approach and the turbine generator was on a lump sum price for provision of the turbine equipment. **[redacted]** In addition, once those two decisions were made, the work on the detailed project definition was progressed to the point where the total definition (engineering) had increased significantly from the project definition which existed prior to the 2004 PDR estimate. The 2006 CBE estimate included unit costs for commodities and estimates of commodity quantities based on preliminary engineering. After review, Pegasus-Global determined that the 2006 CBE estimate was an AACEI Class 3 estimate and therefore an acceptable estimate from which to establish the first Iatan Unit 2 project CBE. Further, the Kansas Commission in its November 22, 2010 Order also confirmed that the CBE was the definitive estimate and the original cost estimate upon which the measure cost variances: "*the Commission finds and concludes that KCP&L's figure of $1.685... is the original cost estimate because it is the "definitive*

estimate" [Kansas Commission November 22, 2010 Order, page 21]; "*The Commission finds that this comparison* [original cost estimate to final estimated cost of the plant] *indicates that KCP&L will have exceeded the "definitive estimate", which means the "original cost estimate", by 18%, or $288 million (whole plant). Given the magnitude of the project, the timeline under which the project was constructed, and the range permitted for a definitive type of estimate, the Commission finds that this factor does not indicate imprudence on the part of KCP&L*" [Kansas Commission November 22, 2010 Order, page 22]

Q: **[redacted]**

A: **[redacted]**

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[redacted]

[redacted]**

Finally, Pegasus-Global's examination of the estimates and reforecasts in question reflect what would be expected for a mega-project the size and complexity of the Iatan Unit 2 project in that design is evolutionary practically throughout the entire life of the project. Because of the extended execution time, mega-projects, such as, the Iatan Project are also subjected to significant shifts in project and industry conditions, over which the owner may have little or no control. For that reasons no one in the industry, including AACEI, the authority that promulgates the most widely referenced industry guidance on project cost estimating and control, speak of estimates in terms of ascending levels of accuracy as a project moves toward final completion. Pegasus-Global found nothing in the estimates or the reforecasts which would indicate that changes in the estimates were a result of imprudent decisions made or actions taken by KCP&L.

Q: Did Pegasus-Global reach any general conclusions relative to KCP&L's cost management system?

A: Pegasus-Global understands why it would be preferable to have a single, fully integrated cost control and cost accounting system, and, for utilities which are not subject to FERC

regulations, systems, such as Skire, can be modified to meet both project and corporate needs. However, FERC regulations are prescriptive and there is no leeway in how regulated utilities must maintain their corporate accounts. Every regulated utility faces this same dilemma and, as reported in the KCP&L report to the EOC in June 2007, most of those utilities have ultimately used the same system in place at the Iatan Unit 2 Project. Pegasus-Global found that KCP&L's actions in searching for a single integrated project and corporate cost accounting program were reasonable and prudent. However, Pegasus-Global also found KCP&L's ultimate decision to keep and maintain the matrix integration process already in place reasonable in light of the unknown amount of time or the ultimate cost to modify Skire system to take the place of a system that, while not optimal, was meeting the needs of the project and the corporation. Further, the Kansas Commission in its November 22, 2010 Order also confirmed that the CBE and the reforecasting demonstrated that KCP&L was effectively managing costs: "*The control budget estimate and the reforecasting process demonstrate KCP&L was effectively managing costs. The fact that the project was over budget for this mega-project by only 18% indicates that these tools, among others, such as, internal audits, are the best evidence of this effectiveness during the relevant periods*" [Kansas Commission November 22, 2010 Order, page 28]

Q: What did Pegasus-Global conclude with respect to the Iatan Project's Schedule Management?

A: Pegasus-Global's review of KCP&L Iatan Project scheduling illustrates the process, reporting and decision making process relative to the Iatan Project schedule were

appropriate and evolved with the evolution of the Iatan Project and project management needs.

KCP&L utilized Primavera (P6) scheduling software, which is widely used in the industry, to plan and manage the Iatan Project design, procurement and construction.

In the initial phase of the Iatan Project KCP&L relied upon B&McD to develop an Iatan Unit 1 master schedule. This master schedule included engineering specifications for the major equipment, site preparation, construction activities and outage start. Thus KCP&L had a detailed master schedule on which to plan and manage the Iatan Unit 1 project many months prior to the start of major construction activity.

As the Iatan Project evolved KCP&L integrated contractor's schedules, including B&McD and vendors, into the master schedule. Overall, KCP&L ultimately issued level 1, 2 and 3 schedules for management of Iatan Project construction, which integrated up to 25 separate detailed schedules.[86] An example of early identification of potential Iatan Unit 1 project schedule issues and the options available to KCP&L is the chimney foundation, a critical path activity. Use of the project schedule facilitated KCP&L decision without compromising the overall project schedule.

It was use of the integrated schedule that was the basis of KCP&L's negotiations with Alstom which resulted in obtaining Alstom's commitment to support the Revised Iatan Unit 1 schedule and the Final Iatan Unit 1 project schedule.

KCP&L's schedule management concept was to set contractor and project milestones based on the critical path schedule early dates, thereby ensuring the float in the schedule

[86] CEP EOC Presentation 2007-05-23 Level 1 Schedules

was available as a contingency for the inevitable issues that arise on complex projects. As the Iatan Project progressed KCP&L initiated daily critical path meetings where schedule issues were reviewed and actions promulgated with contractors and other parties. Throughout the project, schedule status reports were issued to construction and senior management were informed on timing of important project events and milestones.

The master schedule was periodically updated which integrated contractor progress. This integrated master schedule facilitated overall management of the project, including development of "work around" plans that inevitably are required on a project of this complexity.

In early 2008, KCP&L developed for Iatan Unit 1 a resource loaded critical path start-up schedule integrating construction completion with the outage activities, an important tool in the management of this critical transition period.

The initial Iatan Unit 2 project Level 1 schedule was developed by B&McD and included in the August 2004 PDR. This schedule was based on the plant characteristics and assumptions identified in the PDR and included key milestone dates, procurement and construction durations.[87] This schedule included a commercial operating date (COD) for the Iatan Unit 2 project of October 10, 2009, start of engineering November 1, 2004 and start of construction May 1, 2006. Thus, this initial schedule provided a 42-month plan for construction and start-up preceded by 18 months for design engineering, vendor engineering and procurement for a project schedule of 60 months. Permitting efforts were considered to be conducted parallel with the other project activities. The schedule critical

[87] Iatan Unit 2 Project Definition Report, KCP&L, August 2004, page 1 – 3, Appendix C

path was through boiler island procurement and foundations. KCP&L modified this initial schedule routinely as additional information was gathered throughout the planning, engineering and procurement efforts progressed throughout the project. This level of schedule is what Pegasus-Global would have expected at this point in time of a project and represents prudent utility practice.

KCP&L continued to rely upon B&McD during this initial phase of the Iatan Project to develop an Iatan Unit 2 Schedule until KCP&L hired a Project Controls Project Director in August 2006[88] who then assumed responsibility for the development, management and reporting on the Iatan Unit 2 project schedule.

Preparation of the Master Schedule continued throughout 2006 with developments of both Level 2 and Level 3 schedule culminating in issuance of the Unit 2 integrated baseline schedule in April 2007.[89]

In the spring of 2006, when KCP&L retained the Iatan Procurement Director, Steve Jones, the procurement group updated the B&McD procurement schedule, which became the final procurement program for the Iatan Project, [Steve Jones, Unit 1 rebuttal testimony, page 5, lines 8 - 22] and was issued in September 2006 and later integrated into the Level 3 Unit 2 schedule issued in April 2007. This April 2007 baseline Level 3 schedule incorporated the evolution of the project since issuance of the Level 1 schedule in early 2006, the September 2006 procurement schedule, the Alstom and Toshiba contract schedules, and the then current civil contractor schedules. In addition, "place

[88] Terry Foster hire August 2006;Iatan Station Weekly Status Update, August, 11, 2006, page 1

[89] Iatan Status Report, April 7 – 20, 2007, page 3

holders" for BOP construction contracts that had not yet been executed; Start-up and Commissioning were also included. Additionally, as the work progressed and KCP&L monitored the progress this Level 3 schedule was re-baselined.

Thus, by September 2006 KCP&L had a detailed procurement schedule for all engineered long delivery equipment and materials ensuring their availability to support a June 1, 2010 Provisional Acceptance date and by April 2007 KCP&L had a level 3 Unit 2 baseline schedule on which to plan and manage the Iatan Project, including BOP construction activities which did not start until late 2006.

Q: Did KCP&L continue to update the April 2007 Iatan Unit 2 baseline schedule after April 2007?

A: Yes. KCP&L's Project Control Director had responsibility for maintenance of the baseline schedule. This maintenance of the schedule included incorporation of the contractor's schedules as they were awarded, integration of Change Orders as they were approved for the various contractors and consideration of contractor progress.

Q: Describe KCP&L's actions with respect to the development of the Master Schedule.

A: KCP&L's actions in its development of the integrated Master Schedule, including the discussions among the various stakeholders and parties completing the project, were typical of what Pegasus-Global would expect on a project the size and complexity of the Iatan Project. BOP contracting strategy decisions were determined by KCP&L to be a key factor before freezing the Project Baseline Schedule, a decision that Pegasus-Global found to be prudent and consistent with the need to have stakeholder buy-in. Once the BOP contracting strategy had been agreed, KCP&L proceeded to finalize the Project Master Schedule. Line-by-line schedule reviews were held with the schedule stakeholders

and the KCP&L PMT. The KCP&L PMT approved the integrated Master Schedule.[90] KCP&L continued to integrate and incorporate additional information as received, as evidenced by the BOP schedule integration which began in June 2007 and continued through the fall of 2007 when the Kiewit contract was signed. Consistent with the approach undertaken in its cost estimate update, KCP&L acted prudently in its actions and decisions to update the Master Schedule in conjunction with the May 2008 Reforecast. A rebaselining of the Master Schedule was presented to the CEP EOC on November 24, 2008[91] and was agreed to by Alstom and Kiewit in December 2008.[92] KCP&L continued to review and update the Master Schedule in conjunction with its cost revalidation in 2009, again involving all the Project stakeholders in the process, which exhibited good practice and fell within the zone of reasonableness.

Level 3 schedules were developed by each major contractor for their respective scope of work, including B&McD, Toshiba, Kissick, Alstom and Kiewit. KCP&L used these schedules to update the overall Master Project Schedule. KCP&L evaluated and assessed how the various stakeholder schedules integrated with the overall Master Schedule and provided the expected oversight required to ensure all stakeholders were progressing towards the Provisional Acceptance date.

Beginning in January 2009, KCP&L, Alstom and Kiewit developed the project schedule impact team, charged with reviewing the scheduled activities and developing a set of agreed upon milestone completion dates for the Iatan Project while maintaining the Provisional Acceptance date of June 1, 2010. Throughout March 2009, the scheduling

[90] Schiff Report, February 28, 2007, page 3; Schiff Report, May 2, 2007, page 2
[91] CEP EOC presentation, Iatan 2 Level 1 Schedule, November 24, 2008
[92] Iatan Unit 2 Status Report, December 2008, page 4

team continued working with the Iatan Project's major contractors to reach a re-baseline schedule maintaining the June 1, 2010 Provisional Acceptance while providing adequate time for start-up and commissioning activities.

By June 2009, the Iatan Project team held a series of schedule interface meetings with Alstom and Kiewit to review and reach agreement on all construction turnover (CTO) dates for the remainder of the Iatan Unit 2 project. Both Kiewit and Alstom reached tentative agreements that aligned with their respective construction deliverables and dates with the individual systems that will be turned over to the start-up and commissioning teams in support of the project schedule.[93] KCP&L worked closely with both Alstom and Kiewit to formalize these tentative agreements. Pegasus-Global finds the schedule monitoring process undertaken by KCP&L to fall within a zone of reasonableness specifically due to:

- The contract approach taken by KCP&L and the other project control tools in place to monitor overall Iatan Project Progress against the Provisional Acceptance date;
- KCP&L's ability to use all the project control tools available to them; and,
- KCP&L's ability to hold individual contractors accountable to their own detailed Level 3 schedules.

KCP&L's schedule management concept was to set contractor and project milestones based on the critical path schedule early dates, thereby ensuring the float in the schedule was available as a contingency for the inevitable issues that arise on mega-projects. As

[93] For example, Iatan Unit 2 Status Reports, Executive Summaries from January 2009, March 2009, June 2009

the project progressed, KCP&L initiated meetings where schedule issues were reviewed and actions promulgated with contractors and other parties. Throughout the Iatan Project schedule status reports were issued to construction and senior management were informed on timing of important project events and milestones.

Q: What did Pegasus-Global conclude regarding whether KCP&L's exercised prudent management over the schedule and scheduling process?

A: 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 project schedule as a whole and with respect to each individual contractor. Pegasus-Global found that the Iatan Project schedule management decisions and the decision making process were reasonable and prudent.

Q: **[redacted]**

A: **[redacted]**

[redacted]

[94] Kansas City Power & Light Co., Strategic Infrastructure Investment Status Report, Second Quarter, 2009, page 32

[redacted]

[redacted]

[redacted]

[redacted]**[95] Based on its review of the project records, Pegasus-Global concluded that KCP&L decisions on work-arounds, contractor negotiations, incentives, etc., and ultimate decision to extend the PAD were appropriate and consistent with prudent utility management practices.

**[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

- [redacted]**

Q: Did Pegasus-Global evaluate KCP&L's processes and decision making in regard to Project Scope and Change Management for the Iatan Project?

A: Yes.

Q: Why is Scope and Change Management an important part of the Management of a Project such as the Iatan Project?

A: In any construction project and especially a mega-project like the Iatan Project, clarity as to the responsibilities that each party has is necessary to complete the project. As changes in the project are identified the identification of the responsibility for implementing the

[95] Form 8-K filed by KCP&L on January 13, 2010

change and incorporating it into the project schedule and cost is required in order that delays and costs can be minimized. Changes can be the result of scope changes in the contracting process or in the management of Change Orders as cost and schedule impacts are recognized during the construction execution period. If scope changes are not understood by the appropriate parties, the number and amount of Change Order requests will also be increased. If scope change and Change Orders are not proactively managed, projects experience submission of claims at the end of the project when the chance to mitigate the impact on project cost is limited.

Q: What did Pegasus-Global's review regarding the Management of Scope and Change Processes on the Iatan Project disclose?

A: Pegasus-Global reviewed extensive project documentation that identified numerous examples of efforts to identify and respond to scope changes and to deal with Change Order issues. As an example, in May 2006 during the negotiations of the Alstom contract, the project team insisted that Alstom identify pricing of subcontractor services instead of utilizing the Change Order process as Alstom was proposing. The project team stated its desire to avoid Change Orders to the extent possible.

Management attention to the Change Order process is found in a review of CEP EOC meeting presentations regarding both the Iatan Units 1 and 2 projects. In each of the presentations the EOC was provided a listing of Change Orders that were under review or had been resolved. This informed KCP&L management about the issues that were being addressed by the Iatan PMT and insured that KCP&L Senior Management was aware of the importance of the change process through the CEP EOC presentations.

Q: What were your observations and conclusions pertaining to Change Order Management for the Iatan Project?

A: Pegasus-Global concludes that the KCP&L management of the cost and scope change process at the Iatan Project was appropriate in a project of this nature and falls squarely within a zone of reasonableness and thus is prudent. Further, the Staff in its report, also concluded that there were no issues with the Change Order process on the Iatan Project [Staff Report at page 28, lines 11 - 12].

Q: Is there additional evidence of the attention KCP&L Management was paying to the Change Process?

A: Yes. In each of the cost audits that were conducted for the combined two unit project by the Company with the assistance of E&Y, the Change Order process was reviewed and improvements were recommended. In subsequent audit reports it became clear that improvements had resulted through management attention to the needs for changes in the processes, which is an indication of responsive management, which is evidence of prudent management. Additionally, in early 2007, as construction was ramping up in earnest on Iatan Unit 2, the project team contacted Skire to investigate the feasibility of utilizing the vendors "unifier" software product to manage the Change Order process and to allow all parties on the project to review documents and analysis supporting each Change Order. This system would also allow for real time status updates on all Change Orders. In this way there is less uncertainty about the status and disposition about individual Change Orders. This provided transparent availability of data that was integrated with other management tools utilized on the project. While the project management was using the Change Order program they were also loading information

generated in the early stage of the project in order for all data to be available in one location for the entire construction period.

Q: Did Pegasus-Global review Mr. Drabinski's testimony with respect to its assertions relative to Purchase Orders and Change Orders?

A: **[redacted]**

Q: **[redacted]

A: **[redacted]**

Q: **[redacted]

A: **[redacted]

[redacted]**

Q: **[redacted]**

[redacted]**

A: **[redacted]

[redacted]

[redacted]**

Q: What conclusions has Pegasus-Global reached about the Scope and Change Management Process on the Iatan Project?

