an e·on company

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October 27, 2009

RE: ***AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF KENTUCKY UTILTIES COMPANY FROM NOVEMBER 1, 2008 THROUGH APRIL 30, 2009 - CASE NO. 2009-00287***

Dear Mr. DeRouen:

Enclosed please find an original and five (5) copies of the Response of Kentucky Utilities Company to Information Requested during the Hearing on October 13, 2009.

Also enclosed are an original and ten (10) copies of a Petition for Confidential Protection regarding certain information provided in response to Question No. 2.

Please contact me if you have any questions concerning this filing.

Sincerely,

Robert M. Conroy

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF KENTUCKY UTILITIES COMPANY FROM NOVEMBER 1, 2008 THROUGH APRIL 30, 2009	))))	CASE NO. 2009-00287

RESPONSE OF KENTUCKY UTILITIES COMPANY TO INFORMATION REQUESTED IN HEARING DATED OCTOBER 13, 2009

FILED: October 27, 2009

VERIFICATION

STATE OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Mike Dotson**, being duly sworn, deposes and says that he is the Manager, LG&E and KU Fuels, for E.ON U.S. Services Inc., that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Mike Dotson

Mike Dotson

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 20th day of October, 2009.

Victoria B. Harper (SEAL)
Notary Public

My Commission Expires:
Sept 20, 2010

KENTUCKY UTILITIES COMPANY

Response to Information Requested in Hearing Dated October 13, 2009

Case No. 2009-00287

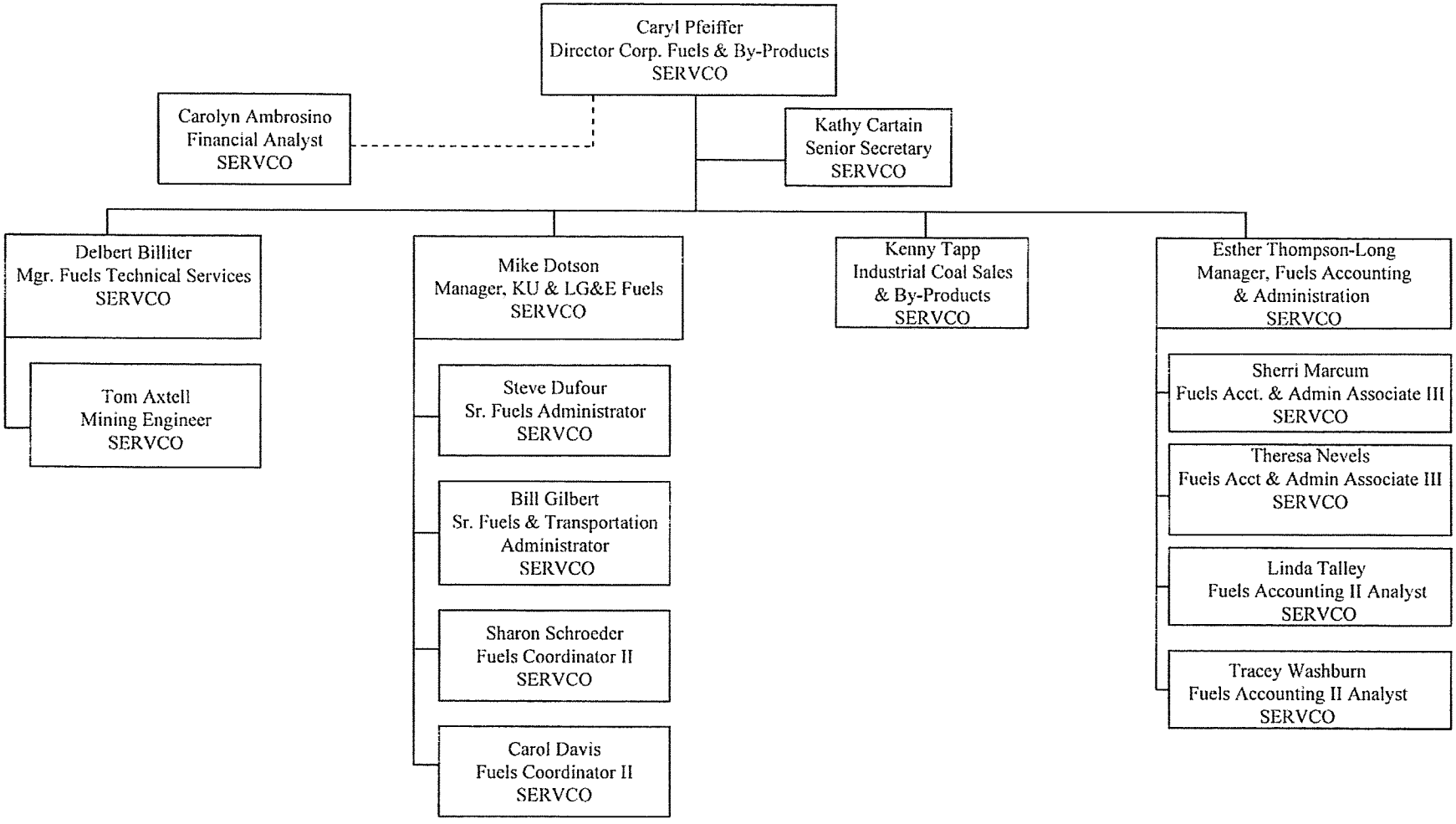
Question No. 1

Witness: Mike Dotson

Q-1. Refer to Information Requested in Appendix of Commission's Order Dated August 20, 2009, Question No. 17. Please provide an update to the response detailing the changes to the organizational structure and personnel of the departments or divisions that are responsible for KU's fuel procurement activities post-WKE Unwind.

A-1. Please see the attached sheet.

Corporate Fuels and By-Products
July, 2009



Attachment to Response to Question No. 1
Page 1 of 1
Dotson

KENTUCKY UTILITIES COMPANY

Response to Information Requested in Hearing Dated October 13, 2009

Case No. 2009-00287

Question No. 2

Witness: Counsel

Q-1. Refer to KU's Response to Question No. 5 of KU's Response to Information Requested in Appendix of the Commission's Order dated August 20, 2009. Please provide the Settlement Agreement and Final Court Orders for the litigation concerning the KU and Owensboro Municipal Utilities contract dispute.

A-1. Please see the attached documents related to the settlement with OMU and the court orders in the litigation between KU and OMU. Portions of the Settlement Agreement are redacted because the Agreement contains confidential and proprietary information. A copy of the Agreement is being filed with the Commission under seal pursuant to a Petition for Confidential Treatment.

Response to Question No. 2
Settlement Agreement
Witness: Counsel

SETTLEMENT AGREEMENT

This Settlement Agreement ("Agreement") is entered into this 11th day of May, 2009 ("Effective Date"), by and between the City of Owensboro, Kentucky, a Kentucky city of the second class and a municipal corporation ("City"); the City Utility Commission of the City of Owensboro, Kentucky, a commission established pursuant to KRS 96.530 and the ordinances of the City for the purpose of managing, operating and controlling the electric power and water utilities of City ("Utility Commission"); and Kentucky Utilities Company, a corporation organized under the laws of the Commonwealth of Kentucky ("KU"). City, Utility Commission, and KU are sometimes referred to herein individually as a "Party" or collectively as the "Parties."

WITNESSETH:

WHEREAS, City owns and Utility Commission operates an electric energy generating, transmission and distribution system in Owensboro, Kentucky, which includes the Elmer Smith Generating Station; and

WHEREAS, KU is engaged in the business of generating, transmitting, and distributing electric energy primarily in Kentucky; and

WHEREAS, the City, the Utility Commission and KU are parties to a certain contract dated September 30, 1960 as amended, supplemented and modified from time to time ("Contract"); and

WHEREAS, the Parties are presently involved in a lawsuit, involving claims and counterclaims, pending before the United States District Court for the Western District of Kentucky, Owensboro Division ("Court") and assigned Case No. 4:04-CV-87(M) ("Litigation"); and

WHEREAS, the Parties desire to bring a conclusive and final end to the Litigation by mutual agreement.

NOW THEREFORE, in consideration of the mutual representations and covenants set forth in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties, each intending to be legally bound, hereby agree as follows:

(The remainder of the Settlement Agreement is redacted and filed with the Commission under seal pursuant to a Petition for Confidential Treatment.)

Response to Question No. 2
Court Order – Findings of Fact and Conclusions of Law (2/19/09)
Witness: Counsel

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
OWENSBORO DIVISION

CIVIL ACTION NO. 4:04-CV-87-M

CITY OF OWENSBORO and CITY UTILITY COMMISSION OF THE CITY OF OWENSBORO, KENTUCKY, a/k/a OWENSBORO MUNICIPAL UTILITIES — **PLAINTIFFS**

V.

KENTUCKY UTILITIES COMPANY — **DEFENDANT**

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This litigation arises out of a longstanding wholesale electricity supply contract between the City of Owensboro, Owensboro Municipal Utilities, and Kentucky Utilities Company. In its amended counterclaim, Kentucky Utilities Company alleges that the City of Owensboro and Owensboro Municipal Utilities breached the contract by failing to operate and maintain the Elmer Smith Generating Station ("ESGS") in a good and workmanlike manner. (DN 217, Am. Counterclaim. ¶ 32.) The Court conducted a bench trial on this counterclaim between October 21, 2008 and November 7, 2008. The parties have filed proposed findings of fact and conclusions of law [DN 508, DN 518]. After fully considering the evidence and the arguments of counsel, the Court, pursuant to Federal Rule of Civil Procedure 52(a), makes the following findings of fact and conclusions of law.

I. BACKGROUND

A. The Parties

Owensboro Municipal Utilities ("OMU") is a municipally-owned, non-regulated utility located in Owensboro, Kentucky. (DX 598.) Kentucky Utilities Company ("KU"), which is owned by E.ON U.S. ("EON"), is an investor-owned utility regulated by the Kentucky Public Service Commission and FERC. (TR Vol. I-A: Lonnie Bellar at 42, 44.) Plaintiffs, the City of Owensboro (the "City") and OMU, and Defendant, KU, initially entered into a contract on September 30, 1960 to construct an electric generating facility that would provide both parties with resources for electrical power (the "Contract"). (DX 598.) The Contract, which sets forth the rights and duties of the parties regarding ESGS, has been amended several times with the most recent amendment taking place in 1998.[1] ESGS, a generating station owned by OMU, is comprised of two power generating units with a combined capacity exceeding 400 megawatts ("MW"). The first unit ("Unit 1") has a capacity of 165 MW and the second unit ("Unit 2") has a capacity of approximately 250 MW. This combined capacity of over 400 MW significantly exceeds the generation necessary to meet OMU's power requirements. (TR Vol. I-A: Bellar at 55.)

B. The Terms of the Contract

Under Article III, Section 2 of the Contract, OMU has the right to take such part of the capacity and electric energy output from ESGS as it needs to serve the City of

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1 Unless otherwise indicated, references to "the Contract" are to the 1960 Contract as amended from time-to-time to its most recent revision.

Owensboro, its inhabitants and other ultimate consumers in OMU's service area ("native load"). Any surplus capacity and electric energy then remaining shall be available for KU to purchase. (Contract, Article III, § 2.) In other words, the power generated by ESGS is first used to meet the needs of the City; KU may then purchase any available excess or surplus energy to meet its own needs. (Id.) The Contract also envisioned the possibility that from time to time, OMU would require energy not produced by ESGS. The rights and duties of the parties regarding this "back-up energy" are set forth in Article VI of the Contract. The Contract provides that, in the event of an interruption in service from ESGS, KU will provide OMU with back-up energy. (Contract, Art. VI, § 1; TR Vol. VII-A: Stan Conn at 86.)

The parties share costs under the Contract, including capacity costs and energy costs. (Contract, Art. III.) OMU's and KU's share of capacity costs vary from month to month based upon the proportionate amount of generating capacity allocated for use by each party. (Id. at Art. III, § 3(a).) The capability of ESGS (the overall amount of energy that ESGS can produce) is tested by OMU on a biannual basis. (TR Vol. VIII: Conn at 179-180.) Each month, OMU's portion of capacity costs is determined by taking the highest amount of energy used by OMU to serve its native load in a one hour period over the prior 12 months (peak demand) and adding a contractual reserve margin factor/adder of 1.15% to 1.20% depending on OMU's availability. (Id. at Art. III, § 3(d)(5); 1998 Amendment.) The proportion of this energy allocated to OMU in relation ESGS's tested capability is the proportion of capacity costs that OMU must pay each month. (Id.) The remaining proportion of capacity costs is allocated to KU even if it receives no energy from ESGS. (Id.

at Art. III, § 3(d)(6); TR Vol. I-A: Bellar at 66.) Historically, KU has paid over half of the capacity costs of ESGS. (TR Vol. I-A: Bellar at 118-19.) In addition to paying their portion of capacity costs, KU and OMU also pay for energy costs. Unlike capacity costs, however, the costs of energy are divided between KU and OMU based upon the actual amount of energy taken from ESGS by each party. (Id. at Art. III, § 3(b); TR Vol. I-A: Bellar: 67-68.) Historically, KU has taken over 60 percent of the energy generated at ESGS. (TR Vol. I-A: Bellar at 119.)

