Exhibit No. 114

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Crossroads Energy Center
Witness: *Cary G. Featherstone*
Sponsoring Party: *MoPSC Staff*
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MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION
AUDITING DEPARTMENT

REBUTTAL TESTIMONY

OF

CARY G. FEATHERSTONE

KCP&L GREATER MISSOURI OPERATIONS COMPANY

CASE NO. ER-2016-0156

Jefferson City, Missouri
August 15, 2016

** Denotes Highly Confidential Information **

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TABLE OF CONTENTS OF

REBUTTAL TESTIMONY OF

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CASE NO. ER-2016-0156

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Q. Please state your name and business address.

A. Cary G. Featherstone, Fletcher Daniels State Office Building, 615 East 13th Street, Kansas City, Missouri.

Q. By whom are you employed and in what capacity?

A. I am a Regulatory Auditor with the Missouri Public Service Commission (Commission).

Q. Are you the same Cary G. Featherstone who filed direct testimony in this proceeding?

A. Yes, I am. I contributed to Staff's Cost of Service Report filed on July 15, 2016, (COS Report) in regard to KCP&L Greater Missouri Operations Company's ("GMO" or "Company") rate case filed on February 23, 2016.

Q. What is the purpose of your rebuttal testimony?

A. I address various aspects of the direct testimony of the following GMO witnesses:

KCP&L GREATER MISSOURI OPERATIONS PAST RATE INCREASES AND RATE LEVELS

Darrin R. Ives, GMO's Vice President – Regulatory Affairs — direct testimony, pages 15 to 18

CROSSROADS ENERGY CENTER

Scott H. Heidtbrink, GMO's Executive Vice President and Chief Operating Officer — direct testimony, pages 11 to 13

John R. Carlson, GMO's Originator, Supply Resources - direct testimony, pages 6 to 10

Burton L. Crawford, GMO's Director, Energy Resource Management – direct testimony, pages 15 to 19

Ronald A. Klote, GMO's Director, Regulatory Affairs — direct testimony, pages 10 to 11 and 37 to 38.

I will also respond to the direct testimony presented by The Office of the Public Counsel ("Public Counsel") regarding its view that Aquila was not imprudent when it determined that the combined cycle unit, then called Aries, should be treated as a merchant plant.

Q. Since GMO has had different names at different times in its past, how will you refer to it in your following testimony in the context of Crossroads issues?

A. At various places in this rebuttal testimony when I discuss historical aspects of GMO capacity planning I will use the names GMO was using at the time, UtiliCorp (UtiliCorp United, Inc.) before early 2002 and Aquila (Aquila, Inc.) during the period early 2002 to mid-2008. I refer to the former operating divisions of Aquila-Aquila Networks-MPS and Aquila Networks-L&P, as MPS and L&P, respectively, when discussing GMO during this period when it was named Aquila, i.e., before it was acquired by Great Plains Energy Incorporation (Great Plains Energy) on July 14, 2008.

EXECUTIVE SUMMARY

Q. Would you please summarize your rebuttal testimony?

A. Staff continues to support the Commission's decision in the last two GMO general rate increase cases to exclude all transmission costs related to the power generated from Crossroads Energy Center ("Crossroads"). Crossroads is a combustion turbine peaking generating facility built by a non-regulated affiliate of Aquila, Aquila Merchant Services ("Aquila Merchant"). While GMO's customers are located primarily in the metropolitan Kansas City, Missouri area and surrounding communities and in many areas in western Missouri, Crossroads is physically located in Clarksdale, Mississippi. Clarksdale is 520 miles[1] from GMO's headquarters in downtown Kansas City.

The Commission determined that unnecessary and expensive transmission costs associated with Crossroads should not be recovered in rates. In effect, the Commission's rate decisions in both the 2010 and 2012 GMO rate cases[2] assume the cost levels as though Crossroads was built within the same regional transmission organization ("RTO") of the Southwest Power Pool ("SPP"), just like every other generating unit operated by GMO, and its affiliate, Kansas City Power & Light Company ("KCPL").

While GMO presents in its direct testimony that it accepts the rate base valuation disallowances made by the Commission in the last two rate cases[3], it requests rate recovery in this case of all Crossroads transmission costs incurred in excess of the level excluded in Case No. ER-2012-0175, approximately $4.9 million, which would result in recovery of approximately $8.25 million of Crossroads transmission expense in this case.[4] In contrast, no

[1] According to Google Maps using Great Plains Energy's headquarters at 1200 Main Street, Kansas City, Missouri to Crossroads Energy Center at 19th West Tallahatchie Street, Clarksdale, Mississippi. In the ER-2012-0175, using MapQuest the mileage was 525 miles which Commission used in its Order.
[2] Case Nos. ER-2010-0356 and ER-2012-0175
[3] See Crawford direct at page 18 and Heidtbrink direct at page 12
[4] Klote direct testimony, page 38

recovery of Crossroads transmission expense at all was granted to GMO in the 2010 and 2012 rate proceedings.

In this proceeding, GMO takes the position that the increased cost to transmit power from Crossroads to GMO's service territory that has occurred since GMO's last rate case should be recovered from customers in full. As further explained in this testimony, Staff strongly disagrees because the only reason GMO incurs any transmission costs relating to Crossroads is the result of its imprudent decision-making regarding ownership of generation, including this facility, in the past. All Crossroads transmission costs are directly tied to utility imprudence, and all such costs should be disallowed in order to protect GMO customers.

Staff continues to support the Commission's decision regarding the value of Crossroads in rate base and the exclusion of all transmission costs that would not be incurred had this peaking facility been built in an area to serve the regulated electric customers in western Missouri.

My rebuttal testimony also provides a perspective on the rate increases granted GMO over the last decade and identifies that those rates are increasing faster than the national average. While GMO's MPS and L&P electric rates are still below the national average, they exceed the state and regional averages. Those comparisons do not include any amount of rate increase that may result from this case.

KCP&L GREATER MISSOURI OPERATIONS PAST RATE INCREASES AND PRICE OF ELECTRICITY PER kWh

Q. Mr. Ives discusses various aspects of GMO's past rate increases at pages 15 through 18 of his direct testimony. What has been the history of GMO's rate increases?

A. The table below identifies past rate increases requested by GMO for its rate districts and the amounts approved by the Commission for each of the cases filed since 2007.

Case No.	Date Filed	Combined GMO (MPS & L&P)					Effective Date of Rates
ER-2016-0156	Feb 23, 2016					$59.3 million (8.2%) Requested	Expected Jan 2017
Case No.	**Date Filed**	**MPS Amount Requested**	**MPS Amount Authorized**	**L&P Amount Requested**	**L&P Amount Authorized**		**Effective Date of Rates**
ER-2012-0175	Feb 27, 2012	$58.3 million (10.9%)	$26.2 million (4.86% increase)	$25.2 million (14.6%)	$21.7 million (12.74% increase)	Total $48 million Authorized	Jan 26, 2013
ER-2012-0024					$11.757 million (7.27% increase)		June 25, 2012
ER-2010-0356	June 4, 2010	$75.8 million (14.4% increase excluding impact of the fuel clause)	$35.7 million (7.2% increase)	$22.1 million (13.9% increase excluding impact of the fuel clause)	$22.1 million (15.8% increase) Full amount before phase-in of $29.8 million excluding deferrals		June 25, 2011
ER-2009-0090	Sept 5, 2008	$ 66 million (14.4 % increase excluding any impact of the fuel clause)	$48 million (10.46% increase)	$ 17.1 million (14.4 % increase excluding any impact of the fuel clause)	$15 million (11.85% increase)		Sept 1, 2009
ER-2007-0004	July 3, 2006	$94.5 million (22% increase)	$ 45.3 million (11.64% increase)	$22.4 million (22.1% increase)	$13.6 million (12.79% increase)		May 31, 2007
ER-2005-0436	May 24, 2005	$69.2 million	$38.5 million	$9.4 million	$6.3 million		March 1, 2006

Source: Commission's Report and Orders from each rate case and GMO's February 23, 2016 Application

GMO's rate increases, broken out by MPS and L&P rate increases, are:

Over the last 10 years, since GMO's 2005 rate case, MPS has received increases of $193.7 million and L&P has received $90.5 million, or a GMO total of $284.2 million increase in ordered increases in revenues.

Q. What are the MPS and L&P electric rate changes?

A. MPS overall retail rates in Missouri have gone from a 6.45 cents per kilowatt hour in 2005 to 9.93 cents per kilowatt hour in 2015, or a 54% increase. L&P overall retail rates in

Missouri have gone from a 5.20 cents per kilowatt hour in 2005 to 9.35 cents per kilowatt hour in 2015, or a 79.8% increase.[5]

Staff made a comparison of GMO's electric rates broken out between MPS and L&P with other electric utilities in Missouri and Kansas. Based on information compiled by the Edison Electric Institute ("EEI"), GMO's rates are higher than regional and State of Missouri averages.

Q. Mr. Ives indicates at page 15 of his direct testimony that GMO's electric rates are below the national average. Is that so?

A. Yes. However, GMO has experienced significant rate increases since early 2000s and its rates have increased faster than the national average over that period. Below is a table that identifies GMO's overall rates for MPS and L&P which includes all classes of customer – residential, commercial and industrial, or large volume users. GMO's overall rates are below the national average during the period 2005 to 2015. But the national average rate increased 30.3%,[6] compared to MPS' 54% increase and L&P's 79.8% increase over this period. GMO's overall rates continue to be above the regional average and the State of Missouri average.

Staff recently received the Edison Electric Institute's Typical Bills and Average Rates Report Winter 2016. The following is an update to analyses presented in previous GMO and KCPL rate cases:

continued on next page

[5] Using EEI Winter 2016 Report, page 178-- MPS's total average rates- 2015 of 9.93 cents per kWh compared to 2005 of 6.45 cents per kWh representing a 54.0% increase and L&P's total average rates- 2015 of 9.35 cents per kWh compared to 2005 of 5.20 cents per kWh representing a 79.8% increase.

[6] The 30.3% increase for the national average is determined comparing 2015 rate of 10.71 cents to 2005 rate of 8.22 cents (10.71 cents/8.22 cents). This same calculation is made for both MPS and L&P.