A: Pegasus-Global has concluded that KCP&L decisions and the decision making process regarding the Iatan Scope Management and Change Management exhibited good management and was reasonable. Pegasus-Global concluded these decisions and decision making processes were prudent.

Q: Did Pegasus-Global evaluate Quality Management for the Iatan Project?

A: Yes.

Q: What did Pegasus-Global find?

A: 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 Iatan. Quality Control was the contractual responsibility of the specific contractors. As quality issues were identified over the course of the Iatan Project, KCP&L continually monitored those issues and, consistent with what would be expected, participated in identification of root causes, evaluations of impacts to project cost and schedule, and consistently held responsible contractors accountable.

**[redacted]

[96] Iatan Construction Project Quality Control / Quality Assurance Audit, January 2008

[redacted]

[redacted]**

Q: What did Pegasus-Global conclude regarding the prudence of KCP&L's management of the quality process for the Iatan Project?

A: Based on Pegasus-Global's review, KCP&L management actions with respect to quality assurance were reasonable and prudent.

V. PEGASUS-GLOBAL RECOMMENDED DISALLOWANCE

Q: What is your ultimate opinion regarding the Missouri Staff's disallowance recommendations?

A: For all of the reasons identified throughout this testimony, Pegasus-Global disagrees with all of the Staff's and Mr. Drabinski's recommended disallowances with the exception of two issues raised under the Iatan Unit 2 project:

- Alstom WSI Welding Services; and
- Temporary Auxiliary Boiler (in part)

Pegasus-Global noted that the Staff identified and adopted those two disallowances from Pegasus-Global's testimony given in the Kansas Commission Docket No. 10-KCPE-415-RTS. While Pegasus-Global's opinions relative to imprudence have not changed since the filing of that testimony, the recommended disallowance for the Temporary Auxiliary Boiler has been modified by Pegasus-Global using final actual cost amounts for that equipment, which were not available at the time the testimony was filed with the Kansas Commission.

Q: **[redacted]**[97]

A: **[redacted]

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[97] Rebuttal Testimony of Dr. Kris R. Nielsen before the Kansas Corporation Commission Docket No. 10-KCPE-415-RTS, page 241, line 7 through page 244, line 10
[98] Letter Thomas Kelly, Alstom to Brent Davis, KCP&L, January 20, 2009
[99] Letter, Carl Churchman, KCP&L to Steve Iyer, Alstom, January 20, 2009
[100] Contract between KCP&L and Alstom Power, Inc. for Engineering, Procurement and Construction Services for the Pulverized Coal-Fired Boiler at Iatan Generating Station Unit 2, August 10, 2006, Article 8.1, page 17
[101] KCP&L Strategic Infrastructure Investment Status Report, First Quarter 2009, Section 6.3.1, pages 25 – 26, May 2009

[redacted]

[102]Letter Thomas Kelly, Alstom to Brent Davis, KCP&L, January 20, 2009

[redacted]

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[redacted]

[redacted]

[redacted]

[redacted]**

Q: Have Pegasus-Global's findings, conclusions or opinions changed from that provided above relative to the Alstom WSI welding disallowance?

A: No.

**Q: **[redacted]

[redacted]**[103]

A: **[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[103] Rebuttal Testimony of Dr. Kris R. Nielsen before the Kansas Corporation Commission Docket No. 10-KCPE-415-RTS, page 244, line 11 through page 247, line 3

[redacted]

[104]*E-mail, David White to Myra Burgess, February 22, 2010
[105] Letter, Carl Churchman, KCP&L to Andre Aube, Kiewit, October 21, 2009

[redacted]

HIGHLY CONFIDENTIAL

[redacted]

[redacted]

[redacted]

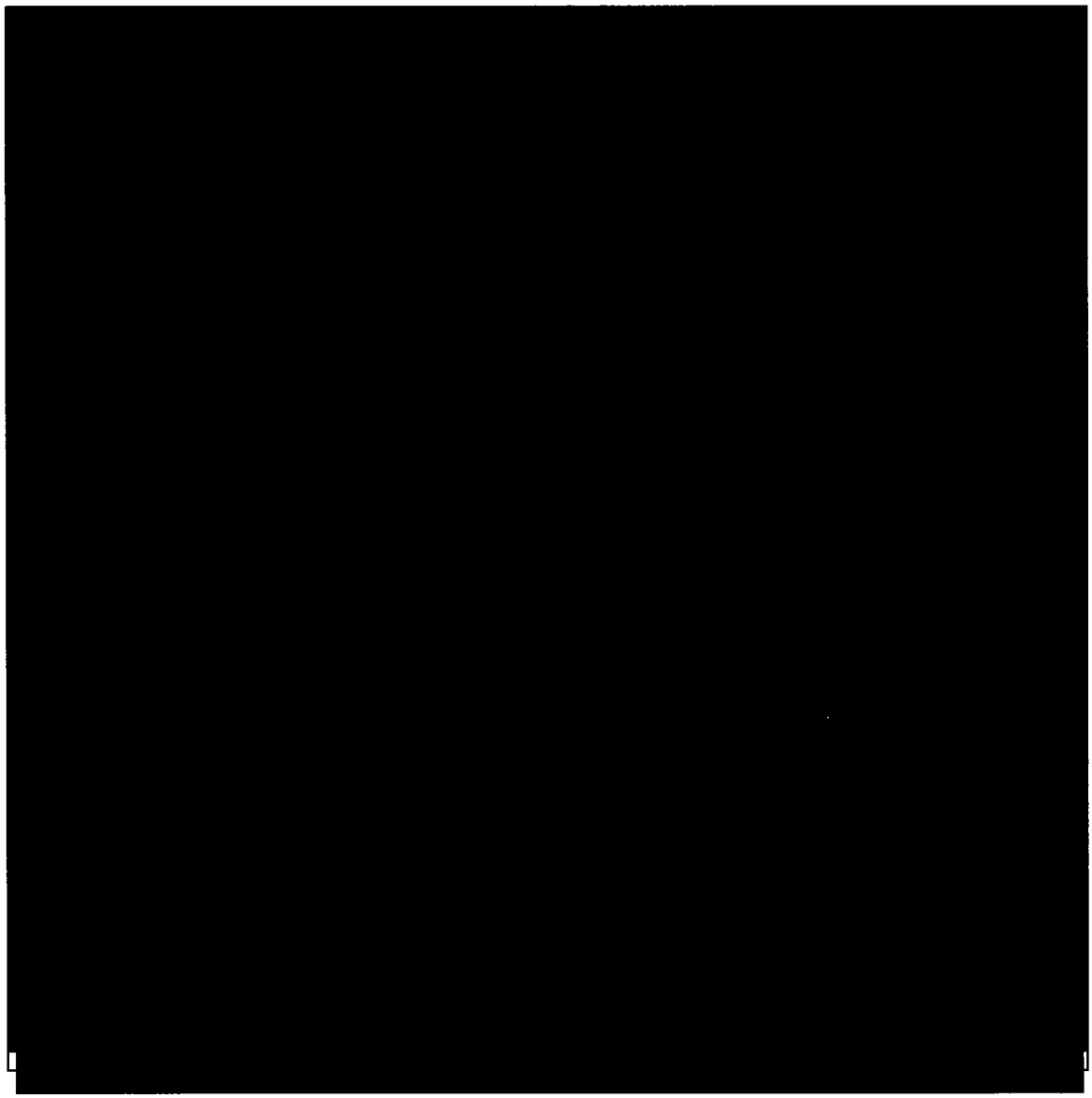
[redacted]**

Q: Have Pegasus-Global's findings, conclusions or opinions changed from that provided above relative to the Auxiliary Boiler disallowance?

A: Pegasus-Global's findings and conclusions relative to KCP&L's imprudent decisions and action in regards to this issue have not changed since its testimony filing in the Kansas Commission Docket. However, at the time that testimony was filed KCP&L had not finished with the temporary auxiliary boiler equipment and so an estimate of the final cost was prepare for use in that proceeding. As reported above, Pegasus-Global's recommended disallowance was $7,754,454. Since that testimony which was filed in July 2010, KCP&L has developed final cost data on this issue. After, examination of that data,

Pegasus-Global's disallowance for the temporary auxiliary boiler was modified to $5,346,049 (See **Table 3** below).

**



**

After reviewing the revised final cost data Pegasus-Global has accepted this data and, as a result, has modified its recommended disallowance to $5,346,049.

Q: Did the Missouri Staff adopt those disallowances as testified to by Pegasus-Global in the Kansas Corporation Commission Docket No. 10-KCPE-415-RTS?

A: Yes. At pages 100 to 102 of its report the Staff adopted both disallowances pending its own "true-up" audit of the temporary auxiliary boiler costs.

Q: Allowing for the change in the disallowance for the temporary auxiliary boiler, what is the current total disallowance Pegasus-Global is recommending as direct result of KCP&L imprudent decisions or actions?

A: After adjusting for the final actual cost of the temporary auxiliary boiler, the total disallowance recommended by Pegasus-Global is $18,060,645.40.

Q: [redacted]

A: [redacted]

Q: Have you personally reviewed the Missouri Staff and Mr. Drabinski's testimony regarding prudence?

A: I have.

Q: Is there anything in that testimony that would cause you and Pegasus-Global to change your mind and recommend additional disallowances?

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A: No, nothing at all. Everything raised by the Staff and Mr. Drabinski was already considered by Pegasus-Global as part of its comprehensive review.

Q: Has the Kansas Corporation Commission issued its conclusions relative to a disallowance for imprudence on the Iatan Unit 2 project?

A: Yes. The Kansas Commission found that Pegasus-Global's examination and analysis "*correctly identified the precise decisions lacking prudence, when they were made, how they were made, and did not employ hindsight, change assumptions, or recast the circumstances surrounding the decision. ... Therefore, the Commission concludes that these two management decisions made in constructing Iatan Unit 2 stemmed from a lack of prudence. These decisions lacked carefulness, precaution, attentiveness and good judgment. Therefore, the costs identified by Dr. Nielsen should not be included in the rate base.*" [Kansas Commission Order, November 22, 2010, page 28] The Kansas Commission also decided that "*Staff's claim concerning Iatan 2 that $231 million (whole plant) $57.7 million (Kansas jurisdictional) should be excluded from rate base due to KCPL's lack of prudence is denied in toto. CURB's claim as filed is likewise denied. The proposed adjustment for lack of prudence by KCPL's own witness in the amount of $20,469,050 or $5,110,791 (Kansas jurisdictional) is adopted and shall be excluded from the rate base accordingly.*" [Kansas Commission November 22, 2010 Order, page 139] In summary, the Kansas Commission confirmed Pegasus-Global's findings relative to imprudence and adopted Pegasus-Global's disallowance recommendation.

VI. MISSOURI STAFF AND DRABINSKI COST DISALLOWANCE QUANTIFICATION

Q: Are you familiar with the Missouri Staff's recommended disallowance?

A: Pegasus-Global has reviewed the Missouri Staff report and has found it difficult to ascertain exactly what the Staff is recommending for a disallowance based on KCP&L alleged imprudence. At page 34, lines 19 – 23 the Staff stated that: "*The Staff did calculate the amount of cost overruns at June 30, 2010 (calculated as actual June 30, 2010 cost less the Control Budget Estimate) to arrive at a cost overrun amount of $129,953,322, or approximately $130 million* [Iatan Unit 2]. *The cost overrun amount at June 30, 2010 for Iatan 1 is $69,676,748, or approximately $70 million*". That statement is followed by two tables which demonstrate how the Staff calculated those overruns.

And at page 38, lines 20 – 22 of its report, the Staff notes: "... *because KCPL cannot identify and explain its cost overruns, the Staff recommends that the Commission not allow KCPL to charge the $200 million in cost overruns to KCPL's retail customers*". From those statements Pegasus-Global has assumed that the Staff is recommending a disallowance of $200 million.

Q: What is the Missouri Staff's basis for this recommended disallowance?

A: Per the citation quoted immediately above, it appears that the Staff has recommended that disallowance simply because there is a difference between the December 2006 CBE and the actual Iatan Project costs through June 30, 2010 and apparently because KCP&L has not identified and explained those cost overruns to the Staff's satisfaction. From that testimony, Pegasus-Global could assume that if the KCP&L staff identified and explained those cost overruns the Staff would remove the recommendation to disallow $200 million from the rate base.

Q: Do you agree with the Missouri Staff's position that all costs overruns to the CBE should be disallowed?

A: No. First, at this point in the Missouri Staff report, the disallowance is not linked to any specific imprudence for which the Staff holds KCP&L responsible. Although later in its report, the Staff alludes to decisions and actions taken by KCP&L which it finds questionable, nowhere within the body of the Staff's report did the Staff cite a clearly imprudent decision or action, and then calculate a specific dollar amount flowing from that imprudent decision or action which should be disallowed by the MPSC. Pegasus-Global reviewed the Missouri Staff report closely for any mention of "imprudent", "imprudently" or "imprudence", and expect for definitional references, found the following examples:

- At page 1, lines 7 through 12: "*The objective for the audit addressed in this Report was to determine whether the Iatan Construction Project ... contain unreasonable, imprudent, inappropriate, or charges not of benefit to ratepayers and that no unneeded or extravagant facilities were built at the site causing unreasonable costs.*" This statement of objective seems to significantly broaden the definition of imprudence to include a number of apparently subjective judgment factors such as "*unneeded and extravagant facilities*". Pegasus-Global restricted its independent examination of the execution of the Iatan Project to answering a simple question: Following the Missouri and industry standards by which prudence is judged, did KCP&L make any decisions or actions which were imprudent. The secondary question Pegasus-Global sought to answer consistent with prudence evaluations was if there were such imprudent decisions or actions by KCP&L, was there a cost impact flowing directly from those imprudent

decisions or actions for which the ratepayers of Missouri should not be held responsible.

- At page 12, lines 4 – 9: "*The objective of Staff's audit has been to determine whether the Iatan Construction Project ... contains inappropriate/unreasonable/not of benefit to Missouri ratepayer charges or unnecessary facilities.*" If such charges are found, then "*adjustments are to be developed to remove these costs from the Iatan Construction Project prior to these costs being included in the costs being charged to the Missouri ratepayers of KCPL and GMO.*" There is nothing which addresses findings of imprudence or linking imprudent decisions or actions by KCP&L to specific disallowance amounts.
- At page 13, lines 1 through 4: "*Another factor indicating a high risk of potential imprudent management was the fact that KCPL could not produce any documentation indicating that KCPL thoroughly assessed the risk and consequences of making the decision to initiate construction and enter into significant procurement contracts for Iatan 1 and Iatan 2 before design was substantially completed.*" The Staff does not definitively call the action to initiate construction prior to the completion of design an imprudent decision; it merely states that there may be "*a high risk of potential imprudent action*". This is not a finding of imprudence on the part of KCP&L and has not addressed the issue of KCP&L's fast tracking of the schedule as discussed by Pegasus-Global earlier in this testimony.

- At page 13, line 18 through page 14 line 19: in this section the Staff cites to Mr. Drabinski's direct testimony to the Kansas Commission and in particular noted that Mr. Drabinski found imprudent decisions and actions by KCP&L which resulted in a recommended disallowance of $230,955,672. Pegasus-Global notes that the Kansas Commission concluded in its November 22, 2010 Order (Docket No. 10-KCPE-415-RTS) "*the "holistic" approach used by Staff's expert* [Drabinski], *which results in many attempts to "assess reasonable percentage disallowances", is prone to being speculative and arbitrary. Not only is the method far afield from a reasoned, auditable methodology, we agree with KCPL that it runs afoul of standards articulated by our Courts for expert testimony.*" [Kansas Commission Order, November 22, 2010, page 32] Pegasus-Global has reviewed and compared Mr. Drabinski's testimony for both the Kansas Commission Staff and as filed on behalf of the Missouri Retailers Association in this docket and found that they are fundamentally the same. Where relevant, Pegasus-Global has noted the modifications made by Mr. Drabinski between his two testimonies.
- At page 100, line 27 through page 102, line 21: the Staff accepts without comment both of Pegasus-Global's findings of imprudence during the Kansas Commission proceeding, including accepting the disallowance amounts recommended by Pegasus-Global, pending a final true up of the costs in January 2011.

In short, except for accepting and adopting certain imprudence allegations by Mr. Drabinski, which were not accepted by the Kansas Commission, and Pegasus-Global's

findings made before the Kansas Commission proceeding, which were accepted by the Kansas Commission, Pegasus-Global found nowhere in the Staff report where a specific decision or action by KCP&L was determined to be imprudent or where a specific disallowance amount had been linked to that specific imprudence.