Article III of the Contract governs the rights and duties of the parties in relation to the operation and maintenance of ESGS. Article III of the Contract provides that "[t]he Commission [OMU] will operate and maintain Station 2 [ESGS] and associated substation facilities in a good and workmanlike manner." (Contract, Art. III, § 1.) The Contract further provides that "[a]ll repairs shall be made with materials and workmanship of a standard at least equal to that which prevailed in the construction of Station 2." (Id.) Under the Contract, KU is granted the right to inspect ESGS at all reasonable times, and to give recommendations to OMU with respect to the care, maintenance and operation of ESGS. OMU agreed to comply with all reasonable recommendations or requests. (Id. at Art. III, § 4.) The Contract also requires that OMU maintain records of its operation and maintenance of ESGS; KU's authorized representatives have the right to inspect these records at all reasonable times. (Id. at Art. III, § 5.) OMU also provides KU monthly reports regarding the operation of ESGS including a list of what OMU believes to be the cause of any outages and derates that occurred at ESGS during each month. (Id.). The cause of these outages and

derates are provided to KU in the form of cause codes-a standardized method of reporting outages and derates as developed by the Generating Availability Data System ("GADS"). (TR Vol. III-B: James Hawks at 18-21.) Because OMU is in contact with KU dispatch (Contract, Art. V, § 5), this same information is also reported to KU as outages and derates occur (TR Vol. I-B: John Malloy at 73).

C. Termination of Contract

In the late 1990s, deregulation of the power industry occurred permitting utilities to sell excess power in the open market. Realizing that it lacked access to the open market because of its obligations under the Contract, OMU initiated efforts to renegotiate the terms of the Contract. (TR Vol. I-A: Bellar, 68-72, 76-77; DX 407; TR Vol. VII-A: Conn at 85.) After nearly five years, negotiations between OMU and KU broke down in 2004. (TR Vol. I-A: Bellar at 107; TR Vol. VII-A: Conn at 97-98; DX 349.) OMU filed this lawsuit in May 2004 seeking a declaration of its rights under the Contract. In May of 2006, OMU provided notice to KU of its intent to terminate the Contract effective May 2010. (DX 670.) In January of 2007, KU filed this amended counterclaim for breach of contract, alleging in part that OMU failed to operate and maintain ESGS in a good and workmanlike manner.

II. LEGAL STANDARD

KU asserts that OMU breached the Contract by failing to operate and maintain ESGS in a good and workmanlike manner. To recover for breach of contract under Kentucky law, a plaintiff must "show the existence and the breach of a contractually imposed duty." Lenning v. Commercial Union Ins. Co., 260 F.3d 574, 581 (6th Cir. 2001); Strong v.

Louisville & Nashville R. Co., 43 S.W.2d 11, 13 (Ky. 1931). If a plaintiff can show the existence and breach of a contractually imposed duty, the plaintiff is entitled to recover those damages that are the natural, direct and proximate cause of the breach. Hogg v. Edley, 32 S.W.2d 744, 745 (Ky. 1930) ("'The general rule for measuring damages flowing from a violated contract is that the violator "'is liable to the person injured in compensatory damages for all the natural and direct or proximate consequences of his wrongful act or omission.'" Id. (citation omitted)); Staves Mfg. Corp. v. Robertson, 128 S.W.2d 745 (Ky. 1939). The proper measure of damages "is that sum which will put the injured party into the same position he would have been had the contract been performed." Olive Hill Limestone Co. v. Gay-Coleman Constr. Co., 51 S.W.2d 465, 467-468 (Ky. 1932). A plaintiff can recover damages even though such damages have not been proven to a mathematical certainty so long as "the evidence permits [the claimed damages] to be established with reasonable certainty.'" Pauline's Chicken Villa, Inc. v. KFC Corp., 701 S.W.2d 399, 401 (Ky. 1985) (quoting Restatement (Second) Contracts, § 352)). KU has the burden of proving the elements for breach of contract by a preponderance of the evidence.

III. BREACH OF CONTRACT CLAIM

It is undisputed that a valid contract exists between OMU and KU. Although the Contract does not guarantee that OMU will supply a specific amount of energy to KU, it does provide that "[t]he Commission [OMU] will operate and maintain Station 2 [ESGS] and associated substation facilities in a good and workmanlike manner." (Id., Art. III, § 1.) The parties agree that the phrase "good and workmanlike" means:

> the degree of skill, efficiency, and knowledge that is possessed by those of ordinary skill, competency, and standing in the particular trade or business for which the person is employed, and where the contract does not provide for a higher degree of skill, only ordinary skill and the degree of skill adequate to the performance of the undertaking is required. No breach will be found if the contractor performed the work in accordance with industry standards.

17A Am. Jur.2d Contracts § 612 (2008) (citations omitted).

KU maintains that it relies upon the Contract to fulfill its native load obligations to its customers and to keep its generation competitively priced. (TR Vol. I-A: Bellar at 47, 50, 51; TR Vol. II: Charles Martin at 11-12.) As a low cost, base load unit, ESGS is dispatched to serve load nearly 100% of the time. (TR Vol. II: Martin at 31, 92.) KU argues that if ESGS was operated and maintained according to industry standards, it could have acquired more low-cost energy from ESGS under the Contract than ESGS was able to supply. Instead, KU was forced to go off-system and acquire energy from more expensive resources to serve KU's native load. Additionally, KU argues that it had to supply OMU with backup power from KU's assets resulting in lost profit from the sale of KU's system power on the market. KU maintains that it has proven by a preponderance of the evidence that OMU breached the Contract by failing to operate and maintain ESGS in a good and workmanlike manner. In support of its breach of contract claim, KU relies on (1) performance statistics of ESGS; (2) operation and maintenance practices at ESGS; and (3) specific instances of outages at ESGS. Below the Court summarizes the evidence KU presented at trial related to these three categories and OMU's evidence presented in response. The Court will then set forth its findings of fact and conclusions.

A. Performance Statistics

1. KU's Evidence

KU maintains that OMU's equivalent forced outage rate ("EFOR") and equivalent availability factor ("EAF") performance statistics reflect a failure by OMU to operate and maintain ESGS in a good and workmanlike manner. EFOR measures the percentage of equivalent hours that a generating unit, because of unplanned circumstances, is unable to generate expected energy. ESGS had a combined EFOR rate of 4.9% in 1997, 7.9% in 1998, and 5.5% in 1999. In 2000, ESGS's EFOR began to increase. ESGS had an EFOR of 11.7% in 2000, 11.0% in 2001, 18.2% in 2002, 16% in 2003, 11.1% in 2004, 21.56% in 2005, 17.8% in 2006, and 28.3% in the first quarter of 2007. (TR Vol. VII-A; Conn at 91-92; DX 505, DX 744, DN 680, DN 681.) Similarly, ESGS's EAF, which measures the amount of time a generating unit is able to produce energy, declined during that same time period. ESGS had a combined EAF of 88.9% in 1997, 85.6% in 1998, 83.9% in 1999, 81.8% in 2000, and 84.4% in 2001. In 2002, however, ESGS had a combined EAF of 67.8% in 2002, 79.3% in 2003, 79.3% in 2004, 71.9% in 2005, 72.5% in 2006, and 67.1% through the first three months of 2007. (DX 666 at 21.)

a. Robert Shepard

In support of its position, KU presented the expert testimony of Robert Shepard.[2] Mr.

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2 Prior to trial, OMU moved to exclude the testimony and expert reports of Robert Shepard and Bill Abington. Similarly, KU moved to exclude the testimony and expert report of Mark McClernon. After reviewing the trial testimony and expert reports, the Court finds that the testimony of these witnesses satisfies the requirements of Rule 702 and Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).

Shepard received a B.S. in Mechanical Engineering in 1987 from Mississippi State University, is a licensed professional engineer, and has had other professional training concerning power plant operation, maintenance and repairs. He has worked in the power generation industry for approximately 20 years and has extensive experience in the areas of plant operation and maintenance. (TR Vol. IV-A: Robert Shepard at 7-8.) Mr. Shepard testified that "reliability" and "availability" are strong indicators of how well a power plant is being operated and maintained, and consideration of EFOR, EAF and unit start statistics to evaluate plant performance is consistent with industry practice. (TR Vol. IV-B: Shepard at 18.) Mr. Shepard reviewed the EFOR, EAF, and the number of unit starts for ESGS Units 1 and 2.

Based on his experience working in the field, Mr. Shepard opined that, over the time period from 2001 until March 2007, Unit 1, if operated and maintained according to industry standards, should have achieved an EFOR of 8-9%. Instead, ESGS achieved an average EFOR during that time period of 14.7%. (TR Vol. IV-A: Shepard at 38-39, 41-42, 45; TR Vol. IV-B: Shepard at 130; DX 666 at 15, 18-19; DX 749; DX 752.) Over the same time period, Mr. Shepard opined that Unit 2, if operated and maintained according to industry standards, should have achieved an EFOR of 5-6%. Unit 2's average EFOR during that time period, however, was 17.3%. (TR Vol. IV-A: Shepard at 45, 52-53; TR Vol. IV-B: Shepard at 6, 130; DX 666 at 16-19; DX 750; DX 753.) As with EFOR, Mr. Shepard opined that ESGS's EAF statistic did not reflect a plant operated and maintained according to industry standards. He opined that Units 1 and 2 should have achieved a six-year EAF average of

83.6%, but only achieved an EAF of 79.5% and 73.6% respectively. (DX 666 at 15, 20-21; DX 753.) Mr. Shepard also indicated that the number of unit starts for Units 1 and 2 was more than double what he would expect out of a plant operated and maintained in a good and workmanlike manner. (TR Vol. IV-B: Shepard at 14-15; DX 666 at 14, 22; DX 755.)

Based on this analysis of ESGS's performance statistics, Mr. Shepard concluded that ESGS was not operated and maintained in a good and workmanlike manner.

b. Solomon & Associates

KU asserts that Mr. Shepard's opinions are supported by a benchmarking study conducted by Solomon & Associates ("Solomon"). In September 2006, OMU secured funding to retain Solomon, an independent third party, to perform a reliability benchmarking study by analyzing OMU GADS data over a five year period. (DX 495; Anthony Carrino 4/7/08 Dep. at 246.) OMU pursued this benchmarking study to "gain additional knowledge regarding the reliability performance of the generating units at [ESGS], to identify potential improvement opportunities, and to use the analysis results to better manage its business planning for current and future activities." (DX 551 at 1-1.) Furthermore, OMU believed that the benchmarking study could be used as a tool to help draft future budgets, to make capital and maintenance decisions, and to arrange power sales. (TR Vol. VII-B: Conn at 11-12; DX 554.) The benchmarking study was performed by Anthony Carrino, Senior Consultant for Solomon, by comparing ESGS performance statistics with the performance statistics of similar units, also known as a peer group, maintained in a proprietary Solomon database. (Carrino 4/7/08 Dep. at 5, 17, 18.)

On May 22, 2007, Solomon released a report discussing the findings from the benchmarking study (the "Solomon Report"). Solomon found that ESGS had "experienced relatively high unavailability over the 5-year period, 2002-06" based on comparisons to similar peer groups for each ESGS unit (DX 551 at pp. iii, 3-1.) The Solomon Report also noted that the Equivalent Unavailability Factor (the converse of the EAF) for ESGS exceeded the average for the relevant peer group. Furthermore, the Solomon Report indicated that the number of "starts" for ESGS approached twice that of their comparison peer group. From these observations, Solomon determined that "the relative differences between [ESGS] units and their peers are not coming from planned outages but rather from unplanned (including forced and maintenance) outages." (Id. at 3-1.)