Utility Company	2015[7]	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
MISSOURI RETAIL AVERAGE RATES—CENTS PER KWH											
KCPL-Missouri	9.34 cents/ kwh Sept 2015 ER-2014-0370	8.89	8.78 Jan 26, 2013 ER-2012-0174	8.23	8.01 May 4, 2011 ER-2010-0355	7.69	6.88 Sept 1 ER-2009-0089	6.51 Feb 1 ER-2007-0291	6.14 Feb 1 ER-2006-0314	5.66	5.65
MPS	**9.93**	9.56	9.51	9.48	9.31	9.09	8.36	7.79	7.33	6.85	6.45
L&P	**9.35**	9.14	9.10	8.49	7.34	6.75	6.34	5.93	5.63	5.30	5.20
Ameren Missouri	8.53	8.02	8.12	7.36	7.16	6.48	5.95	5.43	5.46	5.43	5.49
Empire-Missouri	11.09	11.00	10.65	10.35	10.07	8.96	8.45	8.18	8.03	7.33	7.09
Missouri Average	**9.01**	**8.56**	**8.58**	**7.96**	**7.72**	**7.11**	**6.55**	**6.04**	**5.93**	**5.74**	**5.71**
KANSAS RETAIL AVERAGE RATES—CENTS PER KWH											
KCPL-Kansas	10.99	10.40	10.42	9.87	9.43	8.57	8.06	7.46	6.73	6.35	6.32
Empire - Kansas	10.76	10.39	10.15	10.48	10.11	9.25	8.41	8.69	8.61	8.06	6.54
Westar Energy -- KGE	9.43	9.54	8.87	8.42	7.90	7.46	7.13	6.32	5.73	6.04	6.03
Westar Energy -- KPL	10.06	10.17	9.42	8.99	8.28	8.15	7.82	6.92	6.06	6.25	5.58
Kansas Average	10.06	9.99	9.46	9.00	8.43	8.00	7.62	6.84	6.12	6.35	6.14
West North Central	**8.95**	**8.70**	**8.56**	**8.06**	**7.82**	**7.53**	**7.14**	**6.81**	**6.51**	**6.38**	**6.17**
United States Average	**10.71**	**10.73**	**10.37**	**10.09**	**10.09**	**9.97**	**9.83**	**9.77**	**9.20**	**8.89**	**8.22**

Source: EEI Winter 2010 Report, page 180 provided Data Request 380- ER-2010-0355
EEI Winter 2012 Report, page 180 provided Data Request 241- ER-2012-0174
EEI Winter 2014 Report, page 179; EEI Winter 2015 Report, page 178; EEI Winter 2016 Report, page 178

[7] The EEI rate amounts are average price per kWh billed to customers and do not represent tariff rates. These average rates for each period are the levels at December 31 year end.

Attached as Schedule CGF-r1 are tables that include 2015 electric rates for each residential, commercial and industrial customer rate class for the period 2005 to 2015.

While GMO's overall rates may be below the national average, those rates increased over 54% from 2005 to 2015. The national average rates increased at just 30% over the same period. The West North Central region, which includes GMO, experienced an overall increase of 46.3%.

Of course, none of these increases include any impact of changes in rates that may result from this case, expected late January 2017.

Q. Mr. Ives states at page 17 of his direct testimony that the cost of electricity has risen at a "slower pace" compared to other commodities. Have GMO's rates increased at this slower pace?

A. No. Mr. Ives indicates that from 2002 to 2012 the cost of electricity has risen 3.2% annually. However, with MPS' rates increasing 54% and L&P's rates increasing 79.8%, the annual increase in GMO's electricity rates have exceeded this percentage over the last ten years from 2005 to 2015.

CROSSROADS ENERGY CENTER

Q. What is GMO's position regarding transmission costs related to its Crossroads Energy Center in this rate proceeding?

A. Company witnesses support the inclusion of certain transmission costs relating to GMO's Crossroads Energy Center ("Crossroads") since its last rate case. GMO witnesses state the following regarding GMO's position on Crossroads:

- Mr. Heidtbrink states at page 12 of his direct testimony that "GMO proposes to continue the disallowance levels adopted by the Commission in Case Nos. ER-2010-0356 and ER-2012-0175 with respect to rate base and transmission costs. In addition to rate base for Crossroads at the level determined by the Commission in Case No. ER-2012-0175…GMO also proposes to include in rates the incremental increase in transmission cost above $4,915,609."

- Mr. Klote states at page 38 that "the Company included the projected average annual amount of Crossroads transmission expense for calendar years 2017 and 2018 less the amount of disallowed transmission cost associated with Crossroads Generating Station that was established in Case Nos. ER-2010-0356 and ER-2012-0175" and "the average amount of Crossroads transmission expense that was projected for 2017 and 2018 was $13,157,558. The amount of the Crossroads generating facility's transmission expense that was previously disallowed in the 2012 Case that was removed from this case was $4,915,609. This nets to a projected annual amount associated with Crossroads transmission expense of $8,241,949 that is included in this rate case."

- Mr. Crawford states at page 15 of his direct testimony that "while GMO is not seeking recovery of transmission costs previously disallowed by the MPSC, GMO is seeking recovery of the increase in transmission costs above the amount of the original $4.9 million disallowance" and at page 18 "...GMO is not asking to recover the transmission costs previously disallowed by the Commission nor the Crossroads capital costs previously disallowed by the Commission."

- Mr. Carlson states at page 8 "transmission expense increased throughout the years so that by the Commission's January 2013 Report and Order in ER-2012-0175 the disallowance for Crossroads transmission expense was $4.9 million, and in December 2013 the expense paid by GMO to Entergy for Crossroads transmission service was approximately $5.6 million per year" and "because of the expected additional investment in transmission infrastructure in MISO, particularly in the MISO South Region where Entergy is located, the transmission expense for Crossroads to serve load in Missouri is expected to increase in the years ahead. In 2015 the Company's expense for Crossroads transmission service was approximately $13.0 million."

Q. Does Staff agree with the inclusion of any of GMO's Crossroads' transmission costs in GMO's revenue requirement used to set rates?

A. No. Staff excluded all the test year transmission costs for Crossroads in the Accounting Schedules filed with its direct testimony on July 15, 2016.

These costs were eliminated consistent with the Commission's treatment of these costs in GMO's last two rate cases. See pages 53 to 62 of Staff's Cost of Service Report for discussion of Crossroads and Adjustment E 82.2 in Accounting Schedule 10- Adjustments to Income Statement.

Q. GMO stated in its direct testimony that it accepts the disallowance made by the Commission for Crossroads rate base valuation in the last two rate cases. How did Staff treat Crossroads in rate base in this proceeding?

A. Consistent with the Commission's decision in the last two rate cases, Staff made a series of adjustments to GMO's recorded plant in service ("plant") and accumulated depreciation reserve ("reserve") to reflect the Commission ordered rate base values for this generating unit determined in both Case Nos. ER-2010-0356 (the "2010 rate case") and ER-2012-0175 (the "2012 rate case"). GMO made these same plant and reserve adjustments in its direct filing.

BACKGROUND OF CROSSROADS ENERGY CENTER

Q. What is the Crossroads Energy Center?

A. Crossroads is a four unit 75-megawatt natural gas combustion turbine generating site with a total capacity of approximately 300 megawatts (292 megawatts[8]) located near Clarksdale, Mississippi. These four units are General Electric model 7 EAs, and were built in 2002 as a merchant plant for the former Aquila Merchant, a wholly-owned subsidiary of Aquila. This facility was originally built to serve the constrained transmission area in and around Clarksdale, Mississippi, and it was never intended to be part of GMO's regulated operations, located in western Missouri. Aquila Merchant built Crossroads in 2002 as a non-regulated independent merchant plant ("IPP"). However, because the merchant power market collapsed just prior to the completion of Crossroads, it never operated as a merchant plant. In fact, other than testing the units during installation, it never operated until 2005, when it generated electricity for its affiliate, MPS, under a short-term purchased power agreement in the summer of 2005 entered into to meet the capacity shortfall of MPS when a 500 megawatt purchased power

[8] Crossroads is identified as 292 megawatts in Great Plains 10-K as of December 31, 2015- page 22.

agreement with Aquila Merchant expired May 31, 2005. Aquila Merchant previously supplied the 500 megawatts of power from its Aries unit which was completed in January 2002.

Q. Why was the Mississippi location chosen for Crossroads?

A. This location was chosen consistent with Aquila Merchant's business strategy to identify areas of transmission constraints and build generating assets near these areas. Crossroads was one of several facilities either built or planned by Aquila Merchant to capitalize on volatile and high price power markets of the late 1990s and early 2000s. Crossroads was specifically built in Mississippi to take advantage of selling opportunities in these volatile energy markets to capture higher profits than traditional regulated returns.[9] Aquila Merchant believed the high cost energy market environments would continue, but it didn't.

TRANSMISSION COSTS

Q. What is the nature of the transmission service Crossroads requires that GMO witness Mr. Crawford discusses at page 16 of his direct testimony?

A. Because Crossroads is not located in the SPP RTO, but rather in the Midcontinent Independent System Operator, Inc. ("MISO") RTO, GMO had to obtain firm transmission service to transmit power back to western Missouri from this generating facility. In 2009, GMO signed a 20-year transmission agreement with Entergy to provide firm transmission service for Crossroads. Mr. Crawford states in his direct testimony this ". . . transmission service is required for GMO to count the 300 MWs of Crossroads capacity towards meeting GMO's capacity obligations. Without this service, GMO would be required to build or purchase 300 MWs of additional generating capacity and obtain firm transmission service."

[9] Aquila's vice president- Max Sherman interview Case No. ER-2004-0034, Date Request 549—see attachment to Surrebuttal Schedule 9-3 Aquila rate case ER-2007-0004.

Q. Is Staff opposed to the inclusion of Crossroads' additional transmission costs in GMO's revenue requirement used for setting its rates?

A. Yes. GMO is requesting its customers pay in rates for transmission costs to transmit electricity from a power plant located over 500 miles from its customers. The only reason GMO incurs transmission costs for this power plant is because it is located outside the SPP in another regional transmission organization, MISO. Because this facility was originally built to serve the constrained transmission area in and around Clarksdale, Mississippi, it was never intended to be part of GMO's regulated operations, located in western Missouri.

Q. Is it common for a utility to pay for transmission service to receive power from its own generating facilities?

A. No. None of GMO's other generating units and none of KCPL's power plants incur transmission costs because all those generating units are located within the SPP regional transmission organization. The only reason GMO is required to pay transmission costs for Crossroads is its location. Absent having to pay transmission costs for being in the MISO regional transmission organization, Crossroads would be a reasonably priced facility, given the Commission's decision on the rate base valuation.

Q. Is the location of this plant the key point supporting Staff's recommendation to disallow recovery of transmission costs?

A. Yes. After the Commission's decision regarding rate base valuation, the sole issue remaining with Crossroads is that this plant is outside of SPP causing high transmission costs to transmit electricity to western Missouri. The Commission decided in GMO's 2010 rate

case that Crossroads could be included in rate base but at a substantial reduction in value as long as no transmission costs were included in rates. [10]

The Commission stated at page 90 of its Case No. ER-2010-0356 Order:

> **Ultimate Finding Regarding Prudence of Crossroads**
>
> 262. Considering the costs involved, the fact that this was an affiliate transaction rather than an arms-length transaction, the relative reliability of transmission, the excessive costs of that transmission, the reduced costs for natural gas and the alternative supply source, the distance of the power location to the customers served, and the other facts set out above, the Commission finds that the decision not to build two more 105 MW combustion turbines at South Harper was not imprudent. In addition, the decision to include Crossroads in the generation fleet at an appropriate value was prudent with the exception of the additional transmission expense, when other low-cost options were available. Paying the additional transmission costs required to bring energy all the way from Crossroads and including Crossroads at net book value with no disallowances, is not just and reasonable and is discussed in detail below.
>
> **Conclusions of Law- Crossroads**
>
> 29. In addition to the valuation, the Commission concludes that but for the location of Crossroads customers would not have to pay the excessive cost of transmission. Therefore, transmission costs from the Crossroads facility, including any related OSS shall be disallowed from expenses in rates and therefore also not recoverable through GMO's fuel adjustment clause ("FAC").
>
> **Decision – Crossroads**
>
> The Commission further determines that it is not just and reasonable for GMO customers to pay the excessive cost of transmission from Mississippi and it shall be excluded.