The reason which the Staff has proffered for not linking its prudence evaluation to its recommended disallowances in its report is found the testimony filed by Mr. Hyneman on November 10, 2010:

> "*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 specific work performed in this audit.*" [Direct Testimony of Charles R. Hyneman, Missouri Public Service Commission File No. ER-2010-0355, page 5, lines 11 – 15]

The GAAS, including the standards for Field Work, are the foundation of audits performed within the United States, and in some form or another, have generally been adopted world-wide. The GAAS not only set the standards for conducting financial audits, it sets the standards for other types of audits including, performance audits, such as a prudency/disallowance audit. If the Staff does not include individuals specifically trained to plan, execute and report such complex audits, then it would be understandable

that the Staff would limit its audit scope and plan to a pure financial audit, without addressing such issues as imprudence or industry standards of care.[106]

Second, it would appear that Staff's basis for its proposed "Net Unidentified/Unexplained Cost Overrun adjustment" disallowance is Staff's conclusion that KCP&L failed to meet its responsibility and terms and conditions under the Experimental Alternative Regulatory Plan Stipulation [p.33, lines 26 – 28]. Staff specifically refers to page 28, case No.EO-2005-0329, which states:

> *III.B.1.q Cost Control Process for Construction Expenditures*
>
> *KCPL must develop and have a cost control system in place that identifies and explains any cost overrun above the definitive estimate during the construction of the Iatan 2 project, the wind generation projects and the environmental investments.*

As Pegasus-Global discussed earlier in this testimony, KCP&L had such a cost control system in place throughout the construction period of the Iatan Unit 1 and 2 projects, and has shared this information with the Staff in a number different ways, for example:

- KCP&L has provided and continues to provide, quarterly reports to the Missouri Commission Staff and all signatory parties to the KCP&L Regulatory Plan Stipulation and Agreement which discuss the status of all aspects of the CEP, including expenditures and forecast costs for each of the CEP projects, including the Iatan Unit 1 and 2 projects.

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[106] During oral testimony before the Missouri Public Service Commission on April 28, 2010, Pegasus-Global addressed the fact that the GAO GAAS (Yellow Book) contains standards for conducting performance audits, which would include prudence audits, transcript of hearings held April 28, 2010 in File No. EO-2010-0259 (page 249, line 3 through 256, line 7)

- Throughout the audit period KCP&L provided and made available to Missouri Staff and other interested parties access to the Iatan Project cost reports and has responded in detail to Staff and other interested parties on all aspects of the Iatan Project, including actual cost expenditures and forecasted expenditures.
- KCP&L provided details of the CBE and all updates and reforecasts to the CBE. At no time prior to the audit has Staff or other interested parties expressed the opinion that the KCP&L cost control system failed to comply with the requirements of the Stipulation Agreement, which identified all changes to the CBE.

It would appear that Staff's basis for its conclusion that KCP&L does not have a compliance cost control system or that KCP&L has failed to respond to the Missouri Staff's DRs in sufficient detail is the response to a number of Staff DRs (443; 969; 970) in which KCP&L provided an explanation of how the cost control system was structured, operated and the reports generated by that system. It was noted within the KCP&L DR responses that the KCP&L manager for Iatan Project cost control system (Forrest Archibald) talked the Staff through the portfolio in previous meetings and would be able to provide assistance again if necessary. Thus, Pegasus-Global disagrees with the Staff statement that "*KCPL decided to provide no explanation of any cost overrun*". Based on KCP&L's multiple responses to the Staff's various requests for information, through a variety of methods, Pegasus-Global has concluded that Staff's audit team either did not have the experienced personnel to understand the KCP&L cost control system, or was unwilling to take the time necessary to conduct its own of analysis of the cost reports made available to it. As the Staff's own report noted at page 37, lines 10 – 12 that

"*KCPL's control budget is very detailed with hundreds of line items. It is clear that KCPL has the ability to track, identify and explain control budget overruns.*" The Staff seems upset primarily that KCP&L refused to provide a tracking and explanation of the Iatan Project cost overruns and a further refusal to provide the Staff with thousands of pages of requested documents and has thus concluded that these refusals "*indicates KCPL lack of transparency in its execution of the Iatan construction projects*" [Staff Report at page 37, lines 10 – 15]. Pegasus-Global has reviewed this portion of the audit and finds it confusing in that the Staff on the one hand talks of a "detailed control budget", "hundreds of line items", and thousands of pages of materials, yet then concludes that the KCP&L system is not transparent. From Pegasus-Global's perspective it appears as if the Staff acknowledges that the information it seeks is there and available to them, but now expects KCP&L to conduct an audit of those hundreds of line items and thousands of pages of documents for the Staff, rather than the Staff conducting its own, independent audit.

Pegasus-Global has reviewed the cost portfolio, quarterly cost reports, and numerous other cost and financial records and agrees with the Staff's findings that KCP&L's control budget has hundreds of line items and using that system one has the ability to track, identify and explain control budget cost overruns. However, that review was conducted by Pegasus-Global itself; not by having KCP&L review its own system and give Pegasus-Global its opinion of the system and the various line item cost increases. Understandably, given the sensitivity of the information reviewed, those reviews took place at the offices of KCP&L and not at Pegasus-Global's offices via a document request. Pegasus-Global not only determined that the proper cost control system was in

place, Pegasus-Global was able to determine that KCP&L actively used that system not just to track costs, but to forecast and manage costs on the Iatan Project. Based on Pegasus-Global's independent review of KCP&L's cost tracking system we found the Iatan Project cost tracking system entirely consistent with industry standards at today's juncture to other major capital projects. [Nielsen KCC Rebuttal Testimony at page 138, line 7 – page 159, line 21]

Q: Why was Pegasus-Global able to perform its prudence audit, including its examination of the CBE variance and the reasons for those variances, yet the Missouri Staff indicated that it had been unable to complete its audit?

A: From the Missouri Staff report it is not clear to Pegasus-Global why the Staff is having such difficulty in determining cost variances from the CBE and reasons for those variances.

An auditor, like the Staff must define what specifically it needs to perform its analysis, just as Pegasus-Global did, then seek the information necessary to perform its prudence audit, just as Pegasus-Global did. Pegasus-Global found that the information necessary was readily available within the KCP&L cost control system and the supporting project records. Using that information, there are a number of different approaches the Staff could take. For example, an auditor could decide that they only need to make a very high level analysis of the variances and the reasons for those variances. On page 35 of its report the Staff has included two tables, one relating to the Iatan Unit 1 project and the other relating to the Iatan Unit 2 project. In the Missouri Staff report at page 34, lines 19 - 23 notes, "*Staff did calculate the cost overruns at June 30, 2010 …*" and notes "*Both these calculations are shown in the tables below* [at page 35]". Those two tables show the

difference between the CBE and actual expenditures to June 2010, by activity, including procurement activities; Alstom and Non Alstom civil/structural; Mechanical and Electrical construction, BOP Contract [Kiewit]; Construction Indirects and Contingencies.

Thus, the Staff, presumably from the KCP&L June 2010 Cost Control System Cost Summation Report, has identified the cost differences they claim they cannot obtain from the KCP&L cost control system. The one page Cost Summation Report is supported with multiple back-up reports which provide further detail by contract; contingency variances, etc. plus Contingency Commitment and Internal Budget Transfer logs. To complete the analysis the Staff only needed to identify the root causes, or drivers for these differences for each of the line items in these tables and its analysis would be completed. This information is available from a variety of sources.

For example: the Staff has tracked the difference between the CBE of December 2006 through to the cost report of June 2010. There have also been three updates to the Iatan Project estimates and budgets (May 2008 Control Reforecast, August 2009 Control Validation, March 2010 Control Update). Within each of these budget reforecasts KCP&L identified the major cost drivers, which Pegasus-Global has discussed elsewhere in this testimony, which include:

- Design maturation; quantity growth;
- Escalation greater than forecast;
- Labor costs and labor availability; and
- Owner Site management.

With each of these budget reforecast/updates KCP&L has identified the reason for the cost and contingency increase, which the Staff could have used to understand the reason for the cost overruns and contingency allocation.

Another approach open to an auditor would be at a more detailed level. Inspection of the two tables referenced previously [Missouri Staff Report at page 35] indicates that above the contingency line items (line three) account for a total of $693 million, significantly greater than the total variance of $200 million Staff has calculated, because the Staff has not considered transfer of cost between line items, such as the Mechanical/Electrical construction into the BOP Contract (Kiewit), or Contingency allocation, all of which are tracked in the cost control system. The three line items in Staff's table accounting for this difference are:

Activity	Unit 1	Unit 2	Iatan Total
Civil/Structural – Alstom	$31,594,585	$29,665,181	$61,259,766
BOP Contract (Kiewit)	$43,799,192	$498,179,692	$541,978,884
Construction Indirect	$24,410,807	$65,253,264	$89,664,071
Total	$99,804,584	$593,098,137	$692,902,721

Q: How could the information contained in the Missouri Staff table above have been used to assist it to determine the root cause of the cost increases?

A: The reason for the differences in the first two line items (Civil/Structural and BOP Contract) can be readily identified from Change Orders issued against the contracts, information Staff has reviewed in the preparation of its report. Of the ** [redacted] ** difference in the Alstom Unit 1 contract, Staff has identified ** [redacted] ** related to

the Alstom Unit 1 settlement, [see Missouri Staff Report Schedule 1-1], leaving only $10 million variance to be accounted for, which is identified in Change Orders issued on the contract. The Alstom Unit 2 total cost variance is **[redacted]** on a base value of **[redacted]** a variance of 6.2%, well within a normal tolerance for EPC contracts of this magnitude and complexity, but again can be identified in Change Orders issued against the Alstom contract.

Regarding the BOP contract (Kiewit), the Staff indicates the total Iatan Project variance to be **[redacted]** on the basis that there was no such line item in the CBE, which is not correct. As Pegasus-Global has discussed earlier in this testimony, the original intent for the BOP work was to have (multiple) prime contractors to perform this work, which included both mechanical and electrical BOP work on the Iatan Unit 1 and 2 projects. This work was ultimately awarded to Kiewit, essentially on a unit price basis. The total CBE value of the Mechanical and Electrical work for the Unit 1 project was **[redacted]** against the June 2010 amount of **[redacted]** a difference of $39.2 million. Similarly, the total value of the Mechanical and Electrical work for the Unit 2 project was **[redacted]** against the June 2010 amount of **[redacted]** a difference of **[redacted]** not the **[redacted]** indicated by Staff.

In addition, the original Kiewit (BOP) contract for the Iatan Units 1 and 2 projects was **[redacted]** against a June 2010 expenditure of **[redacted]** an increase of $144 million. Both the Alstom – Civil/Structural and Kiewit BOP work were executed using construction contracts, Alstom under an EPC contract and Kiewit under a Unit

Price contract. Pegasus-Global's experience is that EPC contracts are based on a defined scope of work with a defined contract value and that payments are made against achieving milestones, which are defined in the contract or quantities of work. KCP&L's EPC contract with Alstom was no different from that used in any other power project in Pegasus-Global's expereince. Under the Kiewit Unit Price contract, quantity of specfic elements of work completed was measured and payment made according to the contract unit prices. Again, KCP&L's Unit Price contract with Kiewit was not different from that used in any other power project in Pegasus-Global's experience. Such processes are in place to ensure payments in accordance with the contract can be made and no payment can be above the approved contract value, and as I have testified, this was the case on the Iatan Project. The normal process to make a change to the contract contract scope or payment methods (milestone definition or value or to scope of work or unit price) or total contract value requires the owner, KCP&L, to issue a Change Order and this was done on the Iatan Project, memorilising the change to the contract.

These two large budget differences the Staff has identified in its budget table relate to contracts of the nature just discussed, and therefore any changes in the contract value, scope or payment method will have to be covered in a Change Order, which will also include backup that memorializes the reason for the change.

KCP&L has made all Change Orders for all of the Iatan Project available to Staff and others evaluating the project. The Staff and others evaluating the Iatan Project would know that the contract and associated Change Orders would be the first place to go to understand the nature, magnitude and timing of changes in contract scope, value and payment methods. As noted several times in this tesimony, the Staff had access to and

evaluated Change Orders as noted in the direct testimony of Mr. David Elliot beginning at page 28 of the Missouri Staff's report. According to Mr. Elliot's testimony:

> "*Engineering Staff review construction project changes orders associated with the project for the following:*
>
> - *To understand the reason for the change at the point in time when the Change Order was issued;*
> - *To determine whether the change corrected an engineering-related problem, resulted in a better design, or improved the operation or construction of the plant; and*
> - *To determine whether the change resulted in a safety concern, caused unnecessary construction, or caused unnecessary duplication of facilities or work*". [Missouri Staff Report, page 28, lines 16 – 24]

In Pegasus-Global's experience it is appropriate and necessary within the audit process to understand the evolution of the project and costs and schedule changes. According to the Missouri Engineering Staff:

> "*During an Engineering Review, the Engineering Staff discuss the Change Orders with company and construction project personnel to understand the reasons for the Change Orders. In addition, the Engineering Staff review contracts, agreements, Purchase Orders, drawings, and correspondences related to the Change Orders. If the Engineering Staff determine there is an engineering concern with a Change Order, such as an unnecessary coal conveyor, the Engineering Staff would share its concern with the Commission's Auditing Staff*

and consult with Staff management to determine the approprate response to take to address the concern. [Missouri Staff Report, page 29, lines 3 – 9].

In total, Mr. Elliot testified that Missouri Engineering Staff reviewed 647 Change Orders with a value of over $50,000. Ultimately the Missouri Engineering Staff narrowed the examination to 222 Change Orders that were comprehensively reviewed with particular attention paid to Change Orders with values in excess of $250,000 [Missouri Staff Report at page 30, lines 1 – 16].

Pegasus-Global found this process not only reasonable, but indicative of general industry standards for such audits. Finally, at the conclusion of the Iatan Unit 2 Engineering Review (which included 20 site visits from the start of construction to September 2010) Missouri Engineering Staff "*found no engineering concerns with any of the Iatan 2 or Iatan common plant Change Orders reviewed*" [Staff Report, page 29, lines 11 – 14].

It is clear from the tetimony of Mr. Elliot that the Staff had full access to the Change Orders, from which they could readily determine the reasons why these two contracts had caused the Iatan Project cost to increase over the CBE.

In addition to the Missouri Engineering Staff Change Order review discussed above, Mr. Drabinksi filed testimony in this case that identified a very extensive review of Change Orders, including Change Orderes relating to the Alstom and Kiewit contracts. In all, Mr. Drabinski reported having reviewed a total of 2,376 Change Orders totaling $188,453,498.93 [Drabinski Report at page 204, lines 13 – 14]. Although Pegasus-Global does not agree with Mr. Drabinski's conclusions and opinions relative to those Change Orders, it is apparent that Mr. Drabinski encountered no problems in obtaining the

materials needed to review and anlyze the KCP&L Change Orders and supporting material.

Q: Can you explain how an auditor uses the information contained on line 3 of the Missouri Staff table above to assist it to determine the root cause of the cost increases?

A: Yes. The third item identified above, Construction Indirects, amounts to a total Iatan Project cost variation of $90 million. However, it should be noted that Unit 2 Owner's Indirects was $35 million less than the CBE and this needs to be deducted from the $90, for a net increase of $55 million. Construction indirects, as indicated in the Summation Report, relate to construction management/engineering, including staff (project controls, site inspection, safety etc.), facilites, etc. KCP&L contracted for the vast majority of these services and were retained through contracts and/or Purchase Orders (POs), subject to the similar controls as the Alstom and Kiewit contracts. Therefore review of Change Orders and supplements to POs relating to construction management services provide the same type and degree of information as in the case with the Alstom and Kiewit contracts. Mr. Drabinski in his testimony stated that he had analyzed many of the POs relating to construction management services and support [Drabinski Report page 204, beginning at line 9]. In his testimony Mr. Drabinski stated that analysis of the PO's "*was in-depth and extremely data intensive*" [Drabinski Report at page 204, line 11]. Mr. Drabinski stated that he had reviewed 1,105 initial Purchase Orders with a total value of $1,547,936,307 [Drabinski Report at page 204, lines 13 – 14].

Pegasus-Global could find no reason why the Staff would say that the KCP&L cost control system does not identify and explain any cost overrun above the definative

estimate. It is clear from the Staff tables [Missouri Staff Report at page 35] that they have identified the difference between the CBE and June 2010 Iatan Project costs. Similarly, the Missouri Engineering report, and the direct testmony submitted by Mr. Drabinski, demonstrated that the Change Orders and Purchase Orders provide direct documentation of each change in contract (and thus project) cost and provide the information needed to ascertain the root cause for each of those cost increases.

Q: Has Pegasus-Global reviewed the Missouri Staff recommended disallowances?

A: Yes. Pegasus-Global limited its review of the Missouri Staff's recommended disallowances to those which appeared to flow from the execution of the Iatan Project and not to those which appeared to flow from accounting or financial issues (i.e. mileage).