The Solomon Report concluded that:

> First, the percentage [of outages] is titled higher toward forced outages (and unplanned outages) for [ESGS] than its peers, at nearly 60% for [ESGS] vs. __ for a comparable peer group. This suggests that the type of events occurring at [ESGS] require more immediate attention (are of a nature where action is necessary to protect equipment, environment, and/or personnel in the short-term), that root cause analysis and subsequent action is not taken in a timely manner, or that maintenance outages are not scheduled to group several pending repair times together, on a deferred basis.

(Id. at pp. iii, 3-3.) The Solomon Report also concluded that:

> Second, there are clear indications of shifting and newly emerging reliability problem areas over the 5-year data review. Evidence shows that maintenance activities and betterment projects have positively affected targeted improvements in certain areas. Once the maintenance and betterment projects were executed, the number of events in these cause code areas showed significant improvement for the units. This should reinforce the idea that root cause analysis, targeted budget allocations, and betterment project execution can resolve high-impact reliability problems.

(Id. at pp. iii.)

The Solomon Report noted that "OMU management has taken a proactive step to address potential areas of opportunity with respect to enhancing reliability performance of the [ESGS] generating assets by participating in the current benchmarking study and by requesting this 5-year GADS reliability events data analysis." (Id. at 3-5.)

c. Testimony of KU's Employees

On various occasions, KU voiced its displeasure over ESGS's performance statistics with OMU. Particularly, KU did not believe that the performance of ESGS was meeting KU's expectations under the Contract. John Malloy, Director of Generation Services at EON, testified that when he began his position with Generation Services in 2003, he noticed that OMU was not meeting any standard objective performance criteria. (TR Vol. I-B: Malloy at 46.) Mr. Malloy testified he had ongoing discussions with Bob Hunzinger, OMU's former General Manager, and Stan Conn, OMU's former Director of Power Production and present General Manager, over performance issues, including causes of forced outages and recovery time from the same. (Id. at 47-48; DX 352 (e-mail over length of time to repair pump).) In 2005, Mr. Malloy had KU's Generation Planning group create a PowerPoint presentation to identify these concerns. In August 2005, John Voyles, Vice President of Generation Services for EON, presented these concerns to Bob Hunzinger. (TR Vol. III-A: John Voyles at 19-29.) The PowerPoint presentation identified that OMU ranked in the bottom quartile against its peers in performance of its units, when measured by EFOR and EAF, for the years 2001-2003. During the meeting, Mr. Voyles suggested a process

whereby KU would send engineers to assist and make suggestions to OMU, if any were warranted. (TR Vol. III-A: Voyles at 29; DX 456.) Mr. Malloy testified that OMU's performance did not improve as a result of the presentation. (TR Vol. I-B: Malloy at 65, 66.) KU also pointed to evidence which it believes shows that OMU knew its performance statistics were unacceptable. For example, KU presented a March 2007 e-mail from Mr. Hunzinger to Mr. Conn in which Mr. Hunzinger candidly recognized that "[w]e are currently in the bottom quartile, and likely the bottom 10% unit comparison for the past few years." (DX 765.)

KU contends that the discrepancy between ESGS performance statistics and the performance of industry peers indicates inadequate operation and maintenance practices by OMU.

2. OMU's Evidence

OMU maintains that KU has not proven by a preponderance of the evidence that OMU failed to operate and maintain ESGS in a good and workmanlike manner. OMU argues that performance statistics, such as EFOR, are not a reliable measure of whether a utility is operated and maintained in accordance with industry standards. In support of its position, OMU presented the rebuttal testimony of Professor Mark McClernon to address the allegations asserted by KU. Professor Mark McClernon is the Chair of the Civil and Mechanical Engineering Department at the University of Missouri, Kansas City. (TR Vol. XI-A: Mark McClernon at 4-5.) In his position at the University of Missouri, Professor McClernon teaches classes in power plant design, advanced thermodynamics, and graduate

level classes in statistics. (Id. at 5, 10.) He was previously employed as an engineer at Black & Veatch, one of the largest power plant engineering firms in the United States. (Id. at 6-13.) He is an expert in reliability engineering and, in particular, reliability engineering as applied to coal fired-power plants. (Id. at 6-13, 16-21.)

Professor McClernon criticized Mr. Shepard's use of EFOR statistics to determine whether ESGS was operated in a good and workmanlike manner. Professor McClernon testified that EFOR is not a goal, but one component of an engineering systems analysis. (TR Vol. XI-A: McClernon at 35-36.) According to Professor McClernon, EFOR statistics are not intended to measure and do not measure the quality of utility operation and maintenance practices. (PX 48 at 13.) Professor McClernon opined that the failure of a piece of equipment can occur despite even the best of operation and maintenance practices. (Id.) As stated by Professor McClernon:

> [b]y itself, an EFOR statistic does not provide information as to the root cause or causes of the particular outages at issue, let alone constitute proof of poor maintenance and operation practices. I am unfamiliar with anyone in the industry using EFOR statistics (alone) as a measure of operation and maintenance practices. An EFOR statistic may be an indicator to a utility or engineer to inquire into the root causes of a plant's outages and to assess utility practices. But an EFOR statistic does not tell you why a particular plant experienced forced outages. Mr. Shepard fails to provide any support for his direct correlation between plant EFOR levels and poor maintenance practices. I regard Mr. Shepard's reliance upon EFOR levels as a measure of plant operations and maintenance practices to be wholly unreliable.

(PX 48 at 13; see also Vol. XI-A: McClernon at 35, 43.)

Additionally, Professor McClernon testified that the concept of EFOR in isolation of the factors of capital cost, maintenance cost, operation cost and fuel cost is not a prudent

basis of assessing operation and maintenance practices of a plant. (TR Vol. XI-A: McClernon at 38.) Professor McClernon opined that reliability and availability are expensive commodities generally associated with significant cost increases. (Id. at 38-39.) Specifically, Professor McClernon criticized Mr. Shepard's failure to perform both an analysis of the remediation procedures needed to increase the level of availability and of the associated cost of those remediation procedures. (Id. at 32-34.)

Professor McClernon not only criticized Mr. Shepard's use of EFOR to directly evaluate OMU's operation and maintenance practices, he also criticized the manner in which Mr. Shepard used EFOR in his overall assessment of those practices. Professor McClernon testified that the first step in assessing a utility's operation and maintenance practices is to look at overall power plant performance statistics to determine whether operation and maintenance problems might exist and need to be evaluated. (TR Vol. XI-B: McClernon at 102.) If the statistics reflect a potential problem with the reliability or availability of a unit, then the second step is to perform an investigation of the causal factors driving the outages. (TR Vol. XI-A: McClernon at 35.) Professor McClernon noted that while Mr. Shepard identified the systems that were experiencing failures during the time period in question, Mr. Shepard failed to examine why those system failures occurred. (Id.)

In his own benchmarking assessment, Professor McClernon determined that there is a range of typical performance for generating stations that are part of the peer group for Units 1 and 2. (TR Vol. XI-A: McClernon at 71-76.) In calculating the range of typicality for both units, Professor McClernon calculated the mean, the median, and the standard deviation of

each unit's peer group. (PX 48.) Utilizing the standard deviation, Professor McClernon opined that the range of typicality for Unit 1's peer group was between approximately 5 and 20 percent. (TR Vol. XI-A: McClernon at 72.) He testified that ESGS Unit 1 for the period from 2001 to 2006 operated right in the middle of this range for the six-year average. With respect to Unit 2, Professor McClernon opined that the range of typicality for that unit's peer group was between approximately 1 and 15 percent. Professor McClernon testified that ESGS Unit 2 for the period from 2001 to 2006 operated at or just above the upper limit of the range. (TR Vol. XI-A: McClernon at 75-77.) Because ESGS's EFOR was not so far outside of the range of typicality as to indicate operation and maintenance issues in the first instance, Professor McClernon did not believe it would be necessary to perform the second step of investigating the causal factors driving outages at ESGS. (Id.)

B. Operation and Maintenance Practices

1. KU's Evidence

KU argues that OMU's operation and maintenance practices did not conform to industry standards. Particularly, KU stresses that OMU did not utilize standard practices in the areas of preventive, predictive and emergent maintenance, outage planning, plant improvement/capital planning, management oversight, and root cause analysis. (TR Vol. IV-B: Shepard at 75-76, 81-82, 84-90; DX 666 at 25-28.) KU maintains that these deficiencies establish that OMU has breached the Contract.

a. Robert Shepard

Mr. Shepard testified that he and several colleagues reviewed thousands of pages of

documentation provided by OMU to determine the adequacy of OMU's operation and maintenance practices. (TR Vol. IV-B: Shepard at 76-78; TR Vol. V-A: Shepard at 164.) He testified that although it would have been impossible to review every word of every document, he and his colleagues reviewed every document. (TR Vol. V-A: Shepard at 165-166.) Specifically, Mr. Shepard reviewed the documents to assess OMU's preventive, predictive, and emergent maintenance programs. Preventive maintenance refers to maintenance tasks performed on units prior to failure which are designed to detect or prevent the possibility of future failure. Predictive maintenance refers to measures that detect the onset of a degradation of mechanisms. Emergent maintenance involves compiling and maintaining a list of priority items needing repair or attention in the event of a forced outage.

Mr. Shepard testified that he found little or no preventive, predictive, or emergent maintenance practices in place at ESGS. For example, Mr. Shepard opined that the lack of entries in OMU's computerized maintenance management system ("CMMS")[3] and in work logs for several critical pieces of equipment indicate that OMU's preventive, predictive, and emergent maintenance practices were inadequate. (TR Vol. IV-B: Shepard at 85-86, DX 666 at 30.) Mr. Shepard testified that OMU does have a CMMS, but that OMU's failure to use advanced features of its CMMS does not comport with industry standards. (TR Vol. IV-B: Shepard at 81-82; DX 666 at 28-29.) Mr. Shepard also commented on OMU's outage

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3 CMMS is a database utilized by OMU to keep track of problems with plant equipment and set priorities in the repair of that equipment. (TR Vol. X: Allen at 193-217; PX 97.)

planning program. Outage planning involves the identification of problem areas experienced since the last outage in order to identify target areas of concern so as to mitigate or prevent their reoccurrence. Mr. Shepard further testified that it is industry standard for generating stations to provide a detailed schedule every year for each planned outage. Mr. Shepard testified that there was no documentation reflecting that OMU performed any planning efforts in anticipation of planned outages or prepared a detailed outage schedule. (TR Vol. IV-B: Shepard at 82-85; DX 666 at 29.) Mr. Shepard further testified that OMU's plant improvement and capital planning programs were wholly inadequate and failed to comply with industry standards. Plant improvement and capital planning programs involve a proper investigation, budgeting, evaluation, and planning of projects. (DX 666 at 30.) In reviewing OMU's capital planning processes, Mr. Shepard testified that he found only annual budgets with no justification of how OMU is spending the money. (TR Vol. IV-B: Shepard at 89-90.)

Mr. Shepard also opined that it was standard within the industry to provide management oversight and performance objectives. Because Mr. Shepard did not find documentation regarding action items, performance targets, or incentives for management to achieve a particular performance target, he does not believe that OMU's management objectives meet industry standards. (TR Vol. IV-B: Shepard at 90-93; DX 666 at 31.) Mr. Shepard also examined OMU's root cause analysis program. Root cause analysis examines failures after the fact to determine the underlying conditions giving rise to the event. Mr. Shepard testified that he found no documentation of any formal root cause analysis program, which is something he would expect to see from a plant maintained in accordance with

industry standards. (TR Vol. IV-A: Shepard at 10-11, 24-25; TR Vol. IV-B: Shepard at 24-25, 62-63; DX 663 at 3-4; DX 666 at 30.)