Q. What is the current level of transmission costs incurred for Crossroads?

A. They are increasing. For 2015, Crossroads actual transmission costs were $12.9 million. (For other years' transmission costs please refer to page 59 of the Cost of Service Report filed on July 15, 2016 in this case). This compares with the level of Crossroads transmission expenses incurred at the time of the last GMO rate case at $4.9 million. The 2015 level represents an increase of over three times since the 2012 time frame.

[10] Commission's Order in Case No. ER-2010-0356, pages 90-91, 98-100

Q. What has caused the dramatic increase in transmission costs?

A. Entergy, whom supplies transmission service for Crossroads, joined MISO in December 2013. Entergy's move to MISO caused the increase in transmission costs for 2014 to $12.7 million and almost $13 million in 2015. Over the next several years, those transmission costs are expected to increase to ** _____ ** in 2019 and to almost ** _____. ** in 2020.[11]

Q. Was Staff aware of the likelihood that Entergy joining MISO would result in increased transmission costs for Crossroads?

A. Yes. At the October 2012 hearings for Crossroads in GMO's last rate case, the fact that Entergy was planning to join MISO was addressed. Entergy joining MISO was expected to cause Crossroads transmission costs to double.[12] Ultimately transmission costs more than double by Entergy's joining MISO. Testimony was presented in GMO's rate case that transmission costs for Crossroads were increasing and were expected to continue to increase. The Commission was informed about expectation of further transmission costs increases when it decided to disallow transmission costs in the 2012 rate case.

Q. GMO witness Crawford states at page 15 of his direct testimony that "as a result of prior MPSC decisions, GMO does not recover FERC-approved transmission rates associated with Crossroads." Does Staff view the dispute relating to Crossroads as primarily involving a FERC-approved transmission rate issue?

A. No. The problem with Crossroads relates solely to the fact that the location of this generating facility causes the incurrence of transmission costs. Since Crossroads is

[11] Response to Data Request 417 in Case No. ER-2016-0156
[12] October 29, 2012 Hearings on Crossroads Issue in Case No. ER-2012-0175- Volume 19, Transcript pages 931 to 932

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physically located outside the Southwest Power Pool, this facility has substantial transmission costs.

The Crossroads issue does not in any way address the FERC-approved tariffs associated with Crossroads, the approval of these tariffs by FERC or the pricing of these tariffs. At no time has Staff presented the position on Crossroads transmission costs regarding how FERC approved the transmission tariffs, or has the Commission addressed the appropriateness of those tariffs and the resulting pricing of transmission service.

Crossroads transmission costs relate only to the location of the generating facility which causes GMO to be charged for the transmission of electricity to serve its customers in western Missouri. If the Crossroads facility were located in the Southwest Power Pool, no transmission costs would be recognized. There would not be an issue regarding transmission costs because those costs would be "zero".

Q. When did GMO become aware of Entergy's intention to join MISO?

A. GMO witness Heidtbrink refers to Entergy joining MISO at page 11 of his direct testimony. Entergy announced its intention to join MISO in April 2011.[13]

Also, the decision by Entergy to join MISO was discussed in the Commission's hearings for the 2012 GMO rate case. During the hearings, it was identified that Entergy had made a request to join MISO and that the cost of transmission would double if that request was granted. [see transcript in ER-2012-0175 rate case volume 19, pages 931 and 932]. For more specifics on the details of the timing of Entergy joining MISO, see the rebuttal testimony of Staff witness Michael Stahlman.

[13] Dockets Nos. ER12-2681-000, ER13-948-000, ER13-782-000 (consolidated) Order Conditionally Accepting Certain Proposed Tariff Revisions, Accepting And Suspending Certain Proposed Tariff Revisions, And Establishing Hearing And Settlement Judge Procedures- (Issued June 30, 2013), page 6

Q. From a rate recovery standpoint is there any significance to the difference between the level of transmission costs GMO incurred for power from Crossroads before Entergy joined MISO, and the levels it has incurred and is incurring after Entergy joined MISO?

A. No. In past rate cases, the Commission has found GMO to be imprudent in regard to its decision-making concerning the Crossroads facility. Further, the Commission assigned the additional cost associated with the imprudence, including Crossroads transmission costs, to GMO and not to its customers. In Staff's opinion, these decisions are still appropriate today.

Since the GMO 2012 rate case, the cost of that prior imprudence has increased for GMO due to Entergy's decision to join MISO. However, because the only reason that GMO is incurring these costs at all is due to past imprudent decisions. Staff continues to recommend that all such costs not be included in rates in order to shield customers in entirety from the detrimental cost impact relating to Crossroads decision making.

KCP&L GREATER MISSOURI OPERATIONS REVIEW OF CROSSROADS OPTIONS

Q. After the Commission's orders in GMO's 2010 and 2012 rate cases, did GMO review different options regarding Crossroads?

A. Yes. GMO identified in its direct testimony[14] in this proceeding that it formed a functional team of KCPL employees to examine different options in dealing with Crossroads regulatory treatment. Attached as Highly Confidential Schedule CGF-r3 is a series of documents that identifies meetings and topics discussed by the team (GMO response to Data Request 259). This team developed several different options to consider operational issues regarding

[14] Mr. Heidtbrink at page 13 of direct Mr. Crawford at page 18 of direct and Mr. Carlson at page 9 of direct.

Crossroads given that transmission costs were not included in rates in either the 2010 or 2012 rate cases.

Q. What were those options?

A. GMO identified in its response to Staff Data Request 261 (attached as Highly Confidential Schedule CGF-r4) many different options, one of which was ** _____ _____ . **

Q. What was the cost of this option?

A. GMO estimated it would cost approximately ** _____ _____ _____ _____ **

Q. ** _____ _____ **

A. ** _____ _____ ** Also, at the last pre-acquisition Aquila Integrated Resource Planning meeting I attended in February 2007, Aquila and Staff discussed ** _____ _____ _____ _____ **

Q. ** _____ _____ **

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A. ** _____
_____
_____
_____ **

Q. ** _____ **

A. ** _____
_____ ** Crossroads' transmission costs have escalated dramatically over the last several years with no end in sight. GMO is expecting Crossroads transmission costs to increase over next several years. Consequently, when considering these costs, ** _____
_____ ** For more discussion on this see Highly Confidential Schedule CGF- r2.

Q. Did Aquila consider the option of using Crossroads as a regulated unit to generate electricity for its Missouri customers in December 2005?

A. Yes. Aquila did consider using Crossroads but leaving this plant in Mississippi.

** _____
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[*Source*: [Highly Confidential Data Request 355, Case No. ER-2007-0004 attached as Schedule CGF-r5; emphasis added]

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_____ ** That same problem still exists today.

Q. Did Aquila have a later plan to get power for MPS?

A. Yes. In February 2007, just before the announcement of the Aquila acquisition by Great Plains Energy, Aquila's preferred plan for MPS was a to purchase 300 megawatts through a purchased power agreement, not using Crossroads. [Source: [Highly Confidential Data Request 355, Case No. ER-2007-0004 attached as Highly Confidential Schedule CGF-r6]

CROSSROADS OPERATIONAL ISSUES

Q. Has GMO asserted there are operational benefits associated with using Crossroads to serve its retail customers?

A. GMO witness Heidtbrink discussed the difficulty of getting natural gas in Kansas City during January and February 2014 in direct testimony at page 12. Mr. Heidtbrink indicated natural gas was available at Crossroads during the "polar vortex" weather event.

Q. Does GMO have issues operating Crossroads?

A. GMO indicated there are issues operating Crossroads in the ** _____ . ** In response to Date Request 259, GMO indicated there were **_____ ld _____ ** This response states:

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Issue 1 dealt with

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[*Source*: Data Request 259-- Highly Confidential Rebuttal Schedule CGF-r3]

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Q. Are there other operational issues with Crossroads?

A. Historically, the Mississippi-based Crossroads has experienced higher natural gas costs when compared to natural gas prices and costs in and about Kansas City, Missouri. GMO gets its natural gas in the area known as the Midcontinent region of the United States—a location where natural gas prices tend to be lower than most of the other parts of the country and in the Gulf region area, Mississippi in particular. The Midcontinent region includes portions of Texas, Oklahoma and Kansas. Historically, natural gas prices in the Midcontinent region have been lower than at the Henry Hub area in Louisiana, where Crossroads gets its natural gas.

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Specifically, Crossroads natural gas prices have been higher than those for GMO's South Harper, Greenwood, and other large combustion turbine facilities located in the Kansas City region. The following table compares Crossroads natural gas costs with those at both South Harper and at Greenwood (for a detailed summary of natural gas costs for these generating facilities see Highly Confidential Schedule CGF-r7):

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Source: GMO Data Request 70, Case No. ER-2016-0156; KCPL and GMO Data Requests 70 and 70.1, Case No. ER-2012-0175 and GMO Data Requests 70 and 70.1, Case No. ER-2010-0356

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It is only when firm transportation costs (the pipeline reservation payments) are included that South Harper has higher total natural gas costs than Crossroads in 2014 and in 2015. These costs are significant because the pipeline reservation costs are high in relation to the relative low generation from this plant which inflates the per mmbtu unit costs. In every year since 2008 South Harper actual natural gas commodity costs are lower than those for Crossroads except the recent 2015 costs, and even when the variable transportation costs are included with the commodity charges, the delivered gas price, South Harper is still lower than Crossroads except for in 2011.

Of particular note, Greenwood has significantly lower natural gas commodity costs than Crossroads in every year from 2008 to current 2015 and, when variable transportation costs are considered, Greenwood fuel costs are lower than Crossroads in each year from 2008 with exception of 2011 and 2013. When all costs are considered, Greenwood fuel costs are less than Crossroads each year from 2008 except 2013. For the last two years, Greenwood fuel costs are significantly less. Greenwood does not need firm transportation for natural gas because it is capable of using oil as a fuel source.

Equally important, the higher natural gas prices at Crossroads are consistent with the higher transmission costs to transport the energy from Crossroads back to Kansas City to serve GMO's customers. Greenwood and South Harper, both located in Kansas City area, do not cause GMO to incur any additional transmission costs to transport electricity from them to GMO customers.