Q: Did Pegasus-Global review the Missouri Staff recommended disallowance for the May 23, 2008 crane accident for the Unit 1 project?

A: Yes. According to the Staff **[redacted]** was recorded to the Unit 1 AQCS project related to the crane accident which occurred on May 23, 2008 [Missouri Staff Report at page 41, line 6]. Further, according to the Staff KCP&L has previously testified that it had no financial responsibility for costs related to that crane incident [Missouri Staff Report at page 41, lines 13 – 19]. Because of the KCP&L statements which led the Staff to believe that 100% of the costs of that incident will be recoverable, the Staff has taken the position that the **[redacted]** should be disallowed from the rate base for Unit 1 [Missouri Staff Report at page 41, lines 13 – 19]. Pegasus-Global has identified nothing within the project record which suggests that the crane incident or the resulting costs are attributable to any imprudent decision or action by KCP&L; however, given the

statements by the Staff relative to KCP&L statements to it during a meeting on June 11, 2008, Pegasus-Global is not in a position to comment on or address the ultimate responsibility for the costs identified by the Staff. As a result, Pegasus-Global has at this time no definitive opinion relative to the appropriateness of this disallowance from the Iatan Unit 1 project. Certainly, if the **[redacted]** is recovered by KCP&L from other sources then that amount should be adjusted out of the rate base.

Q: Did Pegasus-Global review the Missouri Staff's recommended disallowance for the Campus Relocation on the Iatan Unit 1 and 2 projects?

A: Yes. According to the Staff **[redacted]** of the recorded Iatan Unit 1 project costs and **[redacted]** of the recorded Iatan Unit 2 project costs related to the relocation of the trailer campus on site should be disallowed. The Staff stated that there were two reasons for relocating the project trailer campus: 1) the need to improve access to the turbine generator building for moving the turbine equipment into that building; and 2) to accommodate Kiewit's preferred location for erection cranes. In total the Staff indicated that the campus was moved approximately 100 feet east of its then location. Nowhere in its report did the Staff identify an imprudent decision or action by KCP&L which was directly linked to this proposed disallowance. Rather the Staff identied two "*justifiable reasons why KCPL would agree to incur over* **[redacted]** *in costs to relocate construction trailers*": 1) KCP&L realized the original design and location of the trailers was faulty; or 2) The cost savings or other benefits resulting from relocation would exceed the cost of relocation. [Missouri Staff Report at page 43, line 20 through page 44, line 2]. The Staff in questioning KCP&L staff felt they had not received an adequate response from KCP&L relative to this cost and, as a result, found the total cost to have

been "inappropriate". In reviewing the issue Pegasus-Global found nothing in the project record which pointed to any imprudent decision or action by KCP&L. The original site layout was completed in the fall of 2006, well in advance of any detailed design having been received from either Toshiba or Alstom, which means that at the time the campus location planned by KCP&L was based on very preliminary and limited information relative to the size of the various structures and facilities which would ultimately be constructed to house the boiler or the turbine generator. By the time that information had been received (in 2007) much of the trailer campus had been located and set. As the plans for construction of the facilities were prepared (by KCP&L early and later Kiewit) Kiewit was concerned that the location of the campus posed difficulties to both the turbine equipment movement (access) and the safety of site personnel (crane siting and load swing paths). Such issues are normal in projects which are large, complex and involve multiple contractors, vendors and suppliers. Pegasus-Global found nothing that would lead it to believe that the original siting of the campus was imprudent and certainly found nothing imprudent in either improving equipment access or improving site safety in moving the campus.

Q: Did Pegasus-Global review the Missouri Staff's recommended disallowance based on the JLG Accident for the Iatan Unit 1 and 2 projects?

A: Yes. According to the Staff **[redacted]** of the Iatan Unit 1 project costs and **[redacted]** of the Iatan Unit 2 project costs should be disallowed as a reasult of an accident involving a JLG boom belonging to one of Alstom's subcontractors. In summary, the Staff, citing KCP&L reports which show the original KCP&L position shifting from Alstom and its subcontractor being totally responsible for the costs related

to the accident to one in which KCP&L was willing to share some of the costs related to the accident. The Staff "*concludes that KCPL developed a strong case of why it bore no responsibility for the cost of this accident. Staff does not believe it was reasonable and prudent for KCPL to enter into this settlement agreement and pay any costs for the JLG accident*" [Missouri Staff Report at page 46, lines 29 – 32]. Pegasus-Global found nothing in the project record that demonstrates that the decision to settle this issue with Alstom flowed from any imprudent decision or action by KCP&L. There are times in every project when owners and contractors must reach a compromise from what appear to be iron clad positions on both sides; although the Staff has examined KCP&L's initial decision and subsequent reversal of that decision, it has not addressed Alstom's own initial decisions and subsequent reversals. Pegasus-Global noted that the issue was a matter of contention between KCP&L and Alstom for a period of over seven months (August 2007 thorugh March 2008), yet there is no indication that either party allowed that unresolved issue to impact or delay the execution of the project. In Pegasus-Global's experience sometimes the final resolution of any issue requires both parties to approach compromise from their initial positions. All too often such seemingly minor issues and dollar amounts become elements of huge claims and legal disputes. In weighting all of its alternatives to resolution of this issue KCP&L appeared to carefully examine all of its options and, absent Alstom's agreement to resolve this issue on KCP&L's terms (with KCP&L paying nothing), KCP&L took action to resolve the issue and avoid it becoming an element in a major dispute. Pegasus-Global has encountered exactly this same dilemma during its work on almost every major construction project and while the

resolution may not appear "fair" from KCP&L's point of view, moving to resolve the issue to prevent it from becoming part of a larger dispute was not imprudent.

Q: Did Pegasus-Global review the Missouri Staff's recommendation for disallowance based on the Construction Resurfacing Project for the Iatan Unit 1 and 2 projects?

A: Yes. According to the Staff **[redacted]** of the Iatan Unit 1 project costs and **[redacted]** of the Iatan Unit 2 project costs should be disallowed due to the need to resurface the construction site. In part this issue is tied to the JLG crane incident discussed above, as that incident may have been, in part, attributable to soil conditions on site. Specifically, the concern expressed by contractors was that the soil conditions as they existed then would not support the movement and operation of heavy construction equipment which is vital to construction of power plants. This issue is first and foremost a safety issue as the failure of equipment on heavy construction sites generally results in serious injury and even loss of life. Pegasus-Global finds nothing at all imprudent about KCP&L's decision to take actions to protect life after the JLG accident. Relative to the Alstom claim, any resurfacing on a "tight" construction site may delay and disrupt a contractor's work and because Alstom's work was at the core of the entire site it is easy to understand how any resurfacing activites had the potenital to impact that work. Therefore Alstom had what it believed to be a sound claim for delays and disruptions to its work due to the resurfacing work and, as an EPC fixed price contractor Pegasus-Global would expect Alstom to pursue recovery of any of those impact costs. Again, Pegasus-Global found nothing imprudent relative to KCP&L acknowledging a vaild claim and agreeing to pay a valid impact cost. However, the Staff has not made any assertion of imprudence relative to this issue but has rather, relied on its understanding

that this cost was recommended for disallowance by Mr. Drabinski in his Unit 1 testimony filed before the Kansas Commission and that KCP&L "*agreed not to challenge the KCC staff adjustment to remove the costs from this settlement from the Iatan Project*" [Missouri Staff Report at page 47, lines 20 – 22]. Pegasus-Global is aware of Mr. Drabinski's testimony on this issue and rebutted that testimony noting that "*Vantage has not suggested that this cost resulted from any imprudent KCP&L management decisions or actions, simply opining 'does not appear to be any basis for inclusion in rate base'*. Pegasus-Global found that there was no evidence of imprudence, nor did Mr. Drabinski cite any imprudent action or decision [Nielsen Direct Testimony, Kansas Commission Docket No. 09-KCPE-246-RTS, page 74 lines 23 – 26]. Whether or not KCP&L agreed not to challenge the Kansas Staff's removal of the cost from the settlement does not change Pegasus-Global's findings relative to this issue.

Q: Did Pegasus-Global review the Missouri Staff's recommendation for disallowance based on the July 18, 2008 Alstom Settlement for the Iatan Unit 1 project?

A: Yes. According to the Staff it "*is taking the position in this case to remove the* ** [redacted] ** *settlement payment by KCPL to Alstom. In addition, the Staff is reducing the cost of the Iatan Project by the* ** [redacted] ** [Staff Report at page 57, lines 25 – 28]. That results in a total disallowance of ** [redacted] .**

Q: Do you agree with the Missouri Staff's position on this matter?

A: No. First, the Staff does not identify any specific KCP&L management decisions or actions which it found imprudent relating to this proposed disallowance.

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Second, the Staff in its determination of the proposed ** [redacted] ** disallowance has relied upon two different sources in its attempt to determine KCP&L imprudence and to quantify the costs associated with the alleged imprudence. Neither of which is an acceptable basis or approach for determining imprudent management or related costs.

** [redacted]

[107] Direct Testimony of Walter P. Drabinski on behalf of Kansas Commission, Docket No. 09-KCPE-246-RTS, page 25, lines 8 – 10, February 3, 2009

[redacted]

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[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]**

Q: Does Pegasus-Global agree with the Missouri Staff's position on liquidated damages as they pertain to the Alstom Settlement?

A: No. the Staff stated that "*if the Alstom Settlement is allowed to stand, KCPL's customers will suffer the harm of KCPL management's decision not to pursue liquidated damages against Alstom*" [Missouri Staff Report at page 59, lines 14 – 16]. Ultimately, the Staff disallows **[redacted]** based on KCP&L's surrendering the right to impose LDs on Alstom for delay for which Alstom may be responsible [Staff Report at page 57, lines 25 – 28]. The Staff's position that KCP&L gave up **[redacted]** in LDs is both incorrect and founded on an unreasonable assumption. First, **[redacted]

[redacted]

[108] Rebuttal Testimony of Dr. Kris R. Nielsen before the Kansas Commission, Docket No. 10-KCPE-415-RTS, page 41, line 19 through page 42, line 2,l July 2010

[redacted]**

Second, to impose LDs on a contracting party the owner must prove that the contracting party is solely and completely responsible for the delay events or issue which can be proven to have been the direct cause of those delays. By disallowing the entire **[redacted]** of LDs the Staff has taken the position that Alstom was solely and completely responsible for every issue or event which may have ultimately impacted the critical path of Alstom's schedule; this is simply not a creditable position in the real world of construction and, in particular, construction claims and disputes. Imposition of LDs almost always leads to disputes, which then places the owner in the position of proving its right to impose those LDs under the contract which means that KCP&L would have to

undertake a very expensive and time consuming analysis to achieve that level of proof. None of the money spent on that analysis is recoverable from the contractor given that the owner bears the burden to prove its allegations. Because every event or issue must have a direct impact on the contractors critical path, simply saying a contractor was late in doing something is not good enough and in more instances than not the contractor can point to some concurrent delay for which the owner was responsible which the contractor will assert were the "real" cause of the delay to achievement of the critical path of the project. In short, while KCP&L may have had the contractual right to impose ***[redacted]** in LDs is not at all the same thing as being able to clearly and completely prove that Alstom was solely and completely responsible for every day of delay to its critical path of the Iatan Project schedule.

In Pegasus-Global's opinion KCP&L's decisions concerning liquidated damages were reasonable and prudent given the difficulty of proving and enforcing any delays which may or may not have been Alstom's responsibility at the time, while at the same time preserving the right to impose liquidated damages in the future should Alstom not meet the revised project schedule milestones.

Q: Does Pegasus-Global have other observations relative to the Missouri Staff's report relative to the Iatan Unit 1 project settlement with Alstom?

A: Yes. The Staff's argument in support of that **[redacted]** disallowance is long and somewhat difficult at times to follow.

First, after stating that it "*recognizes that force majeure claims and other potential claims by contractor may occur on this project through no fault of KCPL*" [Staff Report at page 56, line 16 – 18] the Staff "*believes B&McD is likely responsible for much if not all of the*

claims asserted by Alstom that resulted in the settlement" [Missouri Staff at page 57, lines 29 – 30]. **[redacted]

[redacted]**

Finally, the most fundamental flaw in all of the Staff's arguments is the assumption that KCP&L would prevail on every claim raised against the Iatan Project by Alstom and Alstom would fail to prove any delay damages which would negate KCP&L's ability to collect LDs. This is simply not a credible possition to take now, or from which KCP&L and Alstom could argue in attempting to settle the disputes between them in 2008. No one can predict the outcome of a claim which may have to be resolved in a litiagated dispute, and that is one of the factors that must be weighed by both parties when facing claims and disputes.

Second, as noted earlier in this testimony the Staff takes the position that KCP&L would have been entitled to recover all ** [redacted] ** in LDs. As also noted earlier in this testimony, such a conclusion is not realistic. For example, in late 2008 through early 2009 there were two events beyond the control of Alstom that impeded Alstom and the Iatan Project completion. The first event occurred November 8, 2008, when cracking of the Unit 1 boiler economizer casing was discovered. For safety reasons that cracking had to be rectified prior to placing the boiler back into service. That issue would have prevented Alstom from completing the commissioning of the Unit 1 AQCS. The second event occurred on February 4, 2009 and involved high vibration on the turbine, which ultimately required the rotor to be sent to a GE facility for remedial work. The rotor was returned to the site on February 28, 2009, which further delayed Alstom's commissioning program. These two events, both of which related to existing Unit 1 equipment and thus attributable to no specific party, delayed commission of the Alstom Unit 1 AQCS. KCP&L would have been prevented from assessing liquidated damages against Alstom during those time periods, even if it could be proven that Alstom was also late in completing any of its milestone work for reasons which where within its control (concurrent delays). These examples are not unique as in any mega-project there will generally be multiple issues that must be taken into consideration when considering the imposition of LDs.

Ultimately the Staff's basis for this ** [redacted] ** disallowance has not been supported by any reasonable level of analysis or evaluation, which is why the ** [redacted]

[redacted]

[redacted]

[redacted]

[redacted]**

Q: Is this the first time Pegsus-Global has testified on the July 2008 settlement agreement between KCP&L and Alstom?

A: No. Pegasus-Global testifed on this issue during the Kansas Commission Iatan Unit 1 proceedings. As noted above in his testimony in that proceeding Mr. Drabinski recommending that 50% of the **[redacted]** settlement be removed from the rate base [Nielsen Direct Testimony before the Kansas Commission, Docket No. 09-KCPE-246-RTS, page 76, line 21]. Pegasus-Global has not revised its findings since the Kansas Commission Docket. **[redacted]

[redacted]

[redacted]

4. [redacted]

[redacted] **

Q: What is Pegasus-Global's opinion relative to the prudence of the July 2008 settlement between KCP&L and Alstom?

A: Although the Staff has stated that there is a "*lack of justification of this settlement put forth by KCPL*" [Missouri Staff Report at page 63 line 17] Pegasus-Global has reviewed

literally hundereds of pages of documentation and testimony from numerous witnesses relative to all of the omnibus settlements reached on the Iatan Project and at no point found that KCP&L acted imprudently in the face of all the facts and all the possible scenarios considered by KCP&L in reaching those settlements. Perhaps the best example of that prudence is KCP&L engaging a completely independent party to mediate those very complex issues and disputes which arose between the parties. That independent mediator had no stake in the Iatan Project whatsoever other than to attempt to resolve issues equitably among the parties without the parties having to resort to other much more costly venues such as ligation. Given the magnitude of the Staff's disallowance, it should be based on more than a few passages from audit reports and some unrelalistic expectations concerning KCP&L being able to prevail on every claim submitted by Alstom.

Q: Did Pegasus-Global review the Misssouri Staff's Recommendation for disallowance based on the January 2010 Alstom Settlement for the Unit 2 project?

A: Yes. According to the Staff it "*can only identify* ** [redacted] ** *of costs related to this settlement charged to the Iatan 2 project as of June 30, 2010. The Staff understands approximately* ** [redacted] ** *additional costs have been charged to the project after June 30, 2010. The Staff will address these costs in its true-up Iatan 2 audit*" [Missouri Staff Report at page 65, lines 9 – 13].

Q: Has Pegasus-Global reviewed the Alstom Settlement Agreement executed with KCP&L on January 13, 2010?

A: ** [redacted]

[redacted]

[109]Settlement Agreement Regarding Iatan Unit 2, January 13, 2010, Between KCP&L and Alstom

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]**

Q: **[redacted]

[redacted]

[redacted]**

A: **[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

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[110] Settlement Agreement Regarding Iatan Unit 2, January 13, 2010, Between KCP&L and Alstom, Article C, pages 7-9

[redacted]**

Q: **[redacted]**

A: **[redacted]

[redacted]

[111] Settlement Agreement Regarding Iatan Unit 2, January 13, 2010, Between KCP&L and Alstom, Article A, page 1

[112] Settlement Agreement Regarding Iatan Unit 2, January 13, 2010, Between KCP&L and Alstom, Article B, pages 2-5

[redacted]

[redacted]**

Q: Was this transition to system completion using turnover milestones to complete construction unusual from that practiced throughout the power industry?