In addition to analyzing these documents, Mr. Shepard also performed a site visit of the ESGS facility on August 27, 2007. During the site visit, Mr. Shepard performed a "walk down" of the plant. (TR Vol. IV-B: Shepard at 96; DX 666 at 5.) Mr. Shepard stated that during his visit he made several key observations "indicative of a failure to operate and maintain [ESGS] in a good and workmanlike manner," including OMU's alleged failure to timely address additional external cooling needs of a shell and tube heat exchanger; a packing leak on a feedwater heat drain valve; poor lighting around critical equipment; multiple ash slurry pumps in failure mode without action taken to repair the alternative pump; a noisy pulverizer that had not been attended to; extensive casing leaks and fugitive exhaust gas releases on both Units; and the letters "SAMO" written on equipment in several locations in the plant. (TR Vol. IV-B: Shepard at 98-103,105-07; DX 158; DX 666 at 6-10.)

b. Testimony of KU's Employees

On October 16, 2006, Mr. Malloy sent a letter to Mr. Hunzinger informing him that KU was concerned about the performance of the plant and that KU would be sending various specialists from EON's Generation Engineering Group to assess "the issues that are negatively impacting the plant's operation." (TR Vol. I-B: Malloy at 67; TR Vol. II: Dan Wilson at 81; DX 627.) Mr. Malloy testified that KU intended to assess these issues and make recommendations to OMU on remedying the problems the group found. (TR Vol. I-B: Malloy at 68.) Dan Wilson, the manager of the group, visited ESGS approximately six to

ten times. (TR Vol. II: Wilson at 80-81.) Mr. Wilson's first visit to ESGS took place in Fall 2006. Specialists from the group also met on-site with OMU employees in the areas of their specialties. Among other things, the KU specialists assessed high energy piping inspection, pollution controls and boiler tube failures. (TR Vol. II: Wilson at 82-83, 85.) During these visits, the specialists made verbal recommendations to OMU. (TR Vol. I-B: Malloy at 68-69; TR Vol. II: Wilson at 93.) For example, when Mr. Wilson visited ESGS, he normally met with Stan Conn or the plant's maintenance or operation supervisor. During these meetings, and through email exchanges, Mr. Wilson conveyed his observations and informal, general suggestions concerning ways to improve the operation and availability of ESGS. Mr. Wilson testified that OMU implemented the verbal recommendations made by his team on "several occasions." (TR Vol. II: Wilson at 107.)

The engineers also prepared a draft report of their findings and recommendations, but the drafts were never finalized at the recommendation of KU's attorneys. (TR Vol. I-B: Malloy at 69-70.) In the draft report, the group made various findings, including that OMU needed to adopt a formal review process of plant performance (DX 223 at 7); that OMU fixed symptoms without conducting an investigation to prevent future breakdowns (TR Vol. II: Wilson at 124-125; DX 223 at 13); that ESGS had no documented controls strategy (TR Vol. II: Wilson at 102-03; DX 223 at 18); that ESGS did not have a predictive maintenance program and does not perceive a value in performing routine predictive maintenance such as periodic vibration monitoring and routine thermography surveys (DX 223 at 21-22; TR Vol. II: Wilson at 104-05); and that OMU management follows a "run to failure"

methodology for much of the plant equipment (TR Vol. II: Wilson at 106-07; DX 223 at 22.) Although KU prepared the draft assessment of ESGS in January of 2007, KU never presented its findings to OMU outside the context of this litigation. (TR Vol. I-B: Malloy at 12-13, 69-70.)

Mr. Wilson also testified that various aspects of OMU's operation and maintenance practices do not meet industry standards. For example, Mr. Wilson suggested that OMU did not perform standard preventive/predictive maintenance tasks such as routine vibration monitoring or thermography. (TR Vol. II: Wilson 104-105; DX 223.) Mr. Wilson criticized OMU's failure to investigate the root cause of outages. (TR Vol. II: Wilson 104-105, 106-107, 120-121.) Similarly, Mr. Carrino as part of the Solomon Report suggested that ESGS's forced outages during 2002 through 2006 might reflect the untimeliness of OMU's root cause analysis. (DX 551.) Mr. Wilson also testified that OMU, instead of performing a root cause analysis, focused on treating the symptoms of equipment failure. Mr. Wilson believes that OMU's failure to send off failed boiler tubes for analysis by a metallurgical lab and OMU's failure to consult an operating manual to remedy an air heater support bearing failure are indications of this mentality. (TR Vol. II: Wilson at 104-05,106-07, 120-121.)

c. Other Evidence of Inadequate Operation and Maintenance Practices

KU points to other evidence that OMU failed to operate and maintain ESGS in a good and workmanlike manner. First, KU argues that, just as the Solomon Report confirmed Mr. Shepard's opinion related to ESGS's performance statistics, the Solomon Report also confirmed Mr. Shepard's opinion as to ESGS's operation and maintenance practices.

Second, KU asserts that OMU's refusal to make corrections at ESGS until OMU issued its termination notice is further evidence of a breach of contract by OMU. KU asserts that between 2001 and 2006 OMU consistently underspent its capital budgets and that OMU's spending has been skewed toward reactive maintenance. The budget for 2001 was $2.2 million, whereas actual expenditures were only $826,000. (TR Vol. VII-B: Conn at 57-58.) In 2007, OMU greatly increased its maintenance budget for Fiscal Year 2008 from $10.5 million to over $25 million. (TR Vol. X: John Allen at 264-65.) OMU's budget for ESGS for 2009 increased to $32.9 million. (TR Vol. VII-B: Conn at 18; DX 766.) KU points out that these budget increases did not occur until after Solomon issued its report and only after OMU sent its notice of contract termination. KU argues that this evidence, and the evidence regarding OMU's failure to comply with KU's recommendations, indicate that OMU willfully refused to improve the operation and maintenance practices at ESGS and thus breached the Contract.

2. OMU's Evidence

OMU maintains that KU failed to prove by a preponderance of the evidence that OMU's operation and maintenance practices identified by KU did not conform to industry standards. OMU argues that it did comply with industry standards in the areas of preventive, predictive and emergent maintenance, outage planning, plant improvement/capital planning, management oversight, and root cause analysis. At trial, OMU presented testimony of its employees in an effort to dispel any allegation that its operation and maintenance programs were deficient.

With respect to OMU's preventive, predictive, and emergent maintenance programs, John Allen, the Supervisor of Maintenance at ESGS for 20 years, testified that OMU utilizes a CMMS program to conduct these programs. (TR Vol. X: Allen at 193-217; PX 97.) Mr. Allen testified that OMU's CMMS allows the company to maintain records related to work requests and work orders. Any ESGS employee, as they come across issues related to plant equipment, can submit a work request form to identify damage or any other work that needs to be performed on plant equipment. These work request forms contain tracking numbers which are attached to the identified piece of equipment. Using the tracking number, a general clerk enters the information contained in the work request forms into the CMMS. (Id. at 193-197.) OMU maintenance planner, Bill Keach, reviews all work requests submitted and generates work orders. The CMMS system enables staff to see the type of work that needs to be done at the plant, the crew that has been assigned the work, a description of the problem associated with the particular piece of equipment, the status of the work order, a summary of the work performed on the particular piece of equipment, and details about who performed the work. (Id. at 200-203.) For each particular work order, the CMMS system also identifies the cost to repair the plant equipment. (Id. at 204.) This system also allows OMU to set priorities for the work orders internally, or if the work orders need to be completed immediately, they will be given directly to the maintenance manager. (Id. at 198, 209.) Furthermore, Mr. Allen indicated that the system allows OMU to identify whether the work should be performed during a planned or forced outage. (Id. at 207-211.) According to Mr. Allen, since 2001, 41% of the work orders generated from the CMMS were

related to preventive and predictive maintenance issues. (Id. at 212-214.) The CMMS also permits OMU to analyze problems or failures with ESGS equipment and to ensure OMU follows the recommended maintenance program for the equipment. (Id. at 214-216.)

Mr. Allen also testified that OMU has an extensive outage planning program to plan for annual outages and for major outages which occur every six years. In anticipation of these outages, OMU identifies project definitions; establishes budgets; creates a list of major contracted services; and initiates public bidding on projects, including preparation of technical specifications, receipt of proposals, award of projects, and consultation with contractors. (TR Vol X: Allen at 218-220; PX 100.) Mr. Allen testified that OMU utilizes Microsoft Project to develop an outage schedule. Microsoft Project helps OMU schedule the work to be done, identify the resources necessary to complete the particular repair or replacement, project the length of the task, and also coordinate inspections of other equipment during outages. Mr. Allen stated that the outage schedule is finalized within the month prior to the outage. During the actual outage, OMU utilizes Microsoft Project to monitor the progress of the work. (Id. at 220-226.)

Mr. Conn addressed OMU's plant improvement/capital planning program. According to Mr. Conn, OMU's capital planning is an integral part of the budgeting process which begins a year before it is adopted and remains in flux until the budget is approved. (TR Vol. VIII: Conn at 86-93; PX 69.) OMU has a database for budget and capital planning which, among other things, allows OMU personnel to compare previous years' budgets. Mr. Conn discussed the 2002 Annual Budget and identified the justification for each expenditure found

in the budget. (PX 69.) Additionally, Mr. Conn testified that much of OMU's capital planning during the period at issue is also contained in the NOx compliance project material which was financed with the revenue bonds issued by the City in 2002. (TR Vol. VIII: Conn at 37-44.) Many of the capital items for this period were approved by KU in connection with OMU's NOx compliance project. (PX 43, Attachment 1.)

Mr. Conn also discussed OMU's management oversight practices. He testified that ESGS management staff meet regularly and frequently both with one another and with their respective staff. (TR Vol. VIII: Conn at 96-99.) In fact, some meetings occur daily. Because ESGS is a one-plant utility, all operation and maintenance management staff are on-site and usually just down the hall from one another. (Id.) Additionally, Mr. Conn and Mr. Allen testified that the CMMS utilized by OMU brings together plant performance information, maintenance information, and accounting information for the benefit of plant personnel. Mr. Conn testified that the information is available across the plant network including staff computers, management computers, and computers available in the operation and maintenance areas of the plant. (TR Vol. VII-B: Conn at 85-89.) These programs make both current and archival information available electronically to all of the ESGS management staff. (Id. at 96-98.)

Finally, with respect to a root cause analysis program, OMU acknowledges that it has no formal root cause analysis program. Plant employees exercise their own engineering judgment to determine the cause of an outage and to determine whether or not plant staff need to investigate further. Mr. Kevin Frizzell, Director of Power Production, testified that

a formal root cause analysis program may not "fit the needs for [the] plant." Mr. Frizzell explained that what "may fit a large corporation and how they do these types of things may not be the best or most effective for us." (TR Vol. VI: Kevin Frizzell at 95-98; see also TR Vol. X: Frizzell at 184-185.) Likewise, Mr. Conn testified that OMU does not use a formal root cause analysis program. (TR Vol. X: Conn at 11-15.) However, Mr. Conn testified that OMU personnel do analyze the cause of problems, examine the failure mechanisms of problems, and monitor them. (TR Vol. VIII: Conn at 170-171.)

C. Specific Outages and Derates

1. KU's Evidence

At trial, Mr. Shepard identified the top ten causes for lost megawatt hours for Units 1 and 2 based upon cause codes assigned by OMU for each outage and derate that occurred at ESGS over a seven year period. (TR Vol. IV-B: Shepard at 18-73; DX 666 at 24; DX 732; DX 756.) According to KU, the outages and derates that occurred at ESGS reflect a failure by OMU to implement an industry standard preventive maintenance program. KU also contends that these outages and derates reflect an inadequate root cause analysis program. Shepard acknowledged that it was not possible for him to review the actual cause of each and every outage that occurred at ESGS in the seven years he reviewed. Specifically, Shepard stated that "[t]here was no way for me to actual [sic] go through and investigate each event, whether it be an outage or derate, and – and what the actual cause of that – or root cause of that – of that failure or derate would have been." (TR Vol. IV-B: Shepard at 23-24.) The following tables reflect the top ten causes for lost megawatt hours ("LMWH") for Units

1 and 2 as identified by Mr. Shepard. For many of the items in the table, Mr. Shepard stated that the number of outages for that item exceeded his expectations, but he was unable to identify at what point the outages were caused by a failure to operate and maintain ESGS according to industry standards.