Q. Are there other disadvantages to operating Crossroads because it is located in Mississippi?

A. Yes. In addition to higher transmission costs and higher natural gas costs to operate Crossroads, there are operational disadvantages for this plant being so far away from GMO's system. KCPL personnel provide management oversight for all GMO and KCPL generating units including design, engineering, maintenance and construction activities. Employees are shared in operating these generating facilities. With Crossroads being several hundred miles from GMO's service area, this plant has to operate with non-KCPL personnel. There are economies in operating a fleet of generating facilities in near geographic proximity like those of GMO and KCPL. Maintenance and construction activities can be shared through common engineering and maintenance personnel. That is not the case with Crossroads.

Q. How often has Crossroads operated since it was built?

A. Besides operating during its construction completion cycle in 2002, Crossroads did not operate at all in 2003 and 2004 or 2006. The following table identifies the energy produced in megawatt hours by Crossroads from 2002 to 2015:

Year	Crossroads Net mWh		Year	Crossroads Net mWh
2002	2,567		2009	9,029
2003	0		2010	23,719
2004	0		2011	88,681
2005	10,787		2012	84,865
2006	0		2013	44,559
2007	16,865		2014	70,616
2008	2,885		2015	19,992

Crossroads was not significantly used until after GMO was acquired by Great Plains Energy. Most of the electric output from Crossroads occurred after KCPL personnel took over the operation of GMO.

Q. How much does GMO expect Crossroads to operate in future?

A. GMO witness Crawford attached a schedule to his direct testimony identified as Highly Confidential Schedule BLC-5 that identifies the expected generation in megawatt hours from Crossroads as follows:

	2017	2018	2019	2020
Crossroads	**__ ** MWh	**___ ** MWh	**___ ** MWh	**____ ** MWh

Source: Crawford Highly Confidential Schedule BLC-5

CROSSROADS IS NOT LOWEST COST OPTION

Q. Do you agree with Mr. Heidtbrink's and Mr. Crawford's statements that Crossroads is the "lowest cost supply option"?[15]

A. No. This is the same position GMO has taken in its last three rate cases. Staff has opposed. Staff simply disagrees with GMO's assertion that Crossroads, located so far away, in another RTO, is the lowest cost option for GMO customers. Because Crossroads is located in the MISO and GMO is a member of the Southwest Power Pool, the cost to transmit Crossroads' generation to western Missouri is extremely expensive.

Q. Does Staff agree with Mr. Crawford statement at page 15 of his direct testimony that "in 2007 when the decision to add this asset to GMO's supply portfolio was evaluated, [Crossroads] was the lowest cost supply option for GMO customers"?

[15] Mr. Heidtbrink at page 12 of direct and Mr. Crawford at pages 15 and 17 of direct.

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A. No. Any analysis in 2007 or after would show much higher turbine costs compared to the 2004 and 2005 time periods when Aquila needed the capacity. Both the 2007 and 2010 studies used the wrong time period for the analyses, with resulting inflated pricing for labor costs and turbines compared to those costs in 2005. The actual decision for new generating capacity needed to be made in 2004 because of the May 2005 expiration of the Aries 500 megawatt purchased power agreement.

Crossroads would not be the most economic option in 2005 unless its value would be reduced to a 2005 market level. The only thing that the 2007 review shows is that in 2007 Crossroads was a low cost option compared to "new" 2007 combustion turbine construction. That new construction would have used turbines purchased at 2007 prices which were significantly higher than in 2004 and 2005 when the turbines would have actually needed to have been purchased to meet the expiration of the firm purchased power agreement. (see a more detailed discussion on turbine costs in Highly Confidential Schedule CGF-r2).

In February 2004, GMO performed a least cost plan that determined installing five combustion turbines to replace the Aries purchased power capacity was the most cost justified. However, Aquila ultimately only installed three of the five least cost plan turbines at the South Harper facility in June 2005. (For additional information regarding the 2004 least cost plan, see Highly Confidential Schedule CGF-r8)

Q. Did GMO examine the economics of using Crossroads as a regulated plant after 2007?

A. Yes. Staff challenged the findings of the 2007 analysis in GMO's 2009 rate case. As part of an agreement in that case, GMO agreed to study the economics of Crossroads yet again. This analysis was completed in April 2010 ("the 2010 Study") and was supplied to Staff.

In the 2010 study, GMO compared Crossroads' 2002 installed costs to estimated costs of turbines purchased and installed in 2010. However, this analysis had the same flaw as the 2007 analysis. Turbine prices and labor costs were even higher than in 2007, and certainly higher than the 2005 time period when the Aries PPA needed to be replaced.

Q. Why is the time frame of the Aries PPA contract, which ended in 2005, relevant to the discussion of Crossroads?

A. Since GMO has taken the position through Mr. Crawford's direct testimony that Crossroads is the most economical capacity generation available to GMO, it is essential to any assessment of the Crossroads facility to understand that it is Aquila's actions in the past that caused all the problems concerning the lack of owned generating capacity today. While the relevant time frame to review the Crossroads decision-making is the 2005 time frame, not the 2007 or 2009-2010 periods as Mr. Crawford would have the Commission view it, Staff's view is that the problems with GMO's/Aquila's/UtiliCorp's capacity planning actually goes back to the 1990s. (For additional information regarding the least cost plan, see Highly Confidential Schedule CGF-r2)

Q. Has GMO previously presented its view in rate cases that Crossroads was least cost compared to other generation options?

A. Yes. Mr. Crawford indicated in his testimony in the 2012 GMO rate case[16] that Crossroads was the lowest cost option.

Q. Did Staff agree with GMO that Crossroads represented lowest cost option?

A. No. Staff disputed the assertion by GMO in 2009 when it presented the 2007 study that Crossroads represented the least cost option to Aquila. Staff presented evidence in the

[16] Crawford rebuttal page 5 in Case No. ER-2012-0175

2009, 2010 and 2012 GMO rate cases that Aquila had many other options that it did not exercise, or even consider, in adding generating capacity to its operations to replace the Aries PPA in 2005. GMO presented the same 2007 least cost study it did in its 2009 and 2010 rate cases, in its 2012 rate case and this study is the same study referenced in Mr. Crawford's direct testimony in this current case (page 15 Crawford direct). The Commission found in its 2010 GMO rate case order at page 93 regarding the 2007 study:

> 268. GMO claims that the fair market value of Crossroads is established by an RFP conducted in March 2007, prior to the SEC disclosures. GMO postulates that, the responses to this RFP, demonstrates that fair market value is comparable to the proposed net book value. GMO fails to explain, however, given the alleged results of the RFP, why it announced to the Securities Exchange Commission, mere months later, that 'fair value' was only $51.6 million.
>
> 275. Considering the depressed market as exhibited by the sale of similar turbines to Ameren, and the valuation of these assets reported to the SEC by GPE, the Commission finds that $61.8 million is an accurate reflection of the fair market value of Crossroads as acquired by the affiliate transaction rule as of July 14, 2008.

LOCATION OF POWER PLANTS

Q. Is it common to locate peaking units over 500 miles from where the energy is needed?

A. No. I know of no other utility in this region that has decided to install peaking plants at this distance. In fact, Crossroads is the only peaking unit located at that distance from its customers, taking into account an analysis of the location of generating facilities of KCPL, Ameren, Empire and Westar Energy ("Westar"), the largest electric utility in Kansas. The results of this analysis are attached as Schedule CGF-r10.

Q. Has GMO's affiliate KCPL recognized the importance of locating generating facilities close to customers?

A. Yes. A presentation entitled "Wind Resources Overview" made to the Commission by KCPL on April 7, 2016, demonstrates KCPL's belief of the importance of generation being close to customers.[17] From an April 7, 2016 press release announcing KCPL's participation in two new wind energy projects (Osborn and Rock Creek):

> Close to home
> Both of these projects are located within KCP&L service area. This close proximity was one of the primary reasons for choosing both of these projects.
>
> 'Being close to our service area allows us to invest back in the communities we serve,' said Bassham. 'The developers have committed to hiring locally for the construction and ongoing operation of these facilities, which will boost the local economies in this region.'
>
> Not only is the location good for regional economic development, but **the** location **of these facilities minimizes the transmission risk that many utilities are facing with renewable energy.** Both of these projects will connect directly to the Midwest Transmission Project (MTP) transmission line, which allows for easier delivery of the electricity within this region.

Q. Is it common to locate peaking facilities in another RTO?

A. No. In every instance, all the peaking facilities are in the utility's service territories and they are in the same RTO. Crossroads is unique from all the other peaking stations. It is the only peaking plant that is outside the service territory and at such a great distance from its customers and that operates in another RTO. Further, in all instances, each of the utility's base load generating units are in the same RTO but one, Empire's Plum Point Generating Station ("Plum Point").

Q. Mr. Crawford states at page 18 of his direct testimony that it is not unprecedented in Missouri for recovery of transmission costs related to an out-of-state generating facility to be allowed. Do you agree with this assessment?

[17] *See* EFIS #93

A. Yes. There are many examples of power plants that are located in another state or even outside the service territory of a utility.

Q. Mr. Crawford cites Empire's Plum Point generating unit as an example of a power plant being located in another state where Empire is able to get this plant's transmission costs in rates. Is that correct?

A. Yes. However, what Mr. Crawford and GMO fail to recognize is that it is not the fact that the generation units are outside the state that dictates if recovery of the transmission costs is permitted, but rather the entirety of the circumstances. Simply put, the circumstances surrounding the Crossroads decision in no way relate to those of Plum Point.

For further discussion on location of generating peaking units and transmission costs see rebuttal testimony of Staff witness Daniel I. Beck.

PLUM POINT IS NOT ANALOGOUS TO CROSSROADS

Q. What is Plum Point?

A. Plum Point is a 665 megawatt coal-fired generating unit located near Osceola, Arkansas that went into commercial operation on September 1, 2010 by a combination ownership. Empire has 50 megawatts of ownership with another 50 megawatts contracted under long-term purchased power agreement with an option by Empire to purchase the additional 50 megawatts.

Q. Why does Empire receive rate treatment for Plum Point transmission costs, when you are recommending, and the Commission has determined it is not appropriate for Crossroads to receive rate treatment for its transmission costs?

A. There are several reasons why Empire has obtained rate recovery of Plum Point transmission costs:

- Empire's ownership share of Plum Point was always intended to be a regulated facility. As such, during the economic decision-making process with regulators and stakeholders, all costs of Plum Point, including its transmission costs, were considered. Crossroads, as a merchant plant, was never intended to be part of regulated utilities operations. Consequently, there was never an assessment and evaluation by a regulatory body and the various stakeholders that considered Crossroads costs, and especially its transmission costs.

- Crossroads is used very little while Plum Point is a base load unit that generates a significant amount of Empire's energy needs. Crossroads limited usage drives up the transmission costs on a per megawatt hour basis compared to the base load generation of Plum Point.