A: No. By the summer of 2009 the Iatan Project was entering a transitional phase from construction to startup testing and commissioning. Such transitions are not immediate, they are gradual as systems are finished and turned over to the group responsible to start and test those systems. The transition occurs as the construction schedule moves from being driven by construction activities to being driven by the plant commissioning team's preferred sequence for system completion and turn over. In July 2009 Alstom, Kiewit and KCP&L negotiated and set the system CTO date milestones and began tracking the system progress by schedule fragnets established for each of those systems (see earlier testimony above). It is normal within the power industry to make a transition to a system turnover driven finish from a bulk construction phase. It is also normal for the parties to engage in a detailed examination of the turnover packages, the work remaining to complete construction, the preferred sequence of systems turnover, etc., and then to negotiate the final schedule to achieve those CTO dates.

Q: **[redacted]**

A: **[redacted]**

Q: **[redacted]**

A: **[redacted]**

[redacted]

[113] Settlement Agreement Regarding Iatan Unit 2, Alstom Power, Inc. and KCP&L, January 13, 2010, Articles B.1.a through B.1.c, pages 2-3

[redacted]

[redacted]**

Q: **[redacted]

[redacted]

[redacted]**

A: **[redacted]

[redacted]

[redacted]

[redacted]** Furthermore, Pegasus-Global's examination of the facts up to the date of this testimony indicates that KCP&L followed the strictures within the Alstom settlement agreement, paying those bonuses rightfully due to Alstom per the terms of that settlement agreement.

Q: What was your overall conclusion relative to the Alstom Settlement Agreement of January 13, 2010?

A: Pegasus-Global found that KCP&L followed the procedure and processes for resolution of disputes by negotiating omnibus settlements which were balanced, addressing the issues and concerns of both parties without resorting to a formal, adversarial claims process. Pegasus-Global found that KCP&L acted reasonably and prudently in negotiating and executing the Alstom Settlement Agreement of January 13, 2010.

Q: Did Pegasus-Global review the Missouri Staff's recommendation for disallowance based on the Alstom WSI welding services?

A: Yes. At page 100 the Staff recommended "*the disallowance from recovery of $12.7 million related to payment by KCP&L to Alstom for additional welding services*" [Missouri Staff Report at page 100, lines 29 – 30]. However, the Staff indicated that it had learned of this imprudence disallowance via the rebuttal testimony filed by Pegasus-Global in the Kansas Commission case (Docket No. 10-KCPE-415-RTS), and essentially repeats much of the testimony rendered by Pegasus-Global within its testimony [Missouri Staff at pages 100, line 30 thorugh page 101 line 26]. The Staff simply noted that "*Staff could find no evidence that the Alstom delays and inefficiencies that led to this being behind schedule were the result of actions by KCPL or other parties. As a result, Alstom should be responsible for the cost of employing WSI to get back on schedule, not KCPL*"

[Missouri Staff Report at page 101, lines 17 – 20]. Pegasus-Global disagrees with Staff's conclusion as quoted above as the fact that no "evidence was found" does not automatically mean that the root cause has to be either Alstom or KCP&L. In its statement is, in hindsight, substituting its own judgement for that of KCP&L's judgment made at the time. Pegasus-Global did conduct a full analysis and did conclude that the payment of the WSI welding costs by KCP&L was imprudent; however, Pegasus-Global based that opinion on a close examination of all the facts known at the time and the various avenues of recourse open to KCP&L; not by substituting Pegasus-Global's judgment for KCP&L's in hindsight. As indicated earlier in this testimony, the Staff has not presented a prudence review of KCP&L at all.

Ultimately, the Staff adopted and accepted Pegasus-Global's disallowance recommendation relative to this issue. Pegasus-Global's full analysis and findings relative to the WSI issue was addressed in detail in **Section V** of this testimony.

Q: Are there any modifications to the testimony rendered relative to the WSI welding issue in the Kansas Commission case and that rendered here before the Missouri Public Service Commission?

A: No, there are no differences. Pegasus-Global has made the same recommended disallowance of $12,714,596.40 that was made in the Kansas Commission case. Pegasus-Global's full findings, conclusions and recommendations were based on a finding of imprudence and are contained in **Section V** of this testimony.

Q: Did Pegasus-Global review the Staff's recommendation for disallowance based on the Temporary Auxiliary Boiler?

A: Yes. the Staff recommended "*disallowance from recovery of $7.75 million incurred by KCPL related to the use of a temporary auxiliary boiler at Iatan Unit 2*" [Missouri Staff Report at page 101, lines 29 – 30]. As with the WSI issue, the Staff again primarily relied on testimony filed by Pegaasus-Global relative to this issue with the Kansas Commission (Docket No. 10-KCPE-415-RTS). The Staff stated that "*For the purposes of this report, the Staff has relied upon the accuracy of Mr. (sic) Nielsen's quantification of the $7.75 million disallowance. Staff will true-up this cost number in its January 2011 true-up Report*" [Missouri Staff Report at page 102, lines 18 – 21]. As with the WSI issue, Pegasus-Global's full analysis and recommendations as rendered in the Kansas Commission case have been repeated in **Section V** of this testimony.

Q: Are there any modifications to the testimony rendered relative to the temporary auxiliary boiler in the Kansas Commission case and that rendered here before the Missouri Public Service Commission?

A: Yes. At the time the analysis was completed on the Kansas Commission testimony KCP&L was still using the temporary auxiliary boiler exquipment and was projecting to use that equipment into the fourth quarter of 2010. As a result, using actual costs to date (July 2010) Pegasus-Global estimated the total cost of that equipment at $7,754,454. However, KCP&L was able to complete its startup and commissioning earlier than then planned and released the temporary auxiliary boiler equipment sooner than anticipated. Pegasus-Global examined the actual final costs incurred by KCP&L at the point the equipment was released and for this MPSC testimony adjusted its disallowance down to that actual cost incurred by KCP&L of $5,346,049. Again, **Section V** of this testimony reviews Pegasus-Global's findings, conclusions and recommendation relative to the

temporary auxiliary boiler. The basis of the adjustment to the recommended disallowance is also discussed in **Section V** of this testimony.

Q: Based on the project records and interviews, did Pegasus-Global evaluate the disallowance Mr. Drabinski recommended?

A: Yes. Pegasus-Global conducted a detailed examination of Mr. Drabinski's disallowance testimony in an attempt to understand the amount of the recommended disallowance and to determine the processes by which Mr. Drabinski arrived at those disallowance figures. In general Pegasus-Global found that Mr. Drabinski's disallowance testimony to be inconsistent and unsupported as there are several different "disallowance theories" presented within that testimony, which do not follow accepted utility industry prudence standards or methods of analysis as presented earlier in this testimony. Beginning at page 160 of its Direct Testimony, Mr. Drabinski presents a number of alternative cost disallowance scenarios, including the following:

- Comparison with Similar Power Projects;
- Comparison with Trimble County Unit 2;
- Analysis of Budgets and Cost Reforecasts; and
- Review of Purchase Orders and Change Orders.

Pegasus-Global examined each of those Drabinski disallowance categories in depth. The Pegasus-Global response regarding Mr. Drabinski's analysis of the budgets and reforecasts and the Purchase Orders and Change Orders has been previously addressed in my testimony.

Q: Has Pegasus-Global undertaken any analysis regarding similar power projects executed at the same time as the Iatan Project?

A: Yes.

Q: What process did Pegasus-Global undertake in performing the total plant cost comparisons?

A: Pegasus-Global first looked at new coal plant construction cost information that would have been available throughout the project definition phase of the Iatan Unit 2 project up through the end of 2006 in order to consider what information would have been available to KCP&L at the time they were making a number of major decisions regarding the execution of Iatan Unit 2 project and the project budget was being finalized. Pegasus-Global next investigated information related to the reported large increase in materials costs and plant costs that occurred through the construction phase. Finally, Pegasus-Global considered total plant costs and cost estimates through the point at which Iatan Unit 2 project achieved Commercial Operation in 2010.

Information sources reviewed were all publicly-available and included consultant research regarding coal-fired power plant construction costs, such as; the CRS report for Congress on Power Plants, Characteristics and Costs; the Michigan Capacity Needs Forum, Staff Report to the Michigan Public Service Commission; Fitch ratings for the Iatan Unit 2 project; reports prepared for the National Coal Council and the Department of Energy; reports by the U.S. Carbon Sequestration Council; Reports prepared by the MIT Center for Energy and Environmental Policy Research; individual scholarly research papers; testimony prepared by officers of Louisville Gas and Electric Company and Kentucky Utilities Company in its application for adjustments in base rates; information prepared by the National Energy Technology Laboratories; various presentations made at Energy Conferences in the U.S.; reports prepared for the Nuclear Energy Institute; and,

studies prepared for specific coal fired power plants that also use comparative information. These would be the types of information that would be available to utility executives to use when new estimates of the cost of a plant were evaluated or adapted. Pegasus-Global reviewed all these materials to determine what measures would allow Pegasus-Global to perform comparisons.

The following factors were considered when Pegasus-Global performed its comparative review:

- Timing of the plant construction;
- Date the data represented (data date);
- Type of coal plant;
- Type of fuel to be used;
- Plant size in MW;
- Any common plant costs shared with other facilities; and
- Issues faced by other coal plants that were noted to have increased final costs.

Q: Why did Pegasus-Global identify factors for consideration when performing the cost comparisons?

A: Capital cost estimates can be misleading unless it is clear what assumptions stand behind them. Power plant capital costs have several components. Published information on plant cost often does not clearly distinguish which components are included in the estimate, or different analysts may use different definitions. The capital cost components are:

- Engineering, procurement and construction cost - the primary costs for building the plant. It includes the cost of designing the facility, buying the equipment and materials, and construction. In multi-unit power generating facilities, it is

important to carefully consider how "common" costs that would benefit more than one power generating unit are allocated and accounted for;

- Owner's costs - these are any construction costs the owner handles outside the engineering, procurement and construction contracts and could include arranging for the construction of transmission and fuel deliveries to a power plant; and
- Capitalized financing charges - a plant developer incurs financing charges while a power plant is being built. This includes interest on debt and an imputed cost of equity capital. Until the plant is operating these costs are capitalized, that is, become part of the investment costs of the property for tax, regulatory, and financial analysis purposes.

The total reported cost of a power plant typically should include all capital costs and contingencies. Often total reported cost also includes financing costs and may also include escalation to inflate costs to the value of the year in which the dollars will be spent. However, new power plant costs are also often reported as "overnight costs." Overnight costs literally represent the cost to complete a construction project overnight. It usually includes the costs of engineering, procurement and construction costs and owner's costs, but is net of financing costs and does not account for inflation or escalation. This overnight cost is often used so as to allow for comparisons without needing to factor in financing and escalation for an attempt to normalize costs.

Thus, it is important to understand what the costs include before making comparisons, because there is a wide variation in costs depending on what factors are considered in identifying which specific plants might be possibly used in a plant comparison analysis and/or how to read reports relative to industry averages. All of the factors that are listed

above can swing the cost significantly and without putting that cost into context, the cost comparison may be mixing apples and oranges, thus making any analysis that does so meaningless and not useful to the purpose for which it was intended.

For cost comparison purposes, Pegasus-Global reported overnight plant costs, without financing costs or inflation, in dollars per kilowatt ($/kW) for the specified construction year. Power plant costs are often reported and discussed in $/kW, because this normalizes for plant size differences (to some extent) and enables consideration of inflation effects separately from the base plant costs. Note that the construction year reported is often not the same as the report or analysis year.

Q: In summary, what did Pegasus-Global determine from its review and analysis of the information?

A: Based on the analysis of the information Pegasus-Global reviewed, Pegasus-Global determined that the Iatan Project budgeted total plant cost was in line with industry averages at the escalation rates existing through 2006; the actual cost was below the predicted average plant overnight costs for similar plants constructed in 2010; and the actual plant cost is comparable to other coal plants of its size, type of fuel used, and the time period in which it was constructed. Pegasus-Global also determined that the cost overruns and delay in COD experienced by the Iatan Project were comparable to other cost overruns and delays that were being experienced by similar plants as described in the above testimony and were the result of similar issues faced by the Iatan Project.

Q: Can Pegasus-Global provide some examples of the information you reviewed which confirm your findings that the Iatan Unit 2 project total cost and its overruns were comparable to similar plants being constructed in the same period?

A: Yes. Several consultants, academic institutions, research organization and government agencies have conducted analyses of the cost of electricity from various generating options, which often include information on average power plant construction costs. Analyses that included overnight construction cost estimates for supercritical pulverized coal plants that were available in 2006 were compiled and are shown in **Figure 1**. Analysis results shown in **Figure 1** are from a 2003 study by the MIT Center for Environmental Policy and Research (2002 data);[114] from an analysis done by the Michigan Public Service Commission Capacity Needs Forum;[115] and, the National Coal Council.[116] In addition, Synapse Energy Economics prepared a report in July 2008 entitled "Coal-Fired Power Plant Construction Costs", which compared a number of coal plants, including the cost overruns that had been experienced to date. This report notes that companies in 2005 were expecting construction costs between $1,500/kW and $1,800/kW.[117] Such information would also have been available to KCP&L, either first hand from power companies or through regular Department of Energy/NETL reports on power generation. One can see in **Figure 1** that over the years 2004 through 2006, when KCP&L was defining and developing the Iatan Unit 2 project, coal plant construction costs were reported to be increasing gradually and at a moderate rate (about 4.5% per year). The Iatan Unit 2 project CBE fixed in November 2006 is added to the graph to show how it falls relative to the construction costs existing at the time.

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[114] "Future of Nuclear Power" MIT 2003, in MIT Center for Energy and Environmental Policy Research, "Update on the Cost of Nuclear Power", by Yangbo Du and John E. Parsons, May 2009, pages 22-23
[115] Michigan Capacity Needs Forum: Staff Report to the Michigan Public Service Commission, page 24
[116] Opportunities to Expedite the Construction of New Coal-Based Power Plants, National Coal Council Report, Library of Congress #2005920127, page 27
[117] Synapse Energy Report, page 1

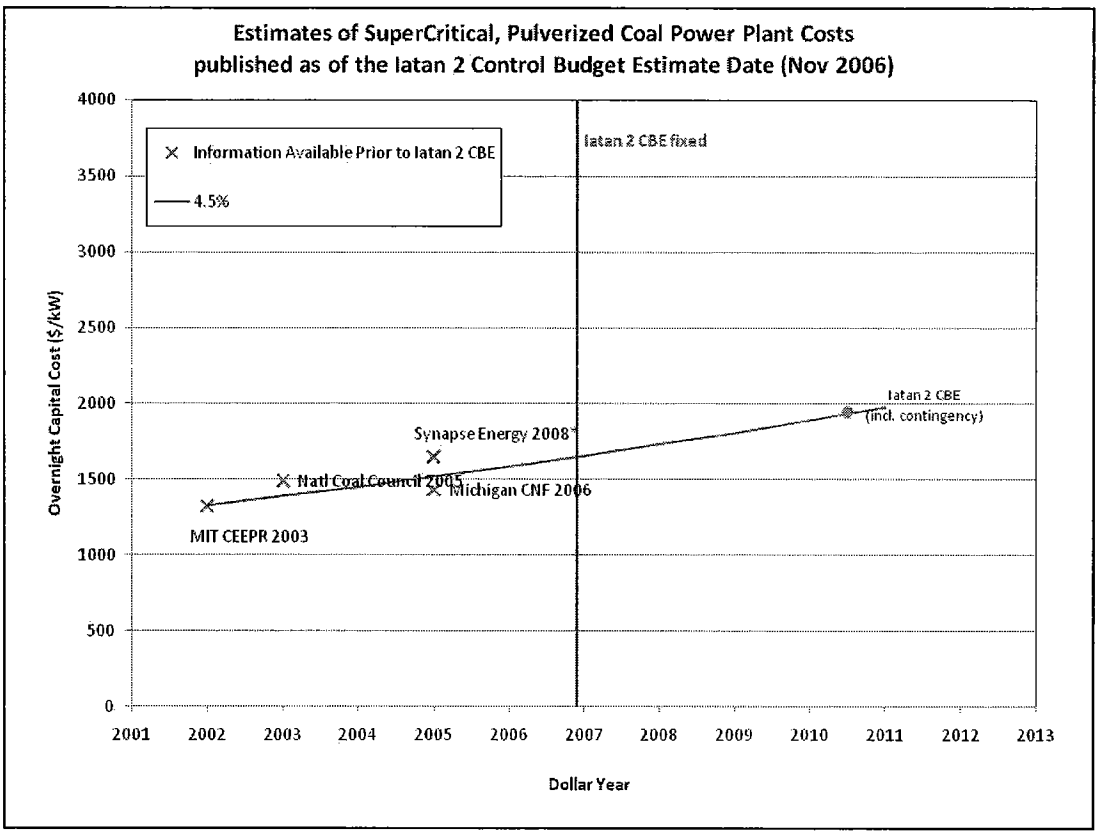

Figure 1- Average overnight pulverized coal plant construction costs, 2002-2006

However, a tightening of the construction commodities markets was already becoming apparent and was reflected in higher prices and longer lead times (described earlier in this testimony). In May 2006, B&V made a presentation regarding building new baseload generation in the Midwest. While no specifics on total plant cost numbers were provided, B&V did note that coal plant costs were increasing due to 1) price escalation on commodities, such as, steel, copper and alloy, 2) AQCS equipment was an extremely tight market due to ongoing retrofit work, 3) boiler prices were increasing, and 4) the

E&C industry was very "tight" with a limited number of capable players.[118] KCP&L considered these price increases and also added a substantial contingency fund when it set the CBE in November 2006, which was otherwise largely based on the estimate prepared in May of that year (see earlier testimony). Even with these considerations, the Iatan Project CBE lies right on a projected line increasing at a steady 4.5% per year from 2003 (see **Figure 1**).