Top 10 for Unit 1

Rank	Group	Cause Code Explanation	LMWH
1	Steam turbine	Lube oil pumps	136,019
2	Boiler Tube Leaks	Second superheater	94,926
3	Boiler Air and Gas Systems	Air heater fouling (regenerative)	72,446
4	Boiler Tube Leaks	Waterwall (Furnace wall)	71,053
5	Slag and Ash Removal	Other slag and ash removal problems	66,500
6	Feedwater System	Feedwater pump	55,255
7	Boiler Tube Leaks	Cyclone furnace	53,558
8	Boiler Air and Gas Systems	Air heater (regenerative)	48,602
9	Steam turbine	Bearings	41,602
10	Cyclone	Cyclone furnace	35,087

Top 10 for Unit 2

Rank	Group	Cause Code Explanation	LMWH
1	Boiler Tube Leaks	Waterwall (Furnace wall)	594,912
2	Boiler Tube Leaks	First reheater	175,371
3	Boiler Tube Fireside Slagging or Fouling	Waterwall (Furnace wall)	126,491
4	Boiler Tube Leaks	Platen superheater	125,265
5	Boiler Tube Leaks	Generating tubes	111,654
6	Boiler Tube Leaks	Economizer	103,648
7	Circulating Water Systems	Circulating water pumps	101,411
8	Boiler Water Condition	Boiler water condition	95,636
9	Condensing System	Condenser tube leaks	70,186
10	Boiler Fuel Supply from Bunkers to	Pulverizer lube oil system	49,536

Although unable to precisely identify which of these outages were caused by a failure

to operate and maintain ESGS according to industry standards, Mr. Shepard attributed many of the outages in Unit 1 to various operation and maintenance defects such as: (1) failure to perform preventive maintenance during planned outages prior to equipment failure (TR Vol. IV-B: Shepard at 26-28; DX 732); (2) excessive tube leak failures (TR Vol. IV-B: Shepard at 29); (3) failure to minimize soot buildup (TR Vol. IV-B: Shepard at 31-32); (4) failure to monitor slag buildup (TR Vol. IV-B: Shepard at 36-38; DX 732); (5) inadequate maintenance (TR Vol. IV-B: Shepard at 39-40; DX 732); and (6) failure to make proper corrective repairs (TR Vol. IV-B: Shepard at 44-45; DX 732). As for Unit 2, Mr. Shepard identified the following operation and maintenance defects as the cause of outages and derates: (1) failing to implement efforts to mitigate the effects of NOx control technologies (TR Vol. IV-B: Shepard at 52-53; DX 732); (2) failing to take measures to mitigate the effects of the Selective Non-Catalytic Reduction ("SNCR") system (TR Vol. IV-B: Shepard at 55-66; DX 732); (3) failing to utilize water cannons, soot blowers, and wall blowers to minimize the effect of slagging and ash buildup (TR Vol. IV-B: Shepard at 57-58); (4) not responding to events or taking corrective measures within a timely fashion (TR Vol. IV-B: Shepard at 65-70; DX 732); and (5) failing to implement even a basic preventive maintenance program (TR Vol. IV-B: Shepard at 71-72; DX 732).

Through testimony of its personnel, KU presented additional examples of alleged failures by OMU to operate ESGS in a good and workmanlike manner. For instance, Unit 1 entered a forced derate in 2006 after its coal bunker unexpectedly ran out of coal. (TR Vol. II: Martin at 48-52; DX 166 recordings.) Mr. Wilson also testified that a forced outage of

Unit 2 occurred in 2007 when the circulating water pump failed. (TR Vol. II: Wilson at 108-114; DX 666 at 33.) Additional outages and derates that KU employees testified to include a derate on Unit 1 that occurred in April 2007 as a result of a large condenser tube leak (TR Vol. II: Wilson at 127-29; DX 192) and a forced outage of Unit 2 that occurred in April of 2007 as a result of a failure with a boiler feed pump motor (TR Vol. II: Wilson at 129-32; DX 203; DX 191).

2. OMU's Evidence

OMU maintains that Mr. Shepard's identification of the leading causes of forced outages and derates during the 2001 to 2007 time period based on cause code data does not establish a breach of the operation and maintenance provision of the Contract. In support of its position, OMU presented the testimony of Professor McClernon and OMU employees.

At trial, Professor McClernon testified that Mr. Shepard's cause code analysis is not a reliable method for assessing the cause of a unit's outages or derates. According to Professor McClernon, cause code data provides a breakdown of system failures, but it does not explain why the equipment failed. An actual causal investigation of the outage or derate must be performed to provide an accurate explanation of the cause of the failure. (TR Vol. XI-B: McClernon at 19-20.)

Additionally, Mr. Conn, Mr. Allen, and Mr. Frizzell explained the underlying causes of the outages and derates identified by Mr. Shepard and OMU's response to those events. For example, OMU presented evidence that the plant equipment, such as the pump and motor, is overhauled in accordance with Original Equipment Manufacturer recommendations

(TR Vol. IX-A: Conn at 23-24); that many of the lost megawatt hours in the top ten outage list are associated with catastrophic one-time events which were corrected during forced outages (id. at 25-26); that many of the lost megawatt hours are due to the implementation of NOx pollution control equipment (TR Vol. X: Frizzell at 85-89); and that recommendations of Sargent and Lundy, a consulting firm, to reduce outages from NOx equipment were implemented by OMU (TR Vol. IX-A: Conn at 28-31). Mr. Conn testified that OMU also consulted with Babcock & Wilcox, the manufacturer of various equipment at ESGS, to reduce the number of outages that were occurring. (TR Vol. IX-A: Conn at 31-32 (waterwall leaks); id. at 34-37 (slag tank modification).)

Mr. Conn also testified that the waterwall tube leaks associated with Unit 2 were caused by the implementation of the NOx pollution control technology, but that efforts were taken before the leaks occurred and even before the installation of the equipment to ensure the tube leaks would not fail or leak. Prior to the implementation of this technology, OMU hired consultants, Sargent and Lundy, Advanced Burner Technologies ("ABT") and Reaction Engineering ("REI"), to perform modeling to predict the burner areas where problems such as tube leaks might occur. (TR Vol. IX-A: Conn at 69-72.) This modeling did not indicate problems with the waterwall in the lower furnace. (Id.) In 2005, after problems developed in the lower furnace, OMU tested the furnace to determine the thickness of the tubes, replaced tubes, performed metallurgical analysis on various tubes, and placed a corrosion resistant coating on the tubing. OMU also consulted with ABT and REI to conduct further modeling and to determine a solution to the problem. (TR Vol. X: Frizzell at 156-162.) Mr.

Frizzell testified that no tube leaks have been reported on Unit 2 since the application of this corrosion resistant coating in the Spring of 2006. (Id. at 170.)

Mr. Frizzell and Mr. Conn further testified that the implementation of the NOx pollution control technology contributed to many of the other outages experienced by OMU. Mr. Frizzell testified that when a major retrofit is done to a generating unit, it is expected that problems will result. According to Mr. Frizzell, OMU was aware that installing NOx pollution control technology would impact the combustion of the plant and would impact the plant in general. (TR Vol VI: Frizzell at 104-06.) In an effort to anticipate these problems, OMU tested and studied the NOx control measures. OMU employed Sargent and Lundy and other consulting engineers to help OMU design, model and install the pollution control measures. (TR Vol. X: Frizzell at 89.) OMU representatives traveled to different plants around the world to study and plan the pollution control measures to be taken at ESGS. (Id. at 85-98.) KU reviewed and approved the NOx compliance measures which OMU began implementing in 2002. (PX 42 at 1988 Agreement; PX 43.)

This reflects only a small portion of OMU's testimony as to the cause of the top ten outages and derates and efforts OMU had taken to mitigate such outages. (See, e.g., TR Vol. IX-A: Conn at 23-91; TR Vol. X: Frizzell at 156-162.)

D. Findings and Conclusions

In order to prove its case, KU was required to prove that OMU's operation and maintenance of ESGS fell below industry standards. Having reviewed the testimony and expert reports of Mr. Shepard and Professor McClernon, the Solomon Report, and the

testimony of OMU and KU employees, the Court finds that KU has failed to establish by a preponderance of the evidence that OMU breached the Contract by failing to operate and maintain ESGS in a good and workmanlike manner.

First, KU relied heavily upon the probative value of ESGS's EFOR performance statistics. While KU was able to show that ESGS's performance statistics were below its industry peers during the time period in question, this evidence reflects minimally on the precise question presented. Contrary to the argument by KU and Mr. Shepard, the Court finds that the performance statistics utilized by Mr. Shepard are not a reliable measure of the quality of a utility's operation and maintenance practices. (PX 48 at 13.) Equipment can fail and outages can occur despite the best operation and maintenance practices. (Id.) In fact, it is possible for a unit to experience an EFOR of 100% and still be operated and maintained in a good and workmanlike manner. (TR Vol. XI: McClernon at 34-36.)

The Court finds Professor McClernon's testimony about the role of EFOR in the utility industry persuasive. EFOR is not a goal, but is rather only one component of an engineering systems analysis. As indicated by Professor McClernon, the first step in assessing a utility's operation and maintenance practices is to look at overall power plant performance statistics to determine whether operation and maintenance problems might exist and need to be evaluated. (TR Vol. XI-A: McClernon at 35-36; TR Vol. XI-B: McClernon at 102.) If the statistics reflect a potential problem with the reliability or availability of a unit, then the second step is to perform an investigation of the causal factors driving the outages. (TR Vol. XI-A: McClernon at 35.) "An EFOR statistic may be an indicator to a utility or

engineer to inquire into the root causes of a plant's outages and to assess utility practices. But an EFOR statistic does not tell you why a particular plant experienced forced outages." (PX 48 at 13; see also Vol. XI-A: McClernon at 35, 43.) EFOR statistics simply do not show whether an outage is caused by poor operation and maintenance practices or whether the outage is caused by some other reason.

Contrary to KU's argument, the Court finds that the benchmarking study conducted by Solomon & Associates does not support Mr. Shepard's opinions with respect to the role of performance statistics in assessing the operation and maintenance practices of OMU. Instead, the deposition testimony of Mr. Carrino, the Solomon consultant who conducted the analysis, supports the position of OMU. Mr. Carrino testified that a statistical analysis alone cannot be used to formulate an opinion as to whether or not OMU operated and maintained ESGS in a good and workmanlike manner. (Carrino Dep. at 258.)

Second, with respect to KU's evidence of alleged deficiencies in specific areas of OMU's operation and maintenance practices, at most, KU was able to show that there might be better, more effective and efficient ways for OMU to conduct operations. However, despite this evidence, the Court finds that the record demonstrates that OMU complied with industry standards in the areas of preventive, predictive and emergent maintenance, outage planning, plant improvement/capital planning, management oversight, and root cause analysis.

Specifically, the record reflects that OMU utilizes preventive, predictive, and emergent maintenance practices in its operation and maintenance of ESGS. OMU uses a

CMMS program to guide it in operating and maintaining the units at ESGS. At trial, John Allen explained at length the Avantis CMMS system implemented by OMU. The CMMS system allows OMU to schedule and track maintenance activities, including preventive and predictive maintenance tasks. (TR Vol. X: Allen at 193-217; PX 97.) Likewise, with respect to OMU's outage planning program, the Court finds that OMU presented evidence that OMU has an outage schedule for each major outage and annual outage. Mr. Allen testified that OMU prepares for scheduled outages well in advance of the outage and utilizes Microsoft Project to prepare for and monitor the work to be done during outages. (TR Vol X: Allen at 218-226; PX 100.) Similarly, the record reflects that OMU's plant improvement/capital planning program is incorporated in the budgeting process and the NOx compliance project materials. In fact, Mr. Conn testified that OMU plans its budget over a year before it is adopted and utilizes a database to plan for capital improvement projects. The budget contains an explanation of the work needing to be done and the reason or justification for the expenditure of monies for those plant improvements. (TR Vol. VIII: Conn at 37-44; PX 69.)

The Court also finds that OMU's management oversight procedures do not fall below industry standards. As a one-plant utility, all key operation and maintenance management staff are on-site, and in OMU's case just steps from one another making communication efficient. Additionally, the record reflects that the management at ESGS meets regularly with each other and their respective staff. (TR Vol. VIII: Conn at 96-99.) Further, the Court finds that the failure of OMU to implement performance incentives has no bearing on whether there is proper management oversight at ESGS. The Court accepts Director of

Power Production Kevin Frizzell's testimony; if OMU focuses on getting the process right at the plant, the statistics will take care of themselves. (TR Vol. VI: Frizzell at 66, 82.) Likewise, the Court credits the testimony of Mr. Allen, Mr. Frizzell and Mr. Conn regarding OMU's informal root cause analysis program. While not a formal written root cause analysis program as advocated by KU, OMU personnel exercise engineering judgment to examine the reason for outages and derates to determine the underlying cause giving rise to the event. (TR Vol VI: Frizzell at 96-98; TR Vol. VIII: Conn at 170-171.) Additionally, with respect to items identified by Mr. Shepard related to his site visit at ESGS, the Court finds that Mr. Conn adequately addressed each criticism explaining the reason for the condition and the response by OMU. (TR Vol. VIII: Conn at 131-159.)

Additionally, the Court does not find that the Solomon Report supports a finding of poor operation and maintenance practices on the part of OMU. OMU employed Solomon & Associates to conduct a benchmarking study to gain additional information regarding the performance reliability of the ESGS units and to identify potential improvement opportunities. However, Solomon & Associates did not assess the actual operation and maintenance practices of OMU at ESGS. In fact, Mr. Carrino testified that Solomon & Associates did not conduct any root cause analysis or form any opinion as to whether OMU was operating and maintaining ESGS in a good and workmanlike manner. (Carrino Dep. at 258.)