- Crossroads' transmission costs are substantial as a peaking unit. For base load unit, Plum Point's transmission costs are significantly below the amounts incurred by Crossroads.

- Plum Point serves customers for each state Empire operates in including the state of Arkansas where this generating facility is located.

- Unlike combustion turbine peaking units, Plum Point is a base load unit requiring large amounts of land and water to operate the generating unit. It is far more difficult to find suitable sites for large-scale base load units compared to peaking stations. While it is typical for base load units to be further away from utility service areas, peaking units are generally much closer to customers, and, with the exception of Crossroads, are within the utilities' RTO.

- Empire is too small of a utility to be able to build base load units and, therefore, must partner with others to participate in these large scale generating units. As such, Empire is at the mercy of where these plants are built such as KCPL's Iatan 1 and 2 power plants and the Plum Point station. Both Iatan and Plum Point facilities are well outside the service areas of Empire. But those circumstances were well known at the time of decisional-prudence reviews by regulators. There were no such decisional reviews conducted for Crossroads.

Q. Are there other examples where a peaking facility does not incur transmission costs?

A. Yes. Union Electric's Raccoon Creek and Goose Creek peaking facilities located outside Missouri in Illinois do not incur transmission costs. Because both of these generating stations are located in the MISO regional transmission organization (which Union Electric is

a member), there are no transmission costs incurred to transmit power back to Union Electric's customers.

Q. How much power has Empire gotten from Plum Point since it started operating, and how much are the associated transmission costs?

A. Below is a table that identifies Plum Point's levels of generation by year since its operations began in 2010. Included in this table are the transmission costs by year incurred by Empire to transmit power back to Empire's service area:

Year	Plum Point Transmission Costs	Plum Point Net Generation MWhs (includes ownership & PPA)	Plum Point Transmission Costs per MWh
2015	$4,470,037	549,997	$8.13
2014,	$4,234,424	500,740	$8.46
2013	$1,975,245	531,933	$3.71
2012	$1,899,967	558,992	$3.40
2011	$1,331,846	506,899	$2.63
2010	$1,162,500 (partial year in-service)	52,309 (partial year in service)	$22.22

Source: Empire Case No. ER-2016-0023 Data Requests 108 and 196

Q. Starting with 2010, how much power has GMO gotten from Crossroads, and how much are the associated transmission costs?

A. Below is a table that identifies them:

Year	Transmission Costs	Net Generation MWhs (includes ownership & PPA)	Transmission Costs per MWh
2017 Estimate	$13,000,000 estimate (a)	**__ ** expected (b)	**_____ **
2015	$12,927,935	19,992	$646.66
2014 Entergy MISO	$12,665,261	70,616	$179.35
2013	$4,323,166	44,559	$97.02
2012	$3,690,572	84,865	$43.49
2011	$4,747,065	88,681	$53.53
2010	$4,744,507	23,719	$200.03

Source: GMO Case No. ER-2016-0156 Data Requests 54 and 155.1S, 160 and 167.3S and Case No. ER-2012-0175 Data Request 154.1 and 313
(a) 2017 Estimate is 2015 costs rounded
(b) Crossroads expected dispatch by year 2017-2020- Crawford direct HC BLC-5

STAFF RECOMMENDATION ON CROSSROADS TRANSMISSION

Q. What is Staff's recommendation on Crossroads transmission?

A. Staff recommends the Commission maintain its decisions in the 2010 and 2012 rate cases and not allow recovery of Crossroads transmission costs in rates.

Q. Does Staff have a recommendation if the Commission allows any transmission costs in rates for Crossroads?

A. Yes. If the Commission were to include any level of transmission costs for Crossroads, as GMO has suggested in this proceeding, then Staff recommends the Commission further discount the rate base value of this plant, by reducing the value of Crossroads from the levels found in the 2010 and 2012 rate cases to the level identified by Great Plains and Aquila in 2007. The issue of transmission costs and the valuation of the generating plant is interrelated - one decision affects the other. The Commission considered this interrelationship in its previous

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orders on the value it determined was reasonable for the Crossroads plant with no inclusion in rates for transmission costs. If some level of transmission costs is allowed in rates, then a further reduction in rate base value is appropriate.

Q. Does Staff have a recommendation as to how to determine the rate base value should the Commission allow transmission costs for Crossroads?

A. Yes. Staff recommends an amount determined in a Joint Proxy Statement issued by Great Plains Energy and Aquila in August 2007 found a value of $51.6 million for Crossroads to be appropriate.[18] This same value was also communicated to each companies' shareholders in May 2007, so it is logical that Great Plains Energy paid no more than this $51.6 million amount when it determined the appropriate and fair price to pay for Aquila as a whole in July 2008.

Q. What was the basis for the Joint Proxy value?

A. Great Plains Energy and Aquila estimated what each thought the market value of Crossroads would be in the spring of 2007 and again in late summer of that same year. It was determined Crossroads had a value of $51.6 million, which was communicated to both Great Plains and Aquila shareholders in a May 8, 2007 Joint Proxy Statement and again in an August 27, 2007 Joint Proxy Statement, both filed with the SEC.

> D - The pro forma adjustment represents the adjustment of the estimated fair value of certain Adjusted Aquila non-regulated tangible assets and reduction of depreciation expense associated with the decreased fair value. The adjustment was determined based on **Great Plains Energy's estimates of fair value based on estimates of proceeds from sale of units to an unrelated party of similar capacity in the current market place. The preliminary internal analysis indicated a fair value estimate of Aquila's non-regulated Crossroads power generating facility of approximately $51.6 million.** This analysis is significantly affected by assumptions regarding the current market for sales of units of similar capacity. The $65.4 million adjustment reflects the difference

[18] August 27, 2007 Joint Proxy/ Prospectus issued by Great Plains Energy and Aquila- page 194

> between the fair value of the combustion turbines at $51.6 million and the $117.0 million book value of the facility at June 30, 2007.
>
> Great Plains Energy management believes this to be an appropriate estimate of the fair value of the facility. The adjusted value will be depreciated over the estimated remaining useful lives of the underlying assets and could be materially affected by changes in fair value prior to the closing of the merger. An additional change in the fair value of the facility of $15 million would result in an additional change to annual depreciation expense of approximately $0.5 million.
>
> [Emphasis added; Great Plains Energy & Aquila Joint Proxy Statement/Prospectus the SEC on August 27, 2007, page 194]

PUBLIC COUNSEL'S TESTIMONY ON THE EFFECTS OF AQUILA'S DECISION NOT TO TREAT ARIES AS A REGULATED GENERATING FACILITY

Q. What is Public Counsel's view regarding Aries?

A. Public Counsel suggests UtiliCorp's decision to not build Aries as a regulated generator was prudent. Public Counsel witness Lena Mantle in her direct testimony at page 32 indicates that

> ...given the changing electric utility environment at the time the decision was made to build the Aries plant, the conduct was reasonable considering Aquila had to solve its problem prospectively. Aquila foresaw a restructured electric industry in Missouri much like what was occurring in other states and the Missouri Legislature was considering restructuring the electric industry in Missouri.

Q. What is Staff's response?

A. Members of Staff expressed to Aquila (UtiliCorp) many times through rate cases, discussions with company personnel and IRP meetings that it thought Aquila should have built Aries as a regulated plant. While Staff ultimately accepted the fact that Aries was not going to be available to meet the system load requirements of Aquila's MPS customers, it did view this merchant unit as a missed opportunity. Clearly, having Aries available would have solved the short-fall in capacity requirements of MPS for many years into the future. Aries would represent

the largest generating unit dedicated to MPS. With its low heat rate, the efficiency of this combined cycle unit would be very valuable at the low natural gas prices the last several years.

Once it was determined Aries was not going to be available, Staff focused on the replacement of this purchased power agreement in 2003 to 2005 period.

All investor owned utilities operating in the state of Missouri in the mid to late 1990s faced the same regulatory risk as Aquila regarding uncertainty of restructuring in the electric utility industry. Yet all electric utilities operating except for Aquila (UtiliCorp) installed generating units during this time frame. These utilities made decisions to add new generating capacity despite the threat of new form of regulation for the electric industry. Restructuring was not a greater risk than the risk of not having sufficient generating capacity to meet customers' system load requirements.

Q What other Missouri utilities added new power plants during the restructuring discussion?

A. While Aquila had not built any generating capacity since 1983, with exception of the completion of South Harper in 2005, the rest of Missouri utilities had installed generating units during this period. KCPL installed eight peaking power plant plants at three different locations in Missouri and Kansas, built a combined cycle unit and substantially rebuilt one of its coal-fired generating units as result of an explosion. Empire constructed several peaking generating units and a large 500 megawatt combined cycle unit it operates and owns 60% share (Empire share is 300 megawatts). Ameren Missouri (Union Electric Company) also committed to building peaking units to meet its regulated system load requirements in Missouri and, as recently as 2002 with Commission approval in Case No. EO-2003-0035, built a regulated unit under a Chapter 100 financing arrangement with the City of Bowling Green, Missouri. In

addition, in early 2006 Ameren Missouri purchased from Aquila several combustion turbines at two different generating stations located in Illinois called Raccoon Creek and Gosse Creek.

Q. Do utilities typically own their generating assets?

A. Yes. Unlike Aquila, most utilities operating in the mid-west region have a policy of owning their generating assets. While utilities supplement some of the electricity needs with least cost planning purchased power agreements, they substantially meet system load requirements by owning and operating power plants as regulated assets.

The table below illustrate the generating units KCPL added during the late 1990s and early part of the 2000 decade:

Generating Unit	Model	Fuel Source	Megawatt Unit Size	Date Installed
Hawthorn 6 and 9 (converted to combined cycle with Hawthorn 9	Siemens V-84	Natural Gas	235 MW	1997 and 2000
Hawthorn 7	General Electric 7 EA	Natural Gas	78	2000
Hawthorn 8	General Electric 7 EA	Natural Gas	79	2000
West Gardner 1 – 4	General Electric 7 EA	Natural Gas	311	2003
Osawatomie 1	General Electric 7 EA	Natural Gas	77	2003
Iatan 2		Coal	482	2010

Source: Great Plains Energy 2015 Form 10-K Report page 22

Also, KCPL rebuilt the entire boiler and upgraded the steam turbine for Hawthorn 5 coal-fired base load unit in 2002 to repair damage after the February 1999 boiler explosion.