Power cost and plant construction analyses published in early 2007 began to reflect sharp increases in total plant construction costs, largely due to the increases in commodity pricing and the generally tight market surrounding power plant construction (see earlier testimony). These costs continued to increase at unprecedented and unpredictably high rates throughout the Iatan Unit 2 project construction period. For example, B&V prepared a study for Florida Power & Light in January 2007 which screened level overnight capital costs for four coal technologies. The estimate was based on B&V's proprietary estimating templates and experiences. B&V noted that capital cost estimates for all power generation technologies were exhibiting considerable upward trends and that market pricing of technology components, coupled with commodity and labor demand worldwide, was rapidly escalating capital costs. 2006 dollars indicated the cost of a SPC coal plant, exclusive of owner cost or escalation, to be $1,540/kW (**Figure 2**). B&V projected a 2012 cost based on the same assumptions to be $2,925/kW.[119]

However, as noted in the CRS November 13, 2008 Report for the U.S. Congress, construction costs for power plants have escalated at an extraordinary rate since the

[118] May 11, 2006 Black & Veatch MMEA Presentation, "Building New Baseload Generation in the Midwest; slide 20

[119] Black & Veatch, January 2007, Clean Coal Technology Selection Study, Final Report, Table 1-5, page 1-6

beginning of the decade and the cost of building a power plant increased by 131% between 2000 and 2008. Costs were reported as increasing by 69% just since 2005. The factors cited for the cost increases were:[120]

- *High prices for raw and semi-finished materials, such as iron ore, steel and cement.*
- *Strong worldwide demand for generating equipment. China, for example, is reportedly building an average of about one coal-fired generating station a week*
- *Low value of the dollar.*
- *Rising construction labor costs, and a shortage of skilled and experienced engineering staff.*

Nine SCPC coal plants ranging from 580MW to 1000MW were studied in the November 2008 CRS Report with COD projected in 2012 or 2013. The average overnight cost per kW was $2,519 and the rounded average was $2500/kW.[121] These costs are added to the previous graph in **Figure 2**, along with both the Iatan Unit 2 project control budget estimate of 2006 and the June 2010 forecast at completion (shown in red). The Iatan cost rates are calculated by dividing the CBE of $1.685B and the June 2010 completion estimate of $1.988B (respectively), without AFUDC, by 850 kW.

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[120] Congressional Research Service (CRS), Report for Congress, "Power Plants: Characteristics and Costs", November 13, 2008, page 18

[121] Congressional Research Service (CRS) Report for Congress, "Power Plants: Characteristics and Costs", November 13, 2008, page 73 - 75

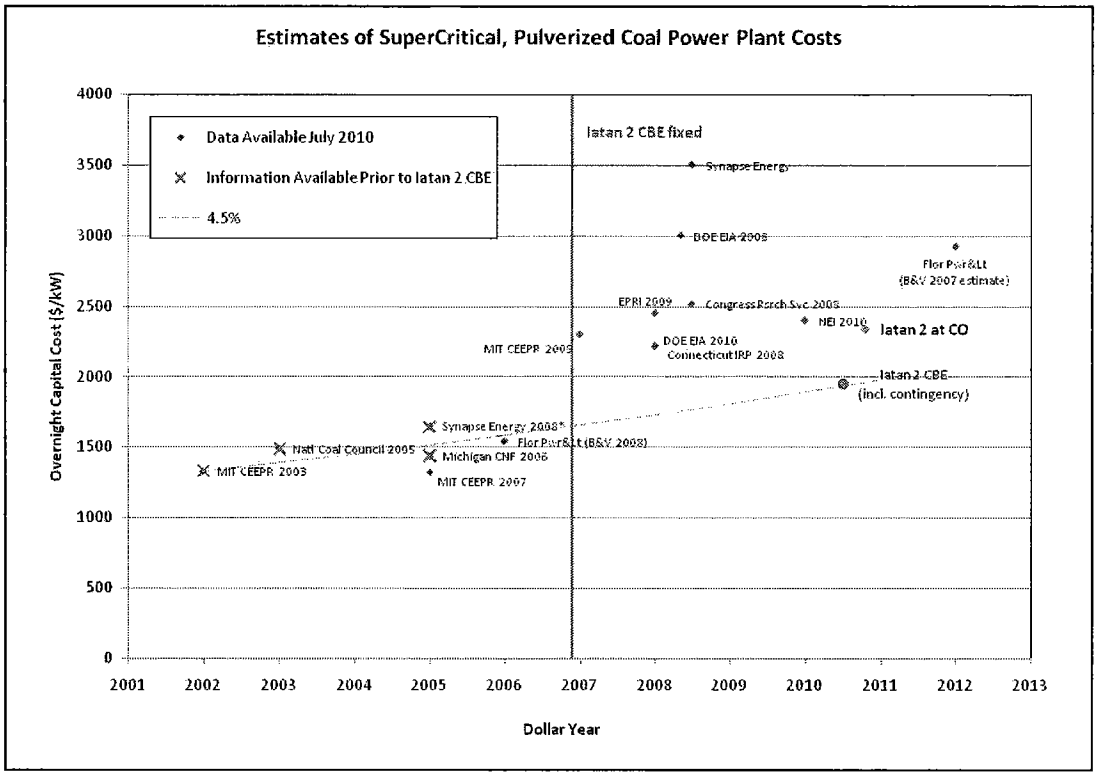

Figure 2- Study estimates of coal plant overnight costs, 2003 - 2009 analyses.

In January 2008, the Brattle Group, under contract to Connecticut Light and Power and United Illuminating, published an Integrated Resource Plan (IRP) for the state of Connecticut. The IRP assumed the overnight capital costs for a SCPC plant to be $2,214/kW[122]. The Nuclear Energy Institute (NEI) prepared a model in 2010 from cost estimates from recent regulatory filings for projects that provides an EPC cost for a SCPC of $2250/kW and a total cost (includes EPC cost, owner's costs, and financing) of $2400/kW.[123] An April 2008 presentation at the Energy Information Administration

[122] January 1, 2008 Integrated Resource Plan for Connecticut, The Brattle Group, Table C.2, page C-4
[123] Nuclear Energy Institution February 2010 White Paper "The Cost of New Generating Capacity in Perspective", page 12

(EIA) 2008 Energy Conference indicated that the cost of a new pulverized coal boiler, including financing costs would in the range of $2500-$3500/kW.[124] The 2008 Synapse report included the following findings and conclusions:

> *"Construction cost estimates for new coal-fired plants are very uncertain and have increased significantly in recent years. The industry is using terms like "soaring", "skyrocketing", and "staggering" to describe the cost increases being experienced by coal plant construction projects. In fact, the estimated costs of building new coal plants have reached $3500 per kW, without financing costs, and are still expected to increase further. This would mean a cost of well over $2 billion for a new 600 MW coal plant when financing costs are included. These cost increases have been driven by a worldwide competition for power plant design and construction resources, commodities, equipment and manufacturing capacity. Moreover, there is little reason to expect that this worldwide competition will end anytime in the foreseeable future.*[125]

Similar increases were noted in several of the materials reviewed. For instance, in the report done for the National Coal Council in 2004, the total plant cost of a SCPC plant in 2003 dollars was only $1,290/kW with the total capital requirement being $1,490/kW.[126] The Center for Energy and Environmental Policy Research (a joint center of the MIT Department of Economics, MIT Energy Initiative, and Sloan School of Management) prepared an update on the cost of nuclear power in May 2009 that compared nuclear to

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[124] EIA Presentation by J. Heller, April 8, 2008, "New Baseload Coal Generation: Warts and All", Slide 17
[125] Synapse Coal Fired Power Plant Construction Costs, July 2008, page 1
[126] Opportunities to Expedite the Construction of New Coal-Based Power Plants, National Coal Council Report, Library of Congress #2005920127, page 27

the cost of coal.[127] Included within the May 2009 update was a discussion of the 2003 MIT Future of Nuclear Power study that was performed, which estimated that for a 1,000MW pulverized coal burning plant, in 2002 dollars the cost would be $1,300/kW capital cost. Also included within the May 2009 update were numbers from the 2007 MIT "Future of Coal" study which evaluated a broader set of coal-fired designs, including supercritical pulverized coal, and had a standardized overnight cost range of $1,280kW to $1,360/kW in 2005 dollars. The 2009 MIT study analyzed four SCPC plants whose overnight cost estimates ranged from just under $2,000/kW to just over $3,000kW. The MIT study noted that its central estimate of $2,300/kW was very close to the EPRI (2008) figure of $2,450/kW for a conventional supercritical pulverized coal plant.[128]

These capital costs estimates are consistent with other research that has been performed on the cost of constructing SCPC coal plants.

The DOE's EIA provides publically available documentation for the National Energy Modeling System (NEMS) model which it uses to project future energy trends for the United States. EIA's documentation includes the assumptions made by EIA regarding the capital and operating costs of system to generate electric power. In the May 2010 U.S. Carbon Sequestration Council Report, 2008 dollars are provided for a number of new

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[127] MIT Center for Energy and Environmental Policy Research, "Update on the Cost of Nuclear Power", by Yangbo Du and John E. Parsons, May 2009, pages 22-23

[128] MIT Center for Energy and Environmental Policy Research, "Update on the Cost of Nuclear Power", by Yangbo Du and John E. Parsons, May 2009, pages 27-28

power plants, including pulverized coal.[129] The overnight cost per kW was $2,223. As noted in this report:

> "*The general trend is that prices* [for aluminum and copper] *were stable for several years prior to 2003, then rapidly escalated through mid-2008 (typically doubling earlier costs) then declined through early 2009 before recovering somewhat in the last half of 2009. Power plant cost estimates based on price behavior to 2004 did not anticipate this jump in construction material costs, and there is no certainty regarding where future commodity prices will stabilize, or if they will stabilize.*
>
> *A 2009 analysis by CERA* [Cambridge Energy Research Associates] *concluded that power plant capital costs had more than doubled between 2000 and the third quarter of 2009.*"

Q: What is Pegasus-Global's conclusion relative to the current cost of the Iatan Unit 2 project versus its original plan cost in comparison to similar plants being constructed?

A: The current ** [redacted] ** of the Iatan Unit 2 project is comparable to other similar coal plants being constructed in the same period. The cost overruns and delay in commercial operation date are also comparable to other SCPC plants constructed over the same period for similar reasons. Pegasus-Global notes that other utilities have made similar comparisons in their cost per kW comparisons and found similar results. For example, Paul Thompson, Sr. Vice President Energy Services of Louisville Gas and

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[129] May 2010 U. S. Carbon Sequestration Council, "Prospecting for Power: The Cost of Meeting Increases in Electricity Demand, page 14

Electric Company and Kentucky Utilities, in his testimony regarding an adjustment of base rates regarding the Trimble County 2 project, noted that the current market estimate was between $2,400-$3,000/kW.[130] Further, Fitch, in its March 2009 rating on the MJMEUC series 2006A and 2006B for the Iatan Unit 2 project assigned a rating "A" noting that:

> "*The Project has experienced some delays and cost overruns that have increased the original estimated installed cost of $1,738 per kilowatt (kW) to the current estimate of $2,245 per kW. While this increase in the total project cost is notable, the projected "all-in" cost of power production is still competitive for the region.*"[131]

It is Pegasus-Global's determination that the information available to KCP&L during the course of the Iatan Unit 2 project for its decision making process and decisions demonstrates that the decisions made by KCP&L were consistent with the industry information available to it and that the cost per kW and the cost overruns experienced by the Iatan Unit 2 project are comparable with those in the industry.

Delays in commercial operation dates range from two to nine months for SCPC projects for which Pegasus-Global has reliable data available (see **Table 4 Delays in Commercial Operation Dates**). The Iatan Unit 2 project delay is well below the average of five and half months.

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[130] Testimony of Paul W. Thompson, January 29, 2010, KY PSC, Case No. 2009-00548 and 2009 – 00549, page 7
[131] Business Wire, March 9, 2009, "Fitch Rates Missouri Joint Municipal Electric Utility Commission Revs "A"

TABLE 4 DELAYS IN COMMERCIAL OPERATION DATES (COD) FOR COAL PLANTS CONSTRUCTED IN THE SAME TIME FRAME AS IATAN 2*	
Project	**Delay from Provisional Acceptance (months)**
Iatan 2	*3*
Trimble County Unit 2	9[132] (forecast as of Sept 2010)
Comanche Unit 3	7[133]
Elm Road Unit 1	4[134]
Elm Road Unit 2	2[135]
Average without Iatan 2	**5.5**
*** Only includes similar plants for which reliable information on planned COD could be found.**	

Q: Please describe Pegasus-Global's findings and conclusions relative to Mr. Drabinski's testimony with respect to its Comparison with Similar Power Projects?

A: **[redacted]

[132] E.ON U.S. LLC and Subsidiaries, Condensed Consolidated Financial Statements and Additional Information, Sept 20, 2010, p.42.
[133] Letter from Karen Hyde, Xcel Energy to Doug Dean, Colorado Public Utilities Commission dated July 7, 2010. Downloaded from https://www.dora.state.co.us/pls/efi/efi_p2_v2_demo.show_document?p_dms_document_id=53109; Public Utilities Commission of the State of Colorado, Record of Decision, Docket No. 05A-072E Nov. 14, 2005, p.11
[134] Roberts KCC rebuttal testimony p.35
[135] Roberts KCC rebuttal testimony p.35

[redacted]

[redacted]** In this testimony filed with the MPSC, Mr. Drabinski has made no such statement; however he has indicated that in his opinion the Iatan Unit 2 project would have cost $316 million less had it simply met the average cost per kW of the comparable plants. By that statement Mr. Drabinski is apparently suggesting that such a disallowance would be reasonable based on his analysis but his sources consist of primarily "press clippings".

Q: Does Pegasus-Global have any disagreements with the manner in which Mr. Drabinski conducted its power plant comparison study?

A: Yes. Pegasus-Global's examination of Mr. Drabinski's "Comparison Factor Disallowance" identified five basic flaws in Mr. Drabinski's comparative power project study:

- Mr. Drabinski has significantly modified the analysis filed with the Kansas Commission in July 2010. Those modifications are such that they call his entire

analytical methodology and opinions into question. As a result of those modifications Pegasus-Global does not believe that the plant comparison analysis provided by Mr. Drabinski provides the MPSC with any meaningful "*perspective*" insofar as the prudence of KCP&L's decisions and actions nor does it provide any reasonable basis for calculating a disallowance on the Iatan Unit 2 project.

- Mr. Drabinski apparently attempted to select only EPC delivery methodology plants for its comparison [Drabinski at page table at pages 163 – 164]. This implies that either there were no power projects which utilized a delivery methodology other than EPC executed during that period or that every plant that was delivered following a delivery methodology other than EPC was eliminated for selection into the comparative sample by Mr. Drabinski.
- Pegasus-Global seriously questions the sources of the comparative power project data cited by Mr. Drabinski. The data used in any comparative study must be reliable, timely and accurate if the comparative study is to be valid. Of the 15 plants selected by Mr. Drabinski for comparison purposes 12 cited a news article, a trade publication or a press release as the source from which the data was obtained [Drabinski table at pages 163 – 164]. Scores of plants described in press releases are never built, and of those that are, a great percentage never achieve schedule, output, or $/kW projection. The information and data contained is such sources is questionable and should not be acceptable as a reasonable basis from which to conduct a meaningful comparison between different power projects or from which to calculate a rate base disallowance.