Likewise, the Court finds no credible support for KU's suggestion that variations in the level of annual expenditures at the plant over the last few years or the hiring of Solomon

& Associates are connected to a strategy on the part of OMU to deprive KU of energy under the terms of the Contract or demonstrate a willful refusal to improve operation and maintenance practices at the plant. The record reflects that OMU increased its maintenance budget in 2008 as a result of the major outage scheduled to occur in 2008. (TR Vol. VII-B: Conn at 53.) The Court also finds it reasonable that OMU, in light of the concerns expressed by KU during 2005 and 2006, would employ an outside consultant to identify areas of potential improvement at the plant.

As stated, at most, KU identified certain operation and maintenance practices at ESGS that could arguably be improved. However, many of the operation and maintenance practices identified by KU, such as a formal root cause analysis program, appear to be better suited for a larger, better financed utility company such as EON and might not be appropriate or feasible for a smaller municipally-owned utility. The fact that OMU has not implemented the biggest and best operation and maintenance practices as advanced by EON and KU does not mean that OMU's operation of ESGS fails to comply with industry standards. The Contract does not require the "highest degree of skill" in the industry, but only ordinary skill.

Third, KU presented the testimony of Mr. Shepard and other KU employees regarding specific outages and derates as evidence of OMU's failure to operate and maintain ESGS in a good and workmanlike manner. A discussion of these events, without having determined the underlying cause of the outage, is not persuasive evidence of the operation and maintenance practices at ESGS. The GADS cause codes relied upon by Mr. Shepard identify the piece of unit equipment that failed. However, these cause codes do not identify the

underlying cause of the failure nor whether the failure was the result of inadequate operation and maintenance practices. As noted by Professor McClernon, a cause code provides a breakdown of system failures, but it does not explain why it failed. (TR Vol. XI-B: McClernon at 19-20.) The fact that Mr. Shepard viewed many of the top ten reasons for outages for both Units 1 and 2 as excessive does not establish that those failures were the result of inadequate operation and maintenance practices at OMU.

Additionally, the Court finds that OMU employees adequately explained the reasons for the forced outages and derates identified by Mr. Shepard and KU employees. The Court also finds persuasive the testimony of both Kevin Frizzell and Stan Conn that the implementation of the NOx pollution control technology contributed to many of the outages, such as the tube leaks, experienced by OMU and noted as excessive by Mr. Shepard. While it is undisputed that OMU encountered problems related to the installation of NOx pollution control equipment, the Court finds that OMU attempted to timely identify and remediate problems that ESGS suffered as a result of this implementation.

Finally, the Court rejects KU's argument that OMU inadequately responded to KU's recommendations concerning OMU's performance statistics and operation and maintenance practices. The Court finds that OMU personnel responded to e-mails, phone calls, and accepted meetings with KU representatives regarding performance issues throughout the period in question. Clearly, KU wanted the availability and reliability of Units 1 and 2 to improve. The evidence reflects that OMU likewise wanted to improve its performance. Mr. Conn, Mr. Allen, and Mr. Frizzell testified at length regarding the actions OMU took during

this time to correct the problems the units were experiencing. Similarly, OMU's response to the verbal recommendations made by Mr. Wilson during his inspection of the plant do not demonstrate a breach of contract. In fact, Mr. Wilson testified at trial that he made only suggestions of a general nature to OMU and that he had been instructed not to give OMU any specific or detailed advice. (TR Vol. II: Wilson at 87, 156, 160-161.) Mr. Wilson also testified that OMU implemented the verbal recommendations on several occasions. (Id. at 107.) Mr. Conn likewise testified that the suggestions mentioned by Mr. Wilson "are things that we –Dan requested we do, and we did those things." (TR Vol. IX-B: Conn at 74.) KU also suggested at trial that OMU should have acted upon the recommendations contained in the draft report prepared by EON's Generation Services Group. The Court finds this position untenable. The draft report was never finalized and never formally presented to OMU. Instead, OMU only obtained the draft report during discovery. Thus, any failure by ESGS to address the "recommendations" contained in the draft report cannot support a breach of contract.

Considering all the evidence submitted at trial, and for the reasons set forth above, the Court finds that KU has not established by a preponderance of the evidence that OMU failed to operate and maintain ESGS in a good and workmanlike manner.

IV. DAMAGES

Given the above decision, it is not necessary to discuss damages; however, because an appeal is likely, the Court believes it prudent to state its findings with regard to damages. After considering the testimony of Mr. Abington and Professor McClernon, the Court finds

that, even if KU had proven that OMU breached the Contract, KU failed to prove damages with reasonable certainty.

First, the Court finds that the manner in which KU calculated its damages is not a sufficient basis on which to make a reasonable estimate of damages. In calculating damages, Mr. Abington identified the adjusted average EFOR for comparable units, compared those statistics with ESGS's EFOR average, and determined the lost megawatt hours and resulting damages for all outages and derates at ESGS above the adjusted average EFOR for the comparable units. However, Mr. Abington's damages calculation is based upon the incorrect premise that all outages or derates that resulted in an ESGS EFOR above the adjusted average EFOR were caused by the failure of OMU to operate and maintain ESGS in a good and workmanlike manner. The Court rejects Mr. Abington's damages calculation based on this incorrect premise. The Contract does not require OMU to meet or exceed a particular EFOR level. Instead, the Contract only requires that OMU will operate and maintain ESGS in a good and workmanlike manner. The record demonstrates that many of the forced outages and derates at ESGS were not due to a failure to operate and maintain ESGS in accordance with industry standard. Given that Mr. Abington's damages calculation is based solely on EFOR, the Court finds that KU failed to prove its damages with reasonable certainty.

Second, KU did not produce any outage-by-outage assessment of the underlying cause of each outage or derate, the amount of lost energy attributable to each outage or derate, and the resulting damage from each outage or derate. Without this information, any damages

assessed by the Court would merely be speculative. Under the facts of this case, the Court finds that KU could have provided testimony of damages on an outage-by-outage basis but failed to do so. This failure prevents KU from proving their damages with reasonable certainty.

Third, even if Mr. Abington's damages calculation was accepted by the Court, he still failed to take into consideration the increased energy and capacity costs KU would have incurred had OMU achieved the level of EFOR suggested by Mr. Shepard and Mr. Abington. The record reflects that increased reliability and availability are expensive commodities. (TR Vol. XI-A: McClernon at 38-39.) However, Mr. Abington's calculation did not take into account this expense. In fact, Mr. Abington conceded at trial that if the cost of energy from OMU would have increased in relation to an improvement of EFOR, an offset of the damages would have been appropriate. (TR Vol. V-B: Abington at 145.) But KU contends that it was OMU's obligation, and not KU's obligation to perform this offset. KU maintains that operation and maintenance spending has a "pay me now or pay me later" quality; while increased reliability requires some spending on the front end, failure to make this investment results in greater costs later when equipment fails. However, KU presented no evidence to show that these reactive maintenance costs meet or exceed what it would cost to implement the changes suggested by KU. Having presented no evidence of what KU suggests it would cost to operate ESGS in a good and workmanlike manner, the Court finds that KU's damages calculation is speculative at best.

After a review of the evidence presented at trial and for the reasons set forth above,

the Court finds that KU failed to present sufficient evidence establishing the amount of damages with reasonable certainty.

V. CONCLUSION

For the reasons set forth above, the Court finds that KU has failed to establish by a preponderance of the evidence that OMU breached the Contract by failing to operate and maintain the Elmer Smith Generating Station in a good and workmanlike manner and that KU has been damaged as a result of the alleged breach. Accordingly, the Court finds in favor of OMU and the City of Owensboro on KU's counterclaim.

Joseph H. McKinley, Jr., Judge
United States District Court

February 19, 2009

cc: counsel of record

Response to Question No. 2
Court Order – Memorandum Opinion and Order (2/19/09)
Witness: Counsel

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
OWENSBORO DIVISION

CIVIL ACTION NO. 4:04-CV-87-M

CITY OF OWENSBORO and CITY UTILITY COMMISSION OF THE CITY OF OWENSBORO, KENTUCKY, a/k/a OWENSBORO MUNICIPAL UTILITIES **PLAINTIFFS**

V.

KENTUCKY UTILITIES COMPANY **DEFENDANT**

MEMORANDUM OPINION AND ORDER

The parties entered into Joint Stipulations of Fact addressing certain facts related to back-up energy and NOx allowances [DN 473]. The parties also filed supplemental briefs regarding the amount refundable to KU for NOx Allowances Charges under the terms of the Court's September 5, 2008 Memorandum Opinion and Order [DN 506, DN 516, DN 519]. The following represents the Court's legal conclusions on the remaining issues related to back-up energy and NOx allowances based on the stipulated facts.

I. BACK-UP ENERGY

In the present case, OMU claimed that KU had improperly billed certain amounts for back-up energy provided by KU to OMU pursuant to the Contract. Based on its objections to KU's back-up energy billings, OMU withheld payment of $4,053,458.32 for amounts KU billed for back-up energy through and including August 2008. (DN 473, Joint Stipulation ¶1.) In its Amended Complaint, OMU sought a declaratory judgment that "OMU has paid

all amounts payable to KU" for back-up energy. (DN 211, Am. Compl. ¶ 42.) KU's counterclaim, in turn, alleged that OMU had breached the Contract by failing to remit all amounts billed for back-up energy, and sought a judgment awarding KU's damages. (DN 217, Am. Counterclaim ¶17-19, 44, 47.)

In its October 16, 2008 Memorandum Opinion and Order, the Court granted KU's cross-motion for summary judgment rejecting OMU's argument that KU should be required to substitute a "proxy" pricing provision for the pricing provision in the Contract, as well as OMU's claim that KU was required to exclude the marginal congestion and marginal loss components of prices it paid for off-system back-up energy in the MISO Day Two Market. (DN 460.) OMU's only other objections to KU's back-up energy charges relating to certain MISO Day-Two billings were voluntarily dismissed with prejudice on October 20, 2008. (DN 462, DN 464.)

KU is therefore entitled to judgment for damages equal to the total unpaid back-up energy charges owed by OMU of $4,053,458.32 (DN 473, Joint Stipulation ¶ 1). Judgment will therefore be entered in favor of KU and against the Plaintiffs in the amount of $4,053,458.32, together with prejudgment interest at 8% on each past due payment from the date each monthly payment was due until the date of entry of this judgment, and post-judgment interest on the entire amount of the judgment, including interest, at the rate prescribed by 28 U.S.C. 1961 from the date of judgment until paid in full.[1]

[1]OMU did not object to KU's proposed judgment regarding the amount of prejudgment or post-judgment interest for the back-up energy damages.

II. NOx ALLOWANCES

A. Background

The Court addressed the Clean Air Act's emissions allowance program in its September 5, 2008, Memorandum Opinion and Order. (DN 400.) A brief review of the program is helpful. Under the Clean Air Act, emission allowances for nitrogen oxides ("NOx") are allocated to plants that generate electrical power based upon their historical emissions levels. See 42 U.S.C. §§ 7651c, 7651d. A NOx emission allowance is an authorization to emit one ton of NOx during a control period. States are responsible for allocating allowances to specific generating units operating within the state's borders and these allowances are given at no cost. The Act provides that these emission allowances may be bought and sold as any other commodity. See 42 U.S.C. § 7651b(b); 101 Cong. Rec. S16980 (daily ed. October 27, 1990)(statement of Sen. Moynihan)("[A]llowances will be treated in part like economic commodities"). If a unit's emissions are reduced below the number of allowances held in the utility's account, the remaining unused allowances allocated to that unit may be used elsewhere in the owner's system or sold to third parties at open market prices. If a unit's emissions exceed the number of allowances assigned to that unit, additional allowances must be utilized to avoid sanctions under federal law. These can either be excess allowances from elsewhere in the utility's system or they may be purchased on the open market. See Ormet Primary Aluminum Corp. v. Ohio Power Co., 207 F.3d 687, 689-690 (4th Cir. 2000).

Under state and federal law, joint owners of an electric generating unit ratably share

in the NOx emission allowances. Joint ownership is defined to include situations "'where a utility or industrial customer purchases power from an affected unit (or units) under life-of-the-unit, firm power contractual arrangements.'" Ormet, 207 F.3d at 690 (citing 42 U.S.C. § 7651g(i)). A life-of-the-unit arrangement is specifically defined in the Act. See 42 U.S.C. § 7651a(27).[2]

Beginning with the first NOx-controlled season in 2004, OMU offered KU the alternative each month of either providing NOx allowances to cover the emissions associated with the energy it purchased from OMU, or paying OMU for the NOx allowances based on the monthly market index. KU elected to pay the billed amounts under protest. (Joint Stipulation at ¶ 2.) As of September 2008, KU has paid OMU a total of $5,443,559 for all of the State-Allocated NOx Allowances and Purchased NOx Allowances used in generating the energy taken by KU from ESGS. (Id. at ¶ 2.)