Empire also added generating units to its system during the period when restructuring was being discussed:

Generating Unit	Model	Fuel Source	Megawatt Unit Size	Date Installed
State Line 1	Siemens 501D	Natural Gas	105 MW	1995
State Line 2 (converted to combined cycle in 2001)	Siemens F-model	Natural Gas	150	1997
State Line Combined Cycle	General Electric 7 EA	Natural Gas	300	2001
Energy Center 1 & 2		Natural Gas	262	1990s
Energy Center 3 & 4	Pratt Whitney	Natural Gas	100	2003
Riverton Unit 12	Siemens V 84.3A2	Natural Gas	150	2008
Iatan 2		Coal	78	2010
Plum Point		Coal	50	2010

Source: Empire 2008 Form 10-K Report page 5 and 2011 Form 10-K Report page 6 & 7

Ameren Missouri also built units at its Venice plant in Venice, Illinois in 2002. Ameren also installed May 2002, 240 megawatts of combustion turbines at Peno Creek in Bowling Green, Missouri. It also purchased distressed turbine facilities Raccoon Creek at 304 megawatts and Goose Creek at 438 megawatts from Aquila in early 2006.

Q. What was the last power plant built by Aquila before South Harper was built?

A. After completion of the Jeffrey 3 unit in the spring 1983, Aquila went over 20 years before it built any generating units. Aquila placed South Harper in service in June 2005. Of all the Missouri electric utilities, only Aquila did not construct generating capacity during this period.

Q. Did Aquila state why it never entertained the option of building a regulated power plant?

A. Yes. During an October 28, 2003, interview with Mr. DeBacker, (former Aquila Vice President) and Mr. Holzwarth, (former Vice President and General Manager of UtiliCorp Power Services) they indicated there was a corporate policy at Aquila that no new generation would be built as a regulated unit subject to being rate based. The following accurately characterizes the information provided at the October 28, 2003 interviews on this topic of corporate policy:

> The **philosophy of "buy/not build" in regard to power supply, taken in response to perceived electric industry uncertainty, was an Aquila (UtiliCorp) corporate strategy in place by 1998;** it wasn't just Mr. DeBacker's and Mr. Holzwarth's belief at that time. The Aquila (UtiliCorp) philosophy was consistent with MPS' strategy in 1998. **MPS took the position to depend on purchased power for short-term power needs, no construction of regulated power plants.** The Aquila (UtiliCorp) divisions in Colorado and Kansas followed this same approach. Bob Green, Jim Miller and Harvey Padawer communicated the "buy/not build" strategy for the regulated entities. This strategy is not set down in writing, to DeBacker's and Holzwarth's knowledge, but was no secret within Aquila. Mr. Holzwarth was present at one meeting where Bob Green expressed the "buy/not build" philosophy. Among senior officers still with Aquila, Rick Green, currently Chairman, President and Chief Executive Officer could address this philosophy if necessary.
>
> Both Mr. DeBacker and Mr. Holzwarth indicated that UtiliCorp was concerned about the future of retail competition / retail access and was concerned about the "stranded costs" relating to loss of customers to completion from "customer choice". The Company wanted to "stay short in the market" (stay in market 3 to 5 years only). **The decision to "stay short" in the market was made by UtiliCorp in 1996/1997 time frame.** Mr. Holzwarth said, "what would happen if you build big units (generating units) and half your customers went away?" When asked if either of them knew of any system (electric system) where half the customers "went away" neither Mr. DeBacker nor Mr. Holzwarth knew where this had occurred. Mr. Holzwarth cited the competition that was occurring in other states such as Pennsylvania, New Jersey, New York and Illinois.
>
> [October 28, 2003 interview with DeBacker and Holzwarth, Data Request No. 548 in Case No. ER-2004-0034; emphasis added]

The least cost option developed for meeting the capacity needs of Aquila's Missouri regulated utility operations was to build the Combined Cycle Unit as an Exempt Wholesale Generator ("EWG") in the 1999 and early 2000 time period as part of the regulated operations of the Company.[19]

It is interesting to note that the regulated operations of Aquila (UtiliCorp) continued to examine the EWG option as late as October 1998. A presentation made on October 8, 1998, entitled, "Financial Analysis of Supply Options" and another presentation made on October 28, 1998, entitled, "Updated Analysis of Supply Options." were made by Aquila's regulated operations and presented the EWG option of building and owning the 500 megawatt combined cycle unit. As late as the end of October 1998, the regulated operations of UtiliCorp were still pursuing the generation option that would later become Aries.

The following interview notes, reviewed by the interviewees, accurately describe this:

> In 1998, the only economic analysis performed to assess MPS' power options for the first years of the next century were for a three-to-five year period only. **Building plants for MPS' rate base was not considered as an option, but Holzwarth's group did consider building a generating plant as an unregulated Exempt Wholesale Generator (EWG) within MPS.** Building a unit as part of an EWG was viewed as superior to including a regulated unit in rate base because there was less risk to Aquila of stranded costs if retail access was allowed in Missouri. Plus, the EWG proposal allowed MPS to better control costs and to "control its own destiny" in regard to power supply, and also allowed MPS the opportunity to profit on a non-regulated basis in the wholesale marketplace through the sale of energy as off-system sales. The analysis performed by UtiliCorp for the EWG never assumed MPS to be a customer of the MPS EWG unit beyond the original five-year power supply proposal in the RFP. Mr. Holzwarth stated that the MPS EWG option was presented at a meeting attended by Bob Green, then UtiliCorp President, and Harvey Padawer (maybe Jim Miller as well). The MPS EWG option was rejected because of questions raised at the meeting the risk of a massive EWG

[19] Mr. DeBacker's rebuttal testimony in Case No. ER-2004-0034

operating failure when taking into consideration MPS' relatively small size; how to obtain generating economies of scale, since a separate organization within MPS would have to be responsible for the EWG unit; MPS' lack of familiarity with the combined-cycle technology; and regulatory scrutiny of possible cross-subsidies between MPS' regulated and non-regulated sides. Mr. Holzwarth said some of the questions posed at this meeting where he recommended that MPS (through UPS) build non-regulated EWG generating unit were: How can MPS operating people manage the EWG also? What would be the "risk" to cash? Where would you get economies of scale from a regulated operation running a non-regulated EWG operation? Mr. Holzwarth stated he did not have answers to these questions.

[Source: Data Request 548 in Case No. ER-2004-0034- October 28, 2003 interview with Mr. DeBacker and Mr. Holzwarth; emphasis added]

Q. Does this conclude your rebuttal testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

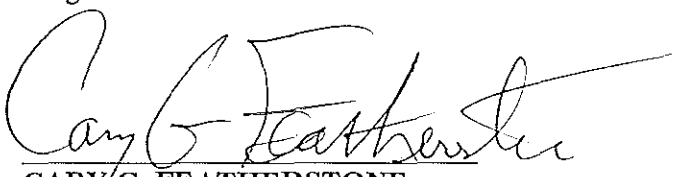
In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement A General Rate Increase for Electric Service	))))	Case No. ER-2016-0156

AFFIDAVIT OF CARY G. FEATHERSTONE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW CARY G. FEATHERSTONE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Rebuttal Testimony and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

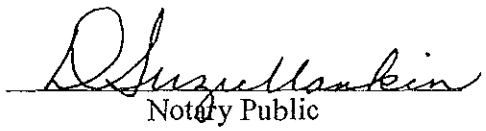


CARY G. FEATHERSTONE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 15th day of August, 2016.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
Commission Number: 12412070



Notary Public

Exhibit No. 114

MISSOURI PUBLIC SERVICE COMMISSION

SCHEDULE CGF-1 through 10

Rebuttal Testimony of
Cary G. Featherstone

KCP&L GREATER MISSOURI OPERATIONS COMPANY

CASE NO. ER-2016-0156

NP

INDEX OF REBUTTAL SCHEDULES

KCP&L Greater Missouri Operations Company
Case No. ER-2016-0156
Electric Rate Comparisons

The following tables are based on information from the *Edison Electric Institute's Typical Bills and Average Rates Report Winter 2016* publication for Total Retail Average Rates:

Utility Company	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
	MISSOURI RETAIL AVERAGE RATES										
KCPL-Missouri	**9.34 cents/kwh**	**8.89**	**8.78 Jan 26, 2013 ER-2012-0174 and ER-2012-0175**	**8.23**	**8.01 May 4, 2011 ER-2010-0355**	**7.69**	**6.88 Sept 1 ER-2009-0089 and ER-2009-0090**	**6.51 Feb 1 ER-2007-0291**	**6.14 Feb 1 ER-2006-0314**	**5.66**	**5.65**
MPS	9.93	9.56	9.51	9.48	9.31	9.09	8.36	7.79	7.33	6.85	6.45
L&P	9.35	9.14	9.10	8.49	7.34	6.75	6.34	5.93	5.63	5.30	5.20
Ameren Missouri	8.53	8.02	8.12	7.36	7.16	6.48	5.95	5.43	5.46	5.43	5.49
Empire-Missouri	11.09	11.00	10.65	10.35	10.07	8.96	8.45	8.18	8.03	7.33	7.09
Missouri Average	**9.01**	**8.56**	**8.58**	**7.96**	**7.72**	**7.11**	**6.55**	**6.04**	**5.93**	**5.74**	**5.71**
	KANSAS RETAIL AVERAGE RATES										
KCPL-Kansas	10.99	10.40	10.42	9.87	9.43	8.57	8.06	7.46	6.73	6.35	6.32
Empire - Kansas	10.76	10.39	10.15	10.48	10.11	9.25	8.41	8.69	8.61	8.06	6.54
Westar Energy -- KGE	9.43	9.54	8.87	8.42	7.90	7.46	7.13	6.32	5.73	6.04	6.03
Westar Energy -- KPL	10.06	10.17	9.42	8.99	8.28	8.15	7.82	6.92	6.06	6.25	5.58
Kansas Average	10.06	9.99	9.46	9.00	8.43	8.00	7.62	6.84	6.12	6.35	6.14
West North Central	**8.95**	**8.70**	**8.56**	**8.06**	**7.82**	**7.53**	**7.14**	**6.81**	**6.51**	**6.38**	**6.17**
United States Average	**10.71**	**10.73**	**10.37**	**10.09**	**10.09**	**9.97**	**9.83**	**9.77**	**9.20**	**8.89**	**8.22**

Source: EEI Winter 2010 Report, page 180 provided Data Request 380- ER-2010-0355
EEI Winter 2012 Report, page 180 provided Data Request 241- ER-2012-0174
EEI Winter 2014 Report, page 179; EEI Winter 2015 Report, page 178;
EEI Winter 2016 Report, page 178

The following table shows such a comparison of KCPL's actual **Residential** customer rates as of December 31, 2015:

Utility Company	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
		MISSOURI AND KANSAS RESIDENTIAL RATES – in cents per kilowatt hour									
		MISSOURI RESIDENTIAL RATES									
KCPL-Missouri	**11.63 cents/kwh**	**10.99**	**10.82**	**10.30**	**9.90**	**9.53**	**8.51**	**8.14**	**7.61**	**6.90**	**6.88**
MPS	11.78	11.20	11.17	11.21	10.81	10.52	9.67	9.10	8.64	8.08	7.45
L&P	11.23	10.80	10.81	10.24	8.64	7.97	7.43	7.03	6.78	6.31	5.97
Ameren Missouri	10.89	9.97	10.11	9.30	8.80	7.82	7.03	6.53	6.60	6.60	6.52
Empire-Missouri	12.65	12.27	11.90	11.74	11.22	9.95	9.75	9.19	9.10	8.35	7.98
Missouri Average	**11.25**	**10.47**	**10.50**	**9.89**	**9.39**	**8.54**	**7.77**	**7.27**	**7.18**	**6.96**	**6.77**
		KANSAS RESIDENTIAL RATES									
KCPL-Kansas	12.30	11.58	11.57	11.09	10.58	9.67	9.07	8.43	7.43	6.92	6.88
Empire - Kansas	11.40	10.94	10.72	11.03	10.53	9.65	8.97	9.26	9.20	8.69	7.11
Westar Energy -- KGE	12.04	12.04	11.16	10.68	9.92	9.46	8.84	7.84	7.29	7.72	7.74
Westar Energy -- KPL	12.11	12.08	11.18	10.70	9.93	9.55	9.17	8.07	7.16	7.36	6.69
Kansas Average	12.13	11.90	11.29	10.81	10.12	9.56	9.03	8.12	7.31	7.51	7.27
West North Central	**11.54**	**11.01**	**10.82**	**10.35**	**9.91**	**9.40**	**8.79**	**8.37**	**8.13**	**7.99**	**7.70**
United States Average	12.95	12.71	12.43	12.20	12.07	12.01	11.72	11.53	10.95	10.62	9.60

Source: EEI Winter 2010 Report, page 212 provided Data Request 380- ER-2010-0355
EEI Winter 2012 Report, page 212 provided Data Request 241- ER-2012-0174
EEI Winter 2014 Report, page 212; EEI Winter 2015 Report, page 212
EEI Winter 2016 Report, page 212

The following table shows such a comparison of KCPL's actual **Commercial** customer rates as of December 31, 2015:

		MISSOURI AND KANSAS COMMERCIAL RATES – in cents per kilowatt hour									
Utility Company	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
		MISSOURI COMMERCIAL RATES									
KCPL-Missouri	**8.96 cents/kwh**	**8.51**	**8.37**	**7.79**	**7.62**	**7.31**	**6.56**	**6.22**	**5.92**	**5.49**	**5.48**
MPS	8.94	8.63	8.57	8.49	8.45	8.25	7.62	7.08	6.59	6.16	5.94
L&P	9.39	9.21	9.12	8.46	7.36	6.69	6.26	5.86	5.51	5.26	5.37
Ameren Missouri	8.12	7.72	7.81	7.02	6.92	6.29	5.71	5.34	5.34	5.32	5.29
Empire-Missouri	10.91	10.93	10.58	10.25	9.94	8.82	8.60	8.13	7.96	7.32	7.08
Missouri Average	**8.57**	**8.21**	**8.20**	**7.55**	**7.40**	**6.85**	**6.26**	**5.87**	**5.74**	**5.56**	**5.50**
		KANSAS COMMERCIAL RATES									
KCPL-Kansas	9.91	9.40	9.44	8.93	8.38	7.57	7.20	6.62	6.13	5.90	5.87
Empire - Kansas	11.84	11.44	11.18	11.59	11.21	10.27	9.48	9.62	9.61	9.19	7.64
Westar Energy -- KGE	9.51	9.73	8.95	8.46	7.97	7.57	7.31	6.66	6.03	6.38	6.29
Westar Energy -- KPL	9.49	9.64	8.90	8.45	7.99	7.64	7.33	6.54	5.68	5.89	5.22
Kansas Average	9.63	9.60	9.08	8.61	8.12	7.61	7.30	6.61	5.93	6.24	5.96
West North Central	**9.01**	**8.80**	**8.60**	**8.07**	**7.83**	**7.50**	**7.01**	**6.75**	**6.51**	**6.38**	**6.17**
United States Average	**10.87**	**10.94**	**10.52**	**10.19**	**10.20**	**10.21**	**10.03**	**10.05**	**9.53**	**9.33**	**8.54**

Source: EEI Winter 2010 Report, page 246 provided Data Request 380- ER-2010-0355
EEI Winter 2012 Report, page 244 provided Data Request 241- ER-2012-0174
EEI Winter 2014 Report, page 245; EEI Winter 2015 Report, page 244
EEI Winter 2016 Report, page 244

The following table shows such a comparison of KCPL's and GMO's actual **Industrial** customer rates as of December 31, 2015:

		MISSOURI AND KANSAS INDUSTRIAL-in cents per kilowatt hour									
Utility Company	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
		MISSOURI INDUSTRIAL RATES									
KCPL-Missouri	**6.75 cents/kwh**	**6.44**	**6.46**	**5.99**	**5.83**	**5.57**	**5.13**	**4.77**	**4.47**	**4.21**	**4.23**
MPS	6.61	6.47	6.40	6.27	6.28	6.26	5.82	5.34	4.89	4.58	4.49
L&P	7.11	6.98	6.96	6.47	5.61	5.16	4.96	4.60	4.26	3.98	3.97
Ameren Missouri	5.48	5.34	5.45	4.85	4.87	4.46	4.30	3.87	3.89	3.96	4.05
Empire-Missouri	8.27	8.33	8.07	7.72	7.72	6.89	6.60	6.19	6.08	5.51	5.41
Missouri Average	**5.99**	**5.83**	**5.88**	**5.35**	**5.30**	**4.90**	**4.73**	**4.26**	**4.18**	**4.14**	**4.61**
		KANSAS INDUSTRIAL RATES									
KCPL-Kansas	9.29	8.79	8.16	6.65	7.95	7.06	6.73	6.15	5.50	5.15	5.15
Empire - Kansas	8.49	8.20	7.92	8.25	8.26	7.42	7.01	6.97	6.94	6.32	5.02
Westar Energy -- KGE	6.95	7.04	6.63	6.30	5.89	5.47	5.34	4.78	4.17	4.36	4.32
Westar Energy -- KPL	7.84	8.02	7.45	7.14	6.84	6.50	6.31	5.62	4.83	5.01	4.40
Kansas Average	7.40	7.49	7.00	6.62	6.34	5.91	5.75	5.15	4.49	4.77	4.65
West North Central	**6.30**	**6.20**	**6.10**	**5.68**	**5.62**	**5.48**	**5.38**	**5.21**	**4.83**	**4.76**	**4.52**
United States Average	6.97	7.21	6.91	6.60	6.64	6.71	6.63	6.66	6.15	6.00	5.62

Source: EEI Winter 2010 Report, page 278 provided Data Request 380- ER-2010-0355
EEI Winter 2012 Report, page 276 provided Data Request 241- ER-2012-0174
EEI Winter 2014 Report, page 278; EEI Winter 2015 Report, page 276
EEI Winter 2016 Report, page 276

CROSSROADS ENERGY CENTER

Summary Crossroads

It wasn't the building of Crossroads as a merchant power plant in 2002 that made the unit imprudent, it was the subsequent attempt by GMO to charge its customers for the full cost of the value of the plant by Aquila Merchant Services Inc. ("Aquila Merchant") and the high transmission costs to transmit the energy generated by that plant to western Missouri that made Crossroads imprudent. It was the imprudence of GMO's capacity planning that resulted in the use of Crossroads to serve the Company's customers in western Missouri causing unnecessary and excessive costs. Had GMO acted appropriately to add permanent capacity to its system to serve growing customer usage, the Commission would not be placed in the position it has since the 2001 GMO rate case to continually reviewing the revenue requirement impacts to GMO's customers from its failure to adequately plan for the future. Aquila had many opportunities to add new generating capacity at reduced costs compared to Crossroads' construction costs.

The Commission in its past two GMO rate orders addressing this issue, made it clear that while Crossroads could be included in rate base, it would be reflected at a reduced cost level the Commission found to better represent prudent utility decision-making. The Commission disallowed inflated costs of building Crossroads in 2002, when the turbine market was at much higher prices than just a couple of years later when GMO needed to replace a capacity agreement that was ending in May 2005. Because the Crossroads plant was located in Mississippi, several hundred miles from where GMO's customers live and work, the Company had to incur significant and substantial costs to get the power back to the Kansas City area. It was the attempt by GMO to saddle its customers with these transmission costs, as well as the higher Crossroads plant costs, that the Commission determined was imprudent in Case No. ER-2010-0356 (the "2010 rate case") and Case No. ER-2012-0175 (the "2012 rate case").

Staff has been examining capacity planning issues at GMO (Aquila) since 1999, specific to the issues surrounding the combined cycle unit and the purchased power agreement that terminated in May 2005. Staff concluded that this 500 megawatts capacity from this agreement was never completely replaced by GMO until 2008, when the Company moved Crossroads from an unregulated affiliate into its regulated plant investment. Staff opposed the inclusion of the cost of Crossroads at the rate base values in proposed by GMO, as it was not the least-cost planning decision, and the plant is located in the state of Mississippi, several hundred miles and over nine (9) hours from GMO's service territory. Further, because this plant is located outside the Southwest Power Pool, GMO must incur substantial transmission costs that it is asking customers to pay for. No other power plant owned by either GMO or its affiliate, KCPL, results in transmission costs to transmit power to the service areas of these two entities. All other power

plant facilities operated by GMO and KCPL are located within SPP. As such, these other power plants do not incur any transmission costs to transmit electricity to GMO and KCPL customers.

The least cost planning decision for ratemaking in this case should be focused on the events surrounding the time period of 2004 and 2005 when GMO (Aquila) was deciding how to replace the full 500 megawatt capacity from a purchased power agreement that expired before the summer of 2005 (May 31, 2005), not the period suggested by GMO of 2007 and beyond. GMO is misdirecting the Commission to the wrong time horizon when it states that Crossroads was the least cost option when it studied it in 2007 and after.[1]

In February 2004, GMO conducted a least cost study that concluded it should install five combustion turbines, each with the capacity of 105 megawatts, or a total generating station of 525 megawatts. GMO constructed three of these peaking turbines (315 megawatts) but failed to install the other two turbines from its capacity planning analysis. Not following this planning analysis lead to the short fall in generating capacity in 2005 when the Aries purchased power agreement (the Aries PPA) terminated on May 31, 2005.

The three combustion turbines that were installed in June 2005 are the South Harper facility. This peaking generating station was the first regulated generating capacity that GMO (Aquila) built since 1983. Between 1983 and 2005, GMO relied on short-term purchased power agreements to meet the growing demand for electricity in its MPS rate district. South Harper replaced only 315 megawatts of the 500 megawatt Aries purchase power agreement that ended May 31, 2005. Staff viewed Aquila should have installed at least two other combustion turbines to meet the loss of capacity from the Aries PPA. This PPA was supplied by Aries Energy Center (now called Dogwood). Aires is a 580-megawatt combined cycle natural-gas fired generating unit completed in 2002 that was built by a wholly-owned affiliate of Aquila called Aquila Merchant.

Had Aquila followed its 2004 least cost plan, it had many buying opportunities to acquire new combustion turbines at depressed market pricing. Aquila also had several combustion turbines under its ownership control that could have been used by the capacity short MPS to fill out the replacement of the Aries PPA. In addition, Aquila had many combustion turbines already in service that could have been moved to MPS' service area at very attractive pricing.

GMO has examined many options regarding the regulatory treatment of Crossroads. One of many options reviewed by GMO was the possibility of ** _____

_____

_____

_____

[1] GMO witness Burton Crawford's direct at pages 15 and 17 and Scott Heidtbrink's direct at page 12

[2] ** Historically, natural gas costs are less expensive in the Kansas City area. Certainly, incorporating Crossroads within KCPL's and GMO's other combustion turbine fleet operations by relocating the facility to Missouri would enhance GMO's ability to manage this facility providing many benefits. Those would include shared labor force for operations and maintenance using KCPL personnel. So there are other operating efficiencies and benefits to ** _____ ** Crossroads.

Aquila failed to take advantage of these many buying opportunities in a very depressed turbine market that resulted in substantial costs to MPS for many years, past and present.

AQUILA'S PAST CAPACITY PLANNING

Staff has presented testimony on Crossroads in every rate case filing made by GMO since its acquisition by Great Plains in July 2008. I have personally filed testimony on the Crossroads issue in each of those cases— Case No. ER-2009-0090, (the "2009 rate case"), the 2010 rate case and 2012 rate case. In addition, I have represented Staff in every rate case filed by the predecessor company, Aquila and the previously named UtiliCorp, from 1997 to 2007 rate cases concerning various aspects of capacity planning.

The following is a table of Staff's involvement with Aquila's and GMO's previous rate cases where either Crossroads specifically was considered or capacity planning was addressed:

Case No.	Subject	Rate Base Issue	Cost Issue
ER-2012-0175	Crossroads	Prudence of Investment Valuation	Transmission Costs and Depreciation Costs
ER-2010-356	Crossroads Adding Capacity with two combustion turbines	Prudence of Investment Valuation	Transmission Costs and Depreciation Costs
ER-2009-0090	Crossroads	Prudence of Investment Valuation	Transmission Costs and Depreciation Costs
ER-2007-0004	Adding Capacity with two combustion turbines	Prudence of Adding Owned Generation instead of PPAs	Operation and Maintenance Costs and Depreciation Costs

[2] Highly Confidential Data Request No. 0261, Case No. ER-2016-0156

Case No.	Subject	Rate Base Issue	Cost Issue
ER-2005-0436	Adding Capacity with two combustion turbines in addition to inclusion of the three South Harper CTs	Prudence of Adding Owned Generation instead of PPAs	Operation and Maintenance Costs and Depreciation Costs
ER-2004-0034	Opposed full cost recovery of Aries PPA Greenwood Rate Base	Prudence of Adding Owned Generation instead of PPAs	N/A
ER-2001-672	Opposed full cost recovery of Aries PPA Greenwood Rate Base	Prudence of Adding Owned Generation instead of PPAs	N/A
EM-97-395	Opposed removing all generating units to Exempted Wholesale Generator	Prudence of transferring generating units to non-regulated affiliated entity	N/A

Crossroads is but one of many issues Staff has had with GMO and its predecessor companies relating to capacity planning. However, there is similar background for all the identified issues above. Aquila had an unwritten policy to not build generation for its regulated utilities, specifically MPS and did not do so from 1983 until the 315 megawatt natural gas fired combustion turbine South Harper facility was installed in June 2005.

AQUILA LEASE COST ANALYSIS FOR CAPACITY PLANNING OPTIONS

In this 2016 rate case, GMO has cited to a 2007 least cost analysis it performed to support its position regarding using Crossroads as a regulated generating facility. While Aquila performed what it referred to as a 2007 least cost study, Aquila also performed a least cost plan in 2004 to support capacity addition in 2005 to replace the Aries PPA.

As part of Aquila's commitment to its resource planning process, it presented findings from its least cost planning study in February 2004. This analysis was based on responses Aquila received from Request for Proposals (RFP's) (similar to the RFP process GMO used to support its Crossroads decision in 2007). The 2004 analysis concluded that the least cost plan to replace the Aries purchased power agreement was to construct and install five combustion turbines, each sized at 105 megawatts, for a total of 525 megawatts of capacity.

Attached as Highly Confidential Schedule CGF-r8 is Aquila's 2004 integrated resource planning presentation regarding its Resource Planning that is dated February 9, 2004.

In 2004, Aquila decided not to build the five combustion turbines found to be economical by the 2004 cost study, opting to build only three peaking turbines instead. After the Aries capacity agreement ended May 31, 2005, Aquila completed construction of three combustion turbines at its South Harper facility. This facility was originally sized to accommodate up to six combustion turbines of at least the size of the Siemens model 501 D, each having 105 megawatts of capacity. In addition to the facility being sized for six units, the natural gas pipelines were installed to provide sufficient fuel to operate six units. Installation of the three combustion turbines totaling 315 megawatts of capacity was completed in June and July of 2005.

When Aquila developed its capacity plan and presented it to Staff in January 2004, Aquila determined that its least cost plan was to install five combustion turbines, not three. At the February 9, 2004, IRP meeting, Aquila's lowest cost plan, on a net present value revenue requirements over a 20-year period, identified replacing the Aries Agreement by constructing five combustion turbines totaling 525 megawatts, instead of the three totaling 315 megawatts that they installed at the South Harper facility.

Staff asked Aquila why it was not pursuing its least cost plan, and instead decided to install only three turbines. Aquila indicated that it only had three combustion turbines in storage at the time and planned to use them in its preferred plan. With its preferred plan, Aquila would make up the capacity shortfall resulting from the expiration of the Aries Agreement with purchased power agreements.

The impact on Aquila's decision not to add the necessary capacity to replace the Aries power agreement in 2005 is that Aquila could have added generating capacity at significantly discounted turbine prices. Turbine market prices were low in 2004 to 2005, and Aquila's non-regulated operations had turbines that it was selling then for even lower than market prices. Aquila missed a tremendous opportunity to add low cost generation to its fleet resulting in an improper and imprudent decision years later to include the higher cost Crossroads facility in rate base.

Had Aquila built its least cost plan of five combustion turbines in MPS' service area, there would be no transmission costs that customers would have to pay in rates. Equally important, Aquila needed to add this capacity in 2005, at a time when combustion turbines were selling at steep discounts. So the rate base values of generating plant added in 2005 would have reflected the discounted turbine pricing, not the value GMO attempted to include in rates for Crossroads in the 2009, 2010 and 2012 rate cases.

Replacing the Aries PPA in June 2005 came at a time when new combustion turbines were selling at deep discounts after the collapse of the energy markets following the bankruptcy of Enron and the financial troubles of Aquila starting in late 2001 and early 2002.

- Aquila could have purchased new combustion turbines for several million dollars below those purchased just a few years earlier. In fact, Crossroads turbines were

purchased at a time of high turbine prices in 2001 which was described by Aquila as a "brutal sellers' market."[3]

- Aquila also had ownership control of new peaking turbines that had not been installed and three generating facilities, one of which was Crossroads that could have been used to meet the capacity short fall of MPS when the Aries PPA ended.

Aquila Had Many Opportunities to Replace Aries PPA with Least Cost Options

While MPS was never offered any of the distressed combustion turbines owned by Aquila, it certainly had many opportunities to take advantage of buying of peaking turbines in the 2003, 2004 and 2005 time periods.

With the collapse of the turbine market and the discontinuing of merchant operations of Aquila Merchant in 2002, presented great opportunities to acquire generating equipment at much less cost-- certainly less cost than any time period studied by GMO which reflected substantial cost increases for equipment after 2006. Aquila had many buying opportunities for combustion turbines in 2003 and 2004 that exactly coincided when MPS need for capacity for its customers. Indeed, Aquila missed an opportunity to acquire generating assets for MPS at very attractive pricing.

New Combustion Turbines in 2004 and 2005-

The costs of combustion turbine acquisition and installation in 2005 are substantially different than in the 2007, 2008 or 2009 time periods. For the Aries capacity replacement to have occurred by May 2005, Aquila would have had to have purchased the turbine equipment by 2004. As noted above, the combustion turbine market in 2004 was completely different than the market during 2007 and 2008 when GMO made its analysis and concluded that Crossroads was the least cost decision. Prices in the 2004 turbine market were much lower than in the 2001 turbine market when Aquila originally purchased the turbines installed at Crossroads. Thus, the book cost Crossroads turbine values are higher compared to what they would be if they, or comparable turbines, had been purchased in 2004.

COMBUSTION TURBINE VALUES EXPERIENCED SIGNIFICANT DECREASES IN 2004 AND 2005

At exactly the time Aquila to replace the Aries PPA in 2005, tremendous buying opportunities existed to acquire very reasonably priced turbines. Aquila did not take advantage of this buying opportunity and suffers today as GMO tries to deal with ever increasing

[3] Source: Data Request No. 56.1 in Case No. EO-2005-0156; April 29, 2005 interview of David Kreimer Aquila's former Director of Engineering

transmission costs at Crossroads. Had Aquila acquired new turbines in 2005 or acquired turbines under the ownership control of Aquila, Crossroads would not be needed today to meet capacity short MPS needs. Thus, no transmission costs would be incurred from a power plant located outside the Southwest Power Pool RTO.

When GMO conducted its 2007 and 2009 studies in attempt to justify Crossroads, combustion turbine prices went up after the time when GMO should have decided in 2004 to replace the capacity it was obtaining from the 2005 Aries capacity agreement. Staff reviewed the pricing of combustion turbines in its examination of Aquila's and GMO's capacity planning. It is clear from this review, turbines prices declined significantly in 2003 and 2004 from when the Crossroads turbines were purchased in 2001.

As in previous GMO rate cases, Staff reviewed the industry publication Gas Turbine World for years 2007-2010, 2012, 2013 and 2015 (KCPL did not have the 2011 or 2014 books) In the 2007-2008 GTW Handbook, Gas Turbine World reports that turbine prices increased 20 to 30 % over their 2006 levels. At page 29 of this industry publication the following appears:

> Seeing dramatic increase in prices
>
> During the past 18 months we have seen power plant equipment prices increase by as much as 20-30 percent over pre-2006 levels. Meanwhile delivery schedules have stretched out to 16-18 months from 12 months or less, as growing demand puts strain on available manufacturing capacity.
>
> Special orders that require additional engineering can add seven months of lead time.
>
> The rise in equipment price levels since 2006 has been driven by a worldwide increase in cost of materials, higher manufacturing costs, and growing market demand.
>
> Over the last few years, copper has more than tripled to $3.40 per pound from around $1, molybdenum six-fold to $31 per pound from around $5, aluminum almost doubled to $2,800 per ton from $1,500, and nickel almost quadrupled to $31,000 per ton form $8,000.

Staff's reviews of Gas Turbine World identified that General Electric's new model that replaced the 7 EA model that is installed at Crossroads is valued at