- Drabinski used a very limited database of comparative information as a basis for his power project comparisons [Drabinski at page table at pages 163 – 164]. Pegasus-Global found the elements which Mr. Drabinski used as its basis of comparison to be both too limited and his conclusions overly broad.
- Mr. Drabinski did not provide any comparison to the individual scopes of work for each of the power projects he selected for his comparable sample. There is no differentiation in the Drabinski comparable list of green-field, stand-alone units and units with common elements or structures. Pegasus-Global found the lack of any detailed scope of work element made the power project comparison by Mr. Drabinski superficial and unreliable.
- Mr. Drabinski failed to normalize the contextual conditions within which the comparative power projects were executed. There are a huge number of contextual factors which can impact the cost of executing a mega-project due both the complexity of mega-projects and the extended time frame over which they are built. The difference of even one year in the schedule of two mega-projects can have a significant impact on cost and/or schedule within which those two mega-projects are executed. For example: using Mr. Drabinski's data on commodity price for the Power Wire and Cable commodity provides one example of the impact that even a single year's difference can have on the cost to execute a power mega-project [Drabinski Exhibit WPD-22A graphic at page 101]. According to Mr. Drabinski in June 2005 the base index of Power Wire and Cable was at approximately 115; by June 2006 the base index of Power Wire and Cable was at approximately 170, an increase of approximately 55 points on Mr.

Drabinski's scale. According to Mr. Drabinski's graphic, that one year represented the single biggest jump in the Power Wire and Cable index over the entire period between June 2006 and June 2009. The same graph shows the single biggest drop in the Power Wire and Cable commodity occurred between June 2008 and approximately March 2009, when the index dropped from approximately 185 to 135, a drop of approximately 50 points. Those variations, over a relatively short period of time when compared against the period it takes to execute a mega-project from initiation to completion, can have a significant impact on a projects total cost. For example, if the Iatan Unit 2 project procured the bulk of its Power Wire and Cable between June 2007 and June 2008, it would have paid significantly more for that commodity than a project which procured its Power Wire and Cable between June 2008 and June 2009. Pegasus-Global found that Mr. Drabinski did not normalize the project conditions in order to insure that contextual conditions were not a factor during the power project comparison nor did Mr. Drabinski identify the assumptions and basis used for the total plant costs identified on the table shown on pages 163 and 164 of the Drabinski testimony.

At page 161 of his testimony Mr. Drabinski warns "*that it is difficult to get timely and accurate information and therefore all numbers must be looked at with some reservation*" [Drabinski at page 161, lines 17 – 18]. Pegasus-Global completely agrees. **[redacted]**

Q: You stated that the plant comparison study submitted by Mr. Drabinski in the Kansas Commission Iatan Unit 2 prudence case was different from that submitted by Mr. Drabinski in his Direct Testimony in this Missouri Public Service Commission prudence case. Can you describe and explain those differences?

A: Yes. First, Mr. Drabinski has changed both cost data he used and, in two cases, the plants he cited. **Table 5-Differences in Drabinski Plant Comparison Studies** below compares the two analyses submitted by Mr. Drabinski:

TABLE 5
DIFFERENCES IN DRABINSKI PLANT COMPARISON STUDIES

Unit Name	KCC 6/15/2010[136]	MPSC 11/17/2010[137]	Difference
Nebraska City Unit 2	$924	$1,104	$180
Weston Power Plant, Unit 4	$1,474	$1,563	$89
Oak Grove - Unit 2	$1,125	$1,564	$439
Oak Grove - Unit 1	$1,125	$1,564	$439
JK Spruce	$1,333	$1,651	$318
Plum Point Energy	$1,955	$1,670	($285)
Comanche 3 Power Station Expansion	$1,733	$1,733	$0
Trimble County Unit 2	$1,528	$1,753	$225
Elm Road Generating Station Unit 2	$1,870	$1,870	$0
Elm Road Generating Station Unit 1	$1,870	$1,870	$0
Cliffside Unit 6	$2,182	$2,313	$131
Iatan 2	$2,339	$2,339	$0
Sandy Creek		$2,497	
Prairie State Energy Campus Unit 1	$2,375	$2,750	$375
Prairie State Energy Campus Unit 2	$2,375	$2,750	$375
Longview Power	$2,341	$2,857	$516
Walter Scott Unit 4	$1,519		
Average of all but Iatan 2 ($/kW)	$1,726	$1,967	$241

[136] Direct Testimony of Walter P. Drabinski before the Kansas Commission, Docket No. 10-KCPE-415-RTS, page 25, Table Comparison of Power Plant Costs

[137] Direct Testimony of Walter P. Drabinski on behalf of the Missouri Retailers Association, Case No. ER-2010-0355/0356, page 34, Table Adjusted Plant Costs, November 17, 2010

As shown in **Table 5-Differences in Drabinski Plant Comparison Studies**, in the five months between June 2010 and November 2010 the data used by Mr. Drabinski has changed significantly:

- One plant used in Mr. Drabinski's Kansas Commission study was dropped (Walter Scott Unit 4) and one plant was added (Sandy Creek);
- 10 of the fifteen comparative plants reported increased costs per kW hour over a range from $89 more per kW hour to $516 per kW hour;
- One of the fifteen comparative plants reported a decreased cost per kW hour of $285;
- Only three of the fifteen comparative plants (not counting the Iatan Unit 2 project) reported the same cost per kW hour;
- Ultimately, Mr. Drabinski adjusted the cost per kW hour average up by $241 from $1,726 reported in Mr. Drabinski's Kansas Commission testimony to $1,967 reported in Drabinski's MPSC testimony.

The ultimate result is Mr. Drabinski concluded in his testimony filed with the Kansas Commission that the Iatan Unit 2 project could have been completed for $541 million less than the current forecast total cost of the project. However, in his testimony filed with the MPSC he has concluded that Iatan Unit 2 project could be completed for $316 million less, a difference of $225 million. Pegasus-Global does not believe that any analysis in which the conclusion changes by over 41% in less than five months provides any Commission with "*perspective*" or any meaningful "*understanding of exactly how Iatan compares to its peers*" [Drabinski at page 161, lines 14 – 16]. The Kansas Commission, in its November 22, 2010 Order, responded to Mr. Drabinski's plant

comparisons noting that "*KCP&L has cited to Drabinski's own adverse admission where he noted: "there are many differences between plants that ultimately justify differences in costs" and "it is difficult to get timely and accurate information and therefore all numbers must be looked at with some reservation. This reservation in our view undercuts the impact of Drabinski's analysis on this point, particularly in terms of its accuracy. An equivocal reservation makes a "bounding calculation" meaningless; it places a ball park figure within a ball park. Further, such reservation together with its impact on the witness' persuasiveness supports our ultimate finding on this point, which is that this factor does not indicate imprudence on the part of KCP&L.*" [Kansas Commission Order, November 22, 2010, page 19] Since filing his testimony with the Kansas Commission Mr. Drabinski has made significant changes in his analysis and ultimate opinion, thereby confirming his caution that "*all numbers must be looked at with some reservation*" [Drabinski at page 161, lines 17 – 18] and adding further support to the Kansas Commission's decision to discount this analysis insofar as providing any indication of imprudence on the part of KCP&L.

Q: Does Pegasus-Global agree with Mr. Drabinski's conclusions that its comparative power project cost analysis is an appropriate basis for disallowance of costs incurred for the Iatan Unit 2 project?

A: No. For all of the reasons cited above Pegasus-Global does not find the comparative power project analysis conducted by Mr. Drabinski an appropriate basis for determination of KCP&L imprudence or quantification of any rate base disallowance. The Drabinski analysis is flawed, as it does not compare to other plant $/kW costs conducted by government analysis, university research, and nationally-known energy power plant

consulting firms. Pegasus-Global believes that to use the statement that some power projects cost more than other power projects as a basis to find a utility imprudent negates the requirement to develop a nexus of causation under which disallowances are directly linked to the actual decisions made and actions taken by a utility during the execution of the Iatan Project. The power project comparative analysis conducted by Mr. Drabinski does not directly establish that there was any imprudent action or decision by KCP&L which was responsible for the difference in cost between the Iatan Unit 2 project and any other project on Mr. Drabinski's table on page 163-164 of the Drabinski testimony. Pegasus-Global does not believe that the plant comparison study by Mr. Drabinski; 1) provides the MPSC with a reliable perspective relative to the Iatan Unit 2 project construction costs; and, 2) provides no information which in any way suggests that a link can be made between average $/kW costs and the prudence of any utility's decisions or actions.

Q: Please describe Pegasus-Global's findings and conclusions relative to Mr. Drabinski's testimony with respect to its Comparison with the Trimble County Unit 2 project?

A: Mr. Drabinski selected the Trimble County Unit 2 project as a direct comparison to the Iatan Unit 2 project noting that the two plants and the two projects were "*in the same region, with similar project time frames and schedules,*" but questioning how the two projects "*could have such different results*" [Drabinski at page 165, lines 3 – 5]. While Mr. Drabinski addressed the comparison in terms of "*the same region*" and "*with similar project time frames and schedules*", Mr. Drabinski said nothing about the projects having similar project risk profiles, similar scopes of work, similar physical limitations or

conditions, similar regulatory environments, etc. The risk profile of the average mega-project generally run from hundreds to thousands of separate elements and no two mega-project risk profiles are ever exactly the same; it is the totality of the project's risk profile as it evolves over the entire life of a mega-project which influences the course of that projects ultimate cost, schedule and quality.

That is precisely why hindsight should not be used in any evaluation of prudence. To conclude that, if KCP&L had employed an EPC delivery methodology, it would have been completed at the original budget or at a lower cost and it would have finished on the original schedule, ignores five years of actual project execution during which the risk profiles for both the Iatan Unit 2 project and the Trimble County Unit 2 project changed continuously. If the initial risk profiles of the Iatan Unit 2 project and the Trimble County Unit 2 project were placed side by side it is likely that they would have many risk elements in common and just as many risk elements that are different. Even those risk elements shared in common would likely have different quantitative evaluations as to likelihood of occurrence and total impact in the event of occurrence, which again would make direct comparison between the two projects problematic at best. However, even if the two initial risk profiles were exactly identical, from almost the first day of the execution of each of those projects the risk profiles would evolve along different paths for a multitude of reasons spanning from issues as simple to understand as actual bad weather to issues as difficult to understand as commodity negotiated price breaks set at certain quantity plateaus by different suppliers for the same materials. Further, prudence is judged from the decision-making process and whether the decision made at a point in time was reasonable and prudent based on what information was known or should have

been known at the time. Nowhere in the Drabinski testimony regarding the comparison of the Iatan Unit 2 project to the Trimble County Unit 2 project does Mr. Drabinski discuss the decision making process of the two utilities nor what information was available to the two utilities in context of the respective risk profiles in arriving at the decision made which then resulted in cost and schedule impact. Mr. Drabinski's "simple answer" is misleading at best from a prudence perspective without evidence of a direct nexus of causation between the decision to select a project delivery methodology and the ultimate cost of the plant.

Q: Did Pegasus-Global find flaws in Mr. Drabinski's Trimble County 2 comparison?

A: Yes. Pegasus-Global's examination of Mr. Drabinski's "Comparison to Trimble County 2" [Drabinski Direct Testimony at page 165] has identified the following flaws in Mr. Drabinski's analysis and conclusions in comparing the Iatan Unit 2 project with the Trimble County Unit 2 project:

- This same analysis was included in Mr. Drabinski's testimony before the Kansas Commission, but significant changes have occurred between that testimony in July 2010 and the testimony filed in this case. In the Kansas Commission case Mr. Drabinski cited the kW cost of the Trimble County 2 project as $1,528 [Drabinski Kansas Commission Direct Testimony at page 145, line 13]; in this MPSC case he has calculated the per kW cost of the Trimble County 2 project as $1,753 [Drabinski Missouri Direct Testimony at page 34 table]. This difference of $225 occurred within just five months of Mr. Drabinski's Kansas Commission testimony, which demonstrates the fact that simply attempting to compare costs is

neither reliable nor valid, especially when the source of the imprudence alleged is press clippings.

- The Trimble County 2 project cost did not include common systems. The Trimble County 1 project was built in the 1990s as part of a multi-unit development. This is important because all the common systems and structures needed for a second unit were built at that time. Per Mr. Drabinski's testimony exhibit WPD-7, the direct filed testimony of John Voyles, Vice President of Regulated Generation of LG&E Energy Services, regarding the Trimble County 2 project testified that, "*The Trimble Station was originally developed as a multi-unit site and much of the full plant infrastructure was installed at the time of construction of TC1. ...These systems were built to handle the operation of multiple units with little or no modifications. The Companies can take advantage of these existing systems and infrastructure that would otherwise need to be developed and constructed. This significantly reduces the construction costs over having to ...develop a generating station in its entirety at a "greenfield" site.*" [Drabinski Kansas Commission Direct Testimony Ex. WPD-7, Voyles testimony, KY PSC December 9, 2004, page 2, lines 11-22]. Mr. Drabinski did not report the full testimony of John Voyles and has given no indication that it has verified the Trimble County 2 project costs. Mr. Drabinski fails to include these common costs in the $/kW of the Trimble County 2 project in the comparison to the $/kW of the Iatan Unit 2 project, thus overstating the cost comparison between the two plants.

- Trimble County may in fact burn a different type of coal than that of the Iatan Unit 2 project or a blended coal. Specifically, as John Voyles also testified in his December 9, 2004 testimony to KY PSC, "*The design fuel selection was focused around utilization of Kentucky coals and other regional bituminous high sulfur coals... TC2 will use the same Number 2 fuel oil for startup as is presently used for TC1. The primary fuel will be high sulfur coal: however a new coal blending system will be added to the existing coal handling system during construction of TC2 that will provide capability for burning blends of coal...*" [Drabinski Kansas Commission Direct Testimony Ex. WPD-7, Voyles testimony, KY PSC, December 9, 2004, page 4, lines 20-21, page 9, lines 1-4]. Mr. Drabinski makes no indication as to whether the costs for a new coal blending system have been included in the $/kW cost nor any indication as to how the use of local Kentucky coal versus the transport of Powder River Basin coal would have on the cost of the Trimble County 2 project versus the cost of the Iatan Unit 2 project.
- The construction of the Trimble County 2 project involved non-union labor.[138] The use of non-union labor can substantially reduce the labor costs of constructing a power plant. In his direct testimony in this Missouri case Mr. Drabinski has included an "open shop adjustment" of $75 per kW hour, but does not identify where that factor originated or the bases by which the $75 per kW hour was established [Drabinski Missouri Direct Testimony at table page 36].

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[138] November 16, 2007 letter from Illinois Municipal Electric Agency and Indiana Municipal Power Agency to Chairman, Kentucky State Board on Electric Generation and Transmission Sitting Re: Joint Application of the Illinois Municipal Electric Agency and the Indiana Municipal Power Agency of Approval to be a 25% Partner in the Construction of a 750 Megawatt Addition to the Existing Trimble County Facility in Trimble County, Kentucky

- Mr. Drabinski has not accounted for potential claims in the Trimble County 2 project $/kW price. Records indicate that potential claims are pending which could affect the total price and in-service date of the plant.[139]

The above factors alone demonstrate that Mr. Drabinski's comparison of the Iatan Unit 2 project to the Trimble County 2 project is not a true comparison of similar plants.

Q: Did Mr. Drabinski make any recommendation relative to a disallowance on the Iatan Unit 2 project as a result of his comparison with the Trimble County Unit 2 project?

A: No. The only point which Mr. Drabinski makes after presenting the analysis is his conclusion as to why the Trimble County Unit 2 project cost less per kW hour; "*The simple answer is that TC2 was built under and EPC contract …*" [Drabinski Missouri Direct Testimony at page 166, line 5]. Earlier in this testimony Pegasus-Global addressed Mr. Drabinski's assertion that had KCP&L utilized an EPC delivery methodology it would have been done at a lower cost and with less risk.

Q: Did you examine Mr. Drabinski's Analysis of Budgets and Cost Reforecasts?

A: Yes. Mr. Drabinski's testimony given here is essentially the same as that he presented to the Kansas Commission. Ultimately Mr. Drabinski concluded that: "*When we total the amount we consider unreasonable in the initial analysis (2004 PDR to 2006 CBE) the amount identified above, we reach a total disallowance of $247 million*" [Drabinski Missouri Direct Testimony at page 204, lines 5 – 7]. This is exactly the same conclusion

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[139] IMEA Board of Director's Meeting, Minutes of February 19, 2009, page 2, IMEA Executive Board Meeting, Report of January 27, 2010, pages 2-3

Mr. Drabinski put forth in the Kansas Commission case [Drabinski Kansas Commission Direct Testimony at page 182, lines 5 – 7].