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[2] The Clean Air Act defines a life-of-the-unit contract as follows:

> The term "life-of-the-unit, firm power contractual arrangement" means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of capacity and associated energy generated by a specified generating unit (or units) and pays its proportional amount of such unit's total costs, pursuant to a contract either-
>
> (A) for the life of the unit;
>
> (B) for a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or
>
> (C) for a period equal to or greater than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit was built, with option rights to purchase or re-lease some portion of the capacity and associated energy generated by the unit (or units) at the end of the period.

42 U.S.C. § 7651a(27).

In June of 2008, the parties filed cross-motions for summary judgment and supporting memoranda of law concerning the NOx emission allowance issue. [DN 316, DN 310]. OMU took the position that it was the sole owner of all NOx allowances allocated to ESGS under 42 U.S.C. § 7651g(i) and 42 U.S.C. § 7651a(27). (Am. Complaint at ¶¶ 33, 37(g)[DN 211].) KU disagreed arguing that the 1960 Contract meets the federal and state regulatory definitions for a "life-of-the-unit" contract under 42 U.S.C. § 7651a(27), and thus KU should be entitled to its proportional share of the assigned ESGS NOx emission allowances.

In its September 5, 2008, Memorandum Opinion and Order [DN 400], the Court found that the 1960 Contract qualified as a "life-of-the-unit" contract within the Clean Air Act, and consequently, declared that KU "is the owner of a proportionate share of the NOx emission allowances allocated to the Elmer Smith Generating Station No. 2 and that OMU is not the sole owner of those allowances." (DN 400 at 28-29.) The Court concluded that the allocation of "surplus capacity and electric energy then remaining" under Article III, Section 2 of the Contract qualified as a reservation of a "specified amount or percentage of capacity and associated energy" pursuant to the life-of-the-unit contract definition contained in 42 U.S.C. § 7651a(27). (Id. at 24.) The Court also held under the terms of the Contract, the percentage of plant capacity reserved by KU corresponds to the percentage of costs borne by KU, and therefore, satisfied the life-of-the-unit contract definition. (Id. at 29.)

The significance of this conclusion is that KU has paid OMU for allowances which KU owned. Therefore, the current issue before the Court is the amount of money refundable to KU for NOx allowances charges paid by KU to OMU from 2004 to 2008. The parties

have entered into Joint Stipulations of Fact and filed Post-Trial Briefs regarding the amount of money refundable to KU for NOx allowance charges.

B. Joint Stipulations of Fact

The parties stipulated that from 2004 through 2008, ESGS received a total of 5665 State-Allocated NOx Allowances, all of which were used to cover the total NOx emissions from ESGS for energy taken by KU and OMU. OMU also purchased an additional 563 Purchased NOx Allowances from third parties to cover total plant emissions in excess of ESGS's State-Allocated NOx Allowances, at a cost of $533,305. (DN 473, Joint Stipulation ¶¶ 3, 6.) The term "State-Allocated NOx Allowances" refers to NOx allowances allocated at no charge to ESGS by the State of Kentucky, as distinguished from NOx allowances purchased by OMU from third parties ("Purchased NOx Allowances"). (Id. at ¶ 2 n.1, n.2.) As of September 2008, KU has paid OMU a total of $5,443,559 for the amounts billed by OMU for all of the State-Allocated NOx Allowances and Purchased NOx Allowances used in generating the energy taken by KU from ESGS. (Id. at ¶ 2.)

C. Discussion

The post-trial briefs submitted by the parties raise three issues with respect to the NOx emission allowances: (1) whether KU's ownership share of ESGS State-Allocated NOx Allowances is based on KU's energy allocation or capacity allocation under the Contract; (2) whether OMU is prohibited under the Contract from charging KU for State-Allocated NOx Allowances because it "incurred no cost" to acquire them; and (3) whether OMU's charges to KU for Purchased NOx Allowances (as contrasted with State-Allocated NOx Allowances)

were proper.

1. Energy Allocation vs. Capacity Allocation

Pursuant to the 1990 Clean Air Act, utilities that are a party to a "life-of-the-unit, firm power contractual arrangement" are entitled to their proportional share of NOx allowances assigned to that generating unit. 42 U.S.C. § 7651g(i). Specifically, 42 U.S.C. § 7651g(i) recognizes that "allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement." KU maintains that its "proportionate share" of the ESGS State-Allocated NOx Allowances is the share that corresponds to KU's energy allocation -- i.e., the share of ESGS "surplus energy and capacity" actually received by KU pursuant to Article III, Section 3(b) of the Contract. OMU disagrees arguing that KU's proportionate share of the ESGS State-Allocated NOx Allowances is the share that corresponds to KU's capacity allocation -- i.e. the share of ESGS allocated or reserved capacity defined under Article III, Section 3(d) of the Contract.

After consideration of the parties' arguments and the statutory language in question, the Court finds that KU's proportionate share of ESGS State-Allocated NOx Allowances is the share that corresponds to KU's "capacity allocation" as defined under Article III, Section 3(d) of the Contract.

The statutory language of the Clean Air Act supports the distribution of the State-Allocated NOx Allowances in the present case in proportion to KU's capacity allocation, as opposed to energy allocation. In order for the Contract to qualify as a life-of-the-unit contract, KU must be contractually obligated to pay its proportional share of the costs

associated with the "amount or percentage of capacity and associated energy" KU reserved, or is entitled to receive. 42 U.S.C. § 7651a(27). See Ormet, 207 F.3d at 692 (The Act "requires that the customer *reserve a specified amount or percentage* of a plant's capacity and *pay 'its proportional amount'* of the plant's costs."). In its original Memorandum Opinion, the Court accepted KU's argument that the percentage of plant capacity reserved by KU corresponds to the percentage of costs borne by KU pursuant to Article III, Section 3(d) of the Contract. (DN 400 at 27-29); see also Ormet, 207 F.3d at 692. In fact, the Court rejected OMU's argument that the Contract did not satisfy the "proportional" test because the amount of energy KU takes in a year is not identical to KU's share of the capacity costs during the twelve month period. The Court found that "the fact that OMU takes less energy under Section 2 than is 'allocated for use by' it under Section 3 does not change the fact that capacity costs are exactly proportional to the capacity reserved for use by each party." (DN 400 at 27 (citing Ormet, 207 F.3d at 692).) Ultimately, KU's entitlement to ownership of any of the ESGS NOx emission allowances is solely related to KU's capacity allocation under the Contract. Thus, given the requirements of a life-of-the-unit contract, the Court finds it inconsistent to award KU State-Allocated NOx Allowances in proportion to the amount of surplus energy taken by KU when KU doesn't pay the proportional capacity cost for that amount of energy.

For these reasons, in determining the proportion of KU's ownership of State-Allocated NOx Allowances pursuant to 42 U.S.C. § 7651g(i), the Court finds that KU's "contractual reservation or entitlement" is based upon the capacity allocation set forth in Article III,

Section 3(d) of the Contract. Having concluded that KU's ownership of State-Allocated NOx allowances is based on KU's percentage of ESGS capacity, the Court finds that KU owned 2368 State-Allocated NOx Allowances. (Joint Stipulation at ¶ 4, Table 2.) Therefore, KU is entitled to a refund for the amount paid by KU to OMU for the 2368 State-Allocated NOx Allowances.

2. Cost of State-Allocated NOx Allowances

KU maintains that regardless of how ownership rights to State-Allocated NOx Allowances are divided, the plain language of the Contract does not permit OMU to charge KU for the use of the State-Allocated NOx Allowances because OMU incurred no actual costs to obtain them. Specifically, KU maintains that under Article III, Section 3 of the Contract, OMU is entitled to charge KU only for the costs OMU actually incurs in generating energy which KU is entitled to take under the Contract. According to KU, the contractual term "cost" does not include the NOx allowances provided by the government to ESGS free of cost. In response, OMU claims that KU impermissibly seeks to advance a claim for declaratory relief beyond the Court's September 5, 2008, Order. Alternatively, OMU maintains that if the Court reaches the merits of this claim, the Court should find that the replacement cost of State-Allocated NOx Allowances is a recoverable cost under the Contract.

Initially, the Court finds that this issue is properly before the Court. Throughout this litigation, KU asserted an ownership interest in a portion of the State-Allocated NOx Allowances and claimed that OMU overcharged KU for the State-Allocated NOx

Allowances. Additionally, KU expressly reserved its right to assert this argument in the joint stipulation. The stipulation acknowledges that "[b]y entering into this stipulation, KU does not stipulate that OMU is entitled to charge KU the market value for State-Allocated NOx Allowances owned by OMU, even if the Court concludes that KU's ownership should be based on capacity allocations, and the parties reserve the right to address the amount to be refunded to KU pursuant to the September 5, 2008 Order in post trial briefs." (Joint Stipulation at ¶ 5.)

The parties do not specifically address what statutory or contractual provision allows OMU to charge KU for NOx allowances that OMU uses in generating the energy KU purchases. However, the parties appear to agree that Article III, Section 3 of the Contract governs the recovery of costs associated with the NOx allowances. Thus, the question before the Court is whether State-Allocated NOx Allowances are costs recoverable under the Contract; and, if so, how these costs are allocated.

Contrary to KU's argument, the Court finds that NOx allowances are actual costs recoverable under the Contract. The Federal Energy Regulatory Commission ("Commission") has repeatedly recognized that "actions taken by utilities to comply with the [Clean Air Act Amendments] are legitimate costs of service that can be recovered from customers." La. Pub. Serv. Comm'n v. Entergy Corp., 123 F.E.R.C. para 61,188, P 34 (2008). "[E]mission allowances are a resource necessary for the generation of power and, thus, . . . the replacement costs of emissions allowances are an actual cost of service." Id. The Commission held that under a wholesale power contract that provides for recovery of

incremental costs, "if a utility uses an allowance for the benefit of one of its wholesale customers, the utility can charge that customer for the replacement costs of the allowance even though it paid nothing for the allowance." La. Pub. Serv. Comm'n v. Entergy Corp., 123 F.E.R.C. para 61,188, P 33 (2008) (citing Southern Co. Servs., Inc., 69 F.E.R.C. para 61,437 at 62,555-56 (1994)). Given this case law, the Court finds that the replacement cost of the State-Allocated NOx Allowances is an actual cost which can be passed through to KU under Article III of the Contract.

Having determined that NOx allowances are actual costs under the Contract, the Court finds that the Contract requires the costs of the NOx allowances be allocated based on Article III, Section 3(d) capacity allocations. Under Article III, Section 3(d) of the Contract, any cost not specifically identified in the Contract as either an energy cost or a capacity cost must be allocated according to the parties' capacity allocations. NOx allowance costs are not identified in the Contract as either an "energy" or a "capacity" cost and, therefore, must be allocated on a capacity basis according to the Contract.

Accordingly, allocating the costs of these State-Allocated NOx Allowances on a capacity basis, OMU could have properly charged KU the costs of 2368 State-Allocated NOx Allowances under the Contract. Instead, OMU charged KU the cost of 3285 State-Allocated NOx Allowances resulting in an overcharge of the cost of 917 State-Allocated NOx Allowances. Therefore, KU is entitled to a refund for the amount paid by KU to OMU for the 917 State-Allocated NOx Allowances.

3. Purchased NOx Allowances

Additionally, KU seeks to recover part of the cost it paid to OMU for Purchased NOx Allowances arguing that the Contract requires the costs of these allowances be based on the capacity allocation set forth in Article III, Section 3(d). The Court declines to address this claim. KU's counterclaim related only to the State-Allocated NOx Allowances and raised no breach of contract claim regarding the Purchased NOx Allowances. (Am. Counterclaim ¶ 28.) Specifically, in its counterclaim, KU states that "OMU has taken the position that it has ownership rights over all NOx allowances allocated to ESGS Station 2. However, KU has ownership rights to certain of the NOx allowances allocated to Station 2." (Id.) Further, in its original motion for summary judgment, KU represented that the "purchased allowances are not the subject of the dispute between the parties." (DN 310, KU's Memorandum of Law in Support of Motion for Partial Summary Judgment Concerning NOx Emission Allowances at 2.)