Q: Did Pegasus-Global opine on Mr. Drabinski's testimony as given for the Kansas Commission case relative to his analysis and conclusions relative to Budgets and Cost Reforecasts?

A: Yes. **[redacted]**

Q: **[redacted]

A: **[redacted]**

Q: **[redacted]

A: **[redacted]

[redacted]

- [redacted]

[redacted]** Pegasus-Global found that the 2004 PDR estimate was never identified as, or intended to represent a firm, fixed cost for execution of the Iatan Unit 2 project. In fact, B&McD had specifically noted that the cost estimate contained within the 2004 PDR was a "Feasibility Grade Capital Cost Estimate".[140] The American Association of Cost Engineers, International (AACEI) classifies estimates in relation to expected accuracy level using a 5 Classification Scale. After reviewing the estimate produced within the 2004 PDR Pegasus-Global determined that the estimate was a AACEI Class 4 estimate, used primarily for feasibility studies and generally based on between 1%

[140] PDR, August 2004, Section 1.1 page 1.2

and 15% design definition (engineering completed at the time), factored costs for equipment (average of vendor non-binding basic costs), and parametric modeling of other costs (statistical averages of labor, etc.).[141] As a Class 4 estimate the accepted accuracy range is from 30% low to 50% high. **[redacted]** Using the AACEI factors, Pegasus-Global found that the 2004 PDR estimate was not a detailed project estimate and was therefore is not an acceptable base estimate from which to calculate a total project cost increase for the Iatan Unit 2 project.

Q: In Pegasus-Global's opinion, which of the cost estimates represent the baseline budget estimate for the Iatan Unit 2 project?

A: The CBE issued in December 2006 represents the first baseline control budget or definitive estimate for the Iatan Unit 2 project. The CBE was based upon an estimate completed by KCP&L and B&McD, with assistance from other KCP&L advisors. Although Mr. Drabinski initiates his review with the 2004 PDR estimate, it should be noted the Staff identified the CBE as the definitive estimate from which all of its calculations flow [Missouri Staff Report at page 4, line 19 trough page 5, line 2].

Q: Why does Pegasus-Global believe the Control Budget Estimate of December 2006 is the first baseline budget for the Iatan Unit 2 project?

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[141] AACE International Recommended Practice No. 18R-97, *Cost Estimate Classification System, As Applied in Engineering, Procurement, and Construction for the Process Industries*, page 2, 2005

A: Pegasus-Global reviewed the December 2006 CBE estimate and determined that it conformed to the factors used in an AACEI Class 3 estimate. According to AACEI, Class 3 estimates typically form the initial Control Budget Estimate against which actual cost will be monitored. According to AACEI Class 3 estimates use more deterministic estimating methods rather than stochastic methods used in Class 4 and 5 estimates. Pegasus-Global found that the estimate performed in 2006 was based in part on actual locked in costs for two of the primary pieces of engineered equipment, the turbine generator and the boiler island. The boiler island was awarded on a fixed price contract approach and the turbine generator was on a lump sum price for provision of the turbine equipment. **[redacted]** In addition, once those two decisions were made, the work on the detailed project definition was progressed to the point where the total definition (engineering) had increased significantly from the project definition which existed prior to the 2004 PDR estimate. The 2006 CBE estimate included unit costs for commodities and estimates of commodity quantities based on preliminary engineer. After review, Pegasus-Global determined that the 2006 CBE estimate was an AACEI Class 3 estimate and therefore an acceptable estimate from which to establish the first Iatan Unit 2 project control budget. In addition, the November 22, 2010 Kansas Commission Order found that:

> *KCPL Management presents Control Budget Estimate to the Board of Directors for approval; ... This is the "definitive cost estimate."*
>
> *This testimony connecting the CBE to the definitive estimate was never successfully challenged by any party. By proving the CBE was "the definitive cost*

estimate" KCPL clearly established that per statute the CBE was also the "original cost estimate." [Kansas Commission Order at page 21]

Q: **[redacted]**

A: **[redacted]**

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Q: **[redacted]

[redacted]

[redacted]**

A: **[redacted]

[redacted]

[redacted]

[redacted]

[redacted]**

Q: **[redacted]

[redacted]**

A: **[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

HIGHLY CONFIDENTIAL

[redacted]**

Finally, Pegasus-Global's examination of the estimates and reforecasts in question reflect what would be expected for a mega-project the size and complexity of the Iatan Unit 2 project in that design is evolutionary practically throughout the entire life of the Iatan Project. Because of the extended execution time, mega-projects such as the Iatan Unit 2 project are also subjected to significant shifts in project and industry conditions, over which the owner may have little or no control. For that reason no one in the industry, including AACEI, the authority that promulgates the most widely referenced industry guidance on project cost estimating and control, speak of estimates in terms of ascending levels of accuracy as a project moves toward final completion. Pegasus-Global found nothing in the estimates or the reforecasts which would indicate that changes in the estimates were a result of imprudent decisions made or actions taken by KCP&L.

Q: Were there any significant differences between Mr. Drabinski's testimony in this Missouri Public Service Commission case and the Kansas Commission case relative to recommended disallowance based on his review of Budgets and Cost Reforecasts?

A: Yes, there were a few differences:

- As noted earlier in this testimony, Mr. Drabinski addressed the testimony of the Kansas Commission witness Mr. Meyer concerning estimating standards and

classifications [Drabinski Missouri Direct testimony at page 167, line 11 through page 169, line 19]. As this testimony involves the testimony given by another KCP&L witness Pegasus-Global will not address or respond to that addition to Mr. Drabinski's testimony.

At page 176, line 10 through page 177, line 13 of his Missouri Direct Testimony Mr. Drabinski addresses whether or not the 2004 PDR estimate was an "*accurate estimate*" [Drabinski Missouri Direct Testimony at page 176, line 16]. Estimating standards "accuracy" is not an absolute point of judgment, as Mr. Drabinski appears to be saying. They are called "estimates" because to a greater or lesser degree no estimate of cost for a construction project is ever exactly the same as the final cost of a construction project. Within the industry estimates are described in terms of the degree of detailed project definition (i.e. detailed engineering completed) upon which the estimate factors and assumptions are based. Obviously, the greater the degree of detail definition which is available the closer the estimate can come to forecasting the ultimate final cost of a project. In 2004 there was no detailed engineering complete, major decisions as to size, structure, engineered power equipment, etc. were all undefined, therefore the PDR was based on only the most general information. This can be seen in tracking how the project definition evolved over time (i.e. from 800 to 850 MW, the turbine decision, the boiler decision, etc.). The 2004 PDR may have been "accurate" given the degree of project definition set in 2004, however, that estimate had to evolve to match the changes in the degree of project definition finalized and set. One can only judge the "accuracy" of any estimate by judging it against the

project definition available at the time. Attempting to judge the accuracy of an estimate prepared on limited definition six years later against a completed project is essentially meaningless as the project definition will have grown by orders of magnitude.

- At page 178, line 13 of his Missouri Direct Testimony Mr. Drabinski states that "*The Turbine/Generator building bust may have accounted for almost $200 million of the increase.*" In his Direct Testimony before the Kansas Commission Mr. Drabinski did not describe this issue as a "bust"; rather he mentioned almost in passing that the resizing of the turbine building was a mistake by B&McD [Drabinski Kansas Commission Direct Testimony at page 156, line 16]. Later in that same testimony Mr. Drabinski stated that "*Some of this increase was due to increases in commodity costs between 2004 and 2006, some was due to B&McD's underestimation of the size of the turbine room needed for a super-critical unit*", however he did not assign a value of $200 million to that change [Drabinski Kansas Commission Direct Testimony at page 174, line 1 – 4]. Finally, at page 174, lines 13 – 16 of his Direct Testimony before the Kansas Commission Mr. Drabinski stated that the turbine size increase was included in an allowance "*for legitimate changes, such as the increased turbine building*". Ultimately Mr. Drabinski does not appear to claim a disallowance for the increase in size of the turbine building.

Other than those issued noted above, Mr. Drabinski's testimony on this disallowance factor is the same as that rendered in this testimony before the Kansas Commission relative to the Iatan Unit 2 project. Nothing provided by Mr. Drabinski in his testimony

concerning Budgets and Cost Reforecast in his Direct Testimony as filed on behalf of the Missouri Retailers Association changes or alters Pegasus-Global's opinion from that given in rebuttal to Mr. Drabinski's testimony in that Kansas Commission case.

Q: Did you examine Mr. Drabinski's Review of Initial Purchase Orders and Change Orders?

A: Yes. Pegasus-Global found that Mr. Drabinski's testimony relative to initial Purchase Orders and Change Orders is essentially the same as that given in his direct testimony before the Kansas Commission relative to the Iatan Unit 2 project in July 2010. Mr. Drabinski's ultimate finding, a recommended disallowance of $231 million, is exactly the same between his MPSC testimony [Drabinski Missouri Direct Testimony at page 213, lines 6 – 7] and his Kansas Commission testimony [Drabinski Kansas Commission Direct Testimony at page 187, lines 7 – 9].

Q: Did Pegasus-Global opine on Mr. Drabinski's testimony as given before the Kansas Commission case relative to his analysis and conclusions on Initial Purchase Orders and Change Orders?

A: Yes.

Q: Did Pegasus-Global review Drabinski's testimony with respect to its assertions relative to Purchase Orders and Change Orders?

A: **[redacted]**

**Q: **[redacted]

A: **[redacted]**

[redacted]

Q: **[redacted]**

[redacted]

A: **[redacted]**

[redacted]

Q: **[redacted]**

[redacted]

A: **[redacted]**

One of Pegasus-Global's primary findings was that Mr. Drabinski had not established a nexus of causation between any of the costs claimed under this disallowance category and any imprudent decision or action taken by KCP&L.

Q: Were there any significant differences between Mr. Drabinski's testimony in this Missouri Public Service Commission case and the Kansas Commission case relative to recommended disallowance based on his review of Initial Purchase Orders?

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A: Yes, there were a few differences. Between page 208, line 6 and page 211 line 5 of Mr. Drabinski's Missouri testimony he provides some alleged "rationale" for each of his disallowance amounts. Each of those "rationales" is briefly addressed below:

- At page 209, lines 1 - 5 of his Missouri Direct Testimony Mr. Drabinski addressed the Alstom disallowance by noting that the **[redacted]** disallowance was addressed "earlier in the report". Mr. Drabinski states that **[redacted]** [Drabinski Missouri Direct Testimony at page 209, lines 3 – 5]. The fact that the disallowance is a "conservative amount" or that costs for "many smaller contractors" increase does not produce a nexus of causation between those facts and any imprudent action or decision by KCP&L. Pegasus-Global found nothing within this new material which changes its original opinions as stated in its Rebuttal Testimony given before the Kansas Commission concerning this issue.
- At page 209, lines 6 – 14 of his Missouri Direct Testimony Mr. Drabinski addressed the Kiewit disallowances by stating that "*Kiewit cost increases are well documented. The turbine building bust drove much of these costs*" [Drabinski Missouri Direct Testimony at page 209, lines 7 – 8]. Pegasus-Global has addressed the turbine building issue earlier in this testimony and the fact that Mr. Drabinski found the costs increases "well documented" does not produce a nexus of causation between those documents and any imprudent action or decision by KCP&L. Pegasus-Global found nothing within this new material which changes

its original opinions as stated in its Rebuttal Testimony given before the Kansas Commission concerning this issue.

- At page 209, line lines 15 – 18 of his Missouri Direct Testimony Mr. Drabinski stated that he had "*analyzed Purchase Orders and Change Orders, identifying seven we believe should not be in the approved cost*" for Kissick. The total amount of disallowance is cited as ** [redacted] ** That was the full extent of the rationale for the Kissick disallowance, and that statement fails to establish a nexus of causation between those seven Change Orders and any imprudent decision or action by KCP&L. Pegasus-Global found nothing within this new material which changes its original opinions as stated in its Rebuttal Testimony given before the Kansas Commission concerning this issue.
- At page 210, lines 2 – 7 of his Missouri Direct Testimony Mr. Drabinski stated that **" [redacted] **

[Drabinski Missouri Direct Testimony at page 210, lines 5 – 7]. That was the full extent of the rationale for the B&McD disallowance, and that statement fails to establish a nexus of causation between those the contract value change and any imprudent decision or action by KCP&L. Pegasus-Global found nothing within this new material which changes its original opinions as stated in its Rebuttal Testimony given before the Kansas Commission (as reproduced above) concerning this issue.

- At page 210, lines 8 through 13 of his Missouri Direct Testimony Mr. Drabinski stated that while "*There is no way to discretely determine where ... costs were*

expended" [Drabinski Missouri Direct Testimony at page 210, lines 12 – 13] Aerotek and Nextsource 50% of those costs should be disallowed as a result of their having to "*manage the out of control level of staffing, overtime and other problems*" [Drabinski Missouri Direct Testimony at page 210, lines 11- 12]. That was the full extent of the rationale for the Aerotek and Nextsource disallowance, and that statement fails to establish a nexus of causation between those changes and any imprudent decision or action by KCP&L. Pegasus-Global found nothing within this new material which changes its original opinions as stated in its Rebuttal Testimony given before the Kansas Commission concerning this issue.

- At page 210, lines 14 through 18 of his Missouri Direct Testimony Mr. Drabinski stated that professional support should be reduced by 50% because "*KCP&L realized, in early 2006, that the project was in trouble and many imprudent costs were likely to be incurred*" so it "*began expanding expenditures for professional support*" [Drabinski Missouri Direct Testimony at page 210, lines 11- 12]. In effect Mr. Drabinski has taken the position that not only was KCP&L imprudent during the execution of the Iatan Project, it fully intended to make imprudent decisions and take imprudent actions so it hired other firms for some unknown reason. That was the full extent of the rationale for the professional support disallowance, and that statement fails to establish a nexus of causation between those changes and any imprudent decision or action by KCP&L. Pegasus-Global found nothing within this new material which changes its original opinions as stated in its Rebuttal Testimony given before the Kansas Commission concerning this issue.

- At page 211, lines 2 through 5 of his Missouri Direct Testimony Mr. Drabinski stated that "*hundreds of miscellaneous Purchase Orders and Change Orders*" had been reviewed "*for evidence that they included unreasonable costs.*" Mr. Drabinski recommended a disallowance of $44.98 million based on that review. That was the full extent of the rationale for the professional support disallowance, and that statement fails to establish a nexus of causation between those Purchase Orders and Change Orders and any imprudent decision or action by KCP&L. Pegasus-Global found nothing within this new material which changes its original opinions as stated in its Rebuttal Testimony given before the Kansas Commission concerning this issue.

Ultimately, Pegasus-Global found nothing within Mr. Drabinski's Missouri Direct Testimony that would change the opinions it rendered in rebuttal to Mr. Drabinski in the Kansas Commission case.

Q: Does Mr. Drabinski's addition of alleged "rationales" add anything that corrected the failure or unreliability of his testimony relative to the Iatan Project and KCP&L before the Kansas Commission or the Missouri Commission?

A: No.

Q: Were any of Mr. Drabinski's findings or opinions relative to the Iatan Project and KCP&L accepted by the Kansas Commission?

A: No.

Q: Did you review all the Missouri Staff report and the testimony of the Missouri Staff and Mr. Drabinski in this case?

A: Yes.

Q: Is there anything in that testimony that would cause you and Pegasus-Global to change your mind and recommend additional disallowances.

A: No, nothing at all. Everything raised by the Staff and Mr. Drabinski was already considered by Pegasus-Global as part of its comprehensive review.

Q: What is your overall assessment of KCP&L's management of the Iatan Project?

A: The Iatan Project is a mega-project, costing over $1 billion and taking five or more years to complete. Mega-projects are complex technically, and managerially, and things go wrong, or not as planned. As Pegasus-Global would expect, things went wrong and not as planned on the Iatan Project, but this is not evidence of lack of prudence. To the contrary, Pegasus-Global believes that KCP&L was prudent, that they had a solid plan, developed the necessary organization staff and controls, made good decisions from practical and available options, managed the contractors and the processes, and, perhaps most importantly, measured their performance and made changes when appropriate. With the two exceptions already noted earlier in my testimony, this was a prudently managed project.

Q: Does that conclude your testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

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

AFFIDAVIT OF KRIS R. NIELSEN

STATE OF WASHINGTON)
) **ss**
COUNTY OF KITTITAS)

Kris R. Nielsen, being first duly sworn on his oath, states:

1. My name is Kris R. Nielsen. I am Chairman and President for the firm of Pegasus-Global Holdings, Inc. Kansas City Power & Light Company engaged the services of Pegasus-Global Holdings, Inc. to provide certain services in connection with the Iatan construction projects.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Kansas City Power & Light Company consisting of three hundred thirty two (332) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Kris R. Nielsen

Subscribed and sworn before me this 8th day of December, 2010.

Notary Public

My commission expires: July 1, 2012