4. Amount of Refund

The parties stipulated that from 2004 through 2008, ESGS received a total of 5665 State-Allocated NOx Allowances. Based on the decisions set forth above, the Court finds that OMU improperly charged KU for the cost of 3285 State-Allocated NOx Allowances. The parties stipulated that the total amount paid by KU to OMU for NOx allowances through September 2008 was $5,443,559. (Joint Stipulation at ¶ 2.) Of that amount, $301,165 was paid for Purchased NOx Allowances. (Id. at Table 3.) Thus, the refund to KU for the State-Allocated NOx Allowances is $5,142,394 -- the difference between $5,443,559 that KU paid

for all the NOx allowances minus $301,165 that KU paid for Purchased NOx Allowances.[3]

5. Pre-Judgment Interest

KU seeks an award of prejudgment interest on the refund amount for the NOx allowances. KU proposes a judgment that includes an award of 8% prejudgment interest based on Kentucky's legal rate of interest. See KRS § 360.010. OMU objects to an award of prejudgment interest. OMU argues that KU's claim arises under federal law and, as a result, an award of prejudgment interest is in the discretion of the district court. Green v. Nevers, 196 F.3d 627, 633 (6th Cir. 1999). OMU contends that KU offers nothing in support of its claim for prejudgment interest and, thus, prejudgment interest should not be awarded. Alternatively, OMU argues that if the Court believes an award of prejudgment interest is appropriate, the award should be at the rate set forth in 28 U.S.C. § 1961. Ford v. Uniroyal Pension Plan, 154 F.3d 613, 619 (6th Cir. 1998).

The Court finds that prejudgment interest is appropriate in this case. With respect to the proper rate of interest, the Court finds that KU's claim is one for a refund of monies paid by KU for NOx allowances pursuant to the Contract. Therefore, the Court will award prejudgment interest based on Kentucky's legal rate of interest of 8%.

6. Conclusion

KU is entitled to a refund in the amount of $5,142,394 for the State-Allocated NOx

[3]All of the refund amounts in KU's brief are in error because KU mistakenly treated the amount KU was billed for allowances ($5,720,670) as the amount it had paid, which was actually $5,443,559. (DN 473, Joint Stipulation at ¶ 2.)

Allowances. Judgment will be entered in favor of KU and against the Plaintiffs in the amount of $5,142,394 together with prejudgment interest at 8% from the date each payment was made by KU until the date of entry of this judgment, and post-judgment interest on the entire amount of the judgment, including interest, at the rate prescribed by 28 U.S.C. § 1961 from the date of judgment until paid in full.

Joseph H. McKinley, Jr., Judge
United States District Court

February 19, 2009

cc: counsel of record

Response to Question No. 2
Court Order – Judgment (2/19/09)
Witness: Counsel

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
OWENSBORO DIVISION

CIVIL ACTION NO. 4:04-CV-87-M

CITY OF OWENSBORO and CITY UTILITY COMMISSION OF THE CITY OF OWENSBORO, KENTUCKY, a/k/a OWENSBORO MUNICIPAL UTILITIES **PLAINTIFFS**

V.

KENTUCKY UTILITIES COMPANY **DEFENDANT**

JUDGMENT

This matter having come before the Court on a bench trial and on Joint Stipulations of Fact, the Court on this date having issued Findings of Fact and Conclusions of Law and a Memorandum Opinion and Order addressing the remaining claims,

IT IS HEREBY ORDERED that judgment be entered in favor of the Plaintiffs on Defendant's counterclaim for breach of contract for failing to operate and maintain the Elmer Smith Generating Station in a good and workmanlike manner.

IT IS FURTHER ORDERED that judgment be entered in favor of KU and against the Plaintiffs for damages equal to the total unpaid back-up energy charges owed by OMU in the amount of $4,053,458.32, together with prejudgment interest at 8% on each past due payment from the date each monthly payment was due until the date of entry of this judgment, and post-judgment interest on the entire amount of the judgment, including interest, at the rate prescribed by 28 U.S.C. 1961 from the date of judgment until paid in full.

IT IS FURTHER ORDERED that judgment be entered in favor of KU and against the Plaintiffs for the refund of monies paid by KU for State-Allocated NOx Allowances in the amount of $5,142,394, together with prejudgment interest at 8% from the date each payment was made by KU until the date of entry of this judgment, and post-judgment interest on the entire amount of the judgment, including interest, at the rate prescribed by 28 U.S.C. § 1961 from the date of judgment until paid in full.

Joseph H. McKinley, Jr., Judge
United States District Court

February 19, 2009

cc: counsel of record

Response to Question No. 2
Court Order – Memorandum Opinion and Order (4/14/09)
Witness: Counsel

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
OWENSBORO DIVISION

CIVIL ACTION NO.: 4:04CV-87-M

CITY OF OWENSBORO and
CITY UTILITY COMMISSION OF THE CITY OF OWENSBORO, KENTUCKY, a/k/a OWENSBORO MUNICIPAL UTILITIES **PLAINTIFFS**

v.

KENTUCKY UTILITIES COMPANY **DEFENDANT**

MEMORANDUM OPINION AND ORDER

On February 19, 2009, this Court issued a Memorandum Opinion and Order ("Opinion") setting forth the damages Kentucky Utilities Company ("KU") was entitled to receive in relation to the plaintiffs' underpayment for back-up energy and the plaintiffs' overcharge for NOx allowances [DN 524]. The Court subsequently entered a judgment in favor of KU on those two issues in an amount consistent with the Court's Opinion. This matter is back before the Court upon motions to alter or amend that Opinion and related judgment by both the defendant, Kentucky Utilities Company [DN 526] and the plaintiffs, City of Owensboro and City Utility Commission of the City of Owensboro, Kentucky, a/k/a Owensboro Municipal Utilities ("OMU") [DN 527]. Also before the Court is a motion by the plaintiffs to stay [DN 528]. Fully briefed, these matters are ripe for decision.

I. NOx ALLOWANCES

In their pleadings, each party sought a declaration as to the ownership of 5,665 NOx Allowances that were allocated by the State of Kentucky to the Elmer Smith Generating Station ("ESGS") free of charge between 2004 and 2008. OMU, believing that they owned all NOx

allowances and that they were entitled to pass the "costs" of said allowances on to KU, charged KU for the value 3,285 allowances based on the energy allocated to KU.

The post-trial briefs submitted by the parties raised two issues with respect to the NOx emission allowances which are pertinent to the current motion : (1) whether KU's ownership share of ESGS State-Allocated NOx Allowances should be based on KU's energy allocation or its capacity allocation under the Contract; and (2) whether OMU is prohibited under the Contract from charging KU for State-Allocated NOx Allowances because it "incurred no cost" to acquire them.

In deciding the first question, the Court decided that KU's ownership share of allowances should be based on its capacity allocation under the Contract instead of energy allocation. Since the Court decided that the allowances should be based on capacity allocations, that meant KU "owned" 2,368 NOx allowances for which it had been charged. Thus, in Section II.C(1) of the Opinion, on page 9, the Court held that KU was entitled to a refund in the amount OMU charged KU for the 2368 allowances.

In deciding the second question, the Court held that the NOx allowances were costs which could be passed through under the contract even though OMU incurred 'no costs" for them. However, in reviewing the Contract, the Court found that these "costs" were not identified under the contract and thus, under Article III, Section 3(d) of the Contract, any cost not specifically identified in the Contract as either an energy cost or a capacity cost must be allocated according to the parties' capacity allocations. What followed is a sentence that perhaps causes the confusion. The Court stated, on page 11 of its opinion, that because allocating the costs of these State-Allocated NOx Allowances should be done on a capacity basis, "OMU could have properly charged KU the costs of 2368 State-Allocated NOx Allowances under the Contract." Perhaps the Court should have

said because these costs are allocated under the contract on the basis of capacity, OMU could **only** have charged KU for 2368 state-allocated allowances, and since KU already "owned" 2368 allowances, **no charge was proper.** That was the intent at least. That is why under Section II.C(1) of the opinion, the Court found KU to be entitled to a refund in the amount OMU charged KU for the 2368 allowances, and under Section II.C(2), on page 11, the Court found that KU was entitled to an additional refund for remaining 917 NOx allowances. Therefore, in the end, the Court held that KU should not have been charged at all for the allowances and that it was entitled to a full refund for the 3,285 allowances it had been charged for by OMU. Although the Court went about it in a different way than that advocated by KU, a full refund is precisely what KU wanted.

II. INTEREST

The judgment entered in favor of KU on the issue of back up energy and NOx Allowances awarded prejudgment interest pursuant to Kentucky law. OMU contends that the federal prejudgment interest statute should apply and that the Court's judgment should be amended accordingly. Furthermore, OMU argues that if Kentucky law applies, then the Court should exercise its discretion to not award interest or at least lower the amount because the damages were unliquidated. The Court disagrees with OMU in both respects. Although the resolution of these issues required the Court to answer a substantial question of federal law, KU's recovery is essentially premised upon state law. Furthermore, the Court finds that the damages are liquidated because the amount OMU could charge for NOx allowances and the amount OMU had to pay for backup energy was set by contract and could therefore be ascertained by mere computation. Therefore, prejudgment interest pursuant to statute follows as a matter of course. OMU's motion

will therefore be denied.

III. CONCLUSION

For the reasons set forth above, **IT IS HEREBY ORDERED** that the motions by the defendant, Kentucky Utilities Company [DN 526] and the plaintiffs, City of Owensboro and City Utility Commission of the City of Owensboro, Kentucky, a/k/a Owensboro Municipal Utilities ("OMU") [DN 527], to alter or amend are **DENIED**. **IT IS FURTHER ORDERED** that the motion to stay by the plaintiffs [DN 528] is **DENIED as moot**.

Joseph H. McKinley, Jr., Judge
United States District Court

April 13, 2009

cc: Counsel of Record

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF KENTUCKY UTILITIES COMPANY FROM NOVEMBER 1, 2008 THROUGH APRIL 30, 2009	))))))	**CASE NO. 2009-00287**

PETITION OF KENTUCKY UTILITIES COMPANY
FOR CONFIDENTIAL PROTECTION

Kentucky Utilities Company ("KU"), pursuant to 807 KAR 5:001, Section 7, respectfully petitions the Commission to classify as confidential and protect from public disclosure the Settlement Agreement dated May 11, 2009 between the City of Owensboro, Kentucky, the City Utility Commission of the City of Owensboro, Kentucky, and KU provided by KU in response to a data request of the Commission Staff during the hearing held on October 13, 2009. In support of this Motion, KU states as follows:

1. Under the Kentucky Open Records Act, the Commission is entitled to withhold from public disclosure information confidentially disclosed to it to the extent that open disclosure would permit an unfair commercial advantage to competitors of the entity disclosing the information to the Commission. *See* KRS 61.878(1)(c). Public disclosure of the information identified herein would, in fact, prompt such a result for the reasons set forth below.

2. Disclosure of the Settlement Agreement could damage KU's competitive position and business interests by adversely impacting settlement options in future litigation proceedings. If the Commission grants public access to the information requested, litigants in KU's current and future law suits could try to use this information to negotiate better outcomes.

3. The provisions of the Settlement Agreement themselves make clear that the terms should be kept strictly confidential. If counterparties cannot expect provisions to be afforded confidential protection, parties may be more hesitant to enter into settlement agreements in the future which may result in higher litigation costs.

4. The information for which KU is seeking confidential treatment is not known outside of KU, is not disseminated within KU except to those employees with a legitimate business need to know and act upon the information, and is generally recognized as confidential and proprietary information in the industry.

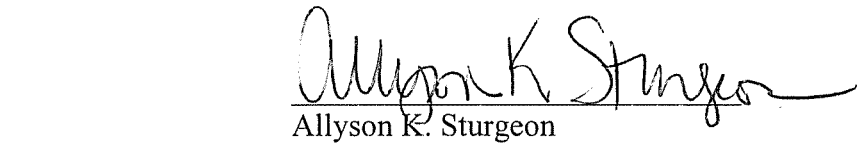
5. KU does not object to limited disclosure of the confidential information described herein, pursuant to an acceptable protective agreement, to intervenors with legitimate interests in reviewing the same for the purpose of participating in this case.

6. In accordance with the provisions of 807 KAR 5:001, Section 7, KU is filing with the Commission one complete copy of the Settlement Agreement and ten (10) copies without the Confidential Information.

WHEREFORE, Kentucky Utilities Company respectfully requests that the Commission grant confidential protection to the information designated as confidential.

Dated: October 27, 2009

Respectfully submitted,



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ATTACHMENT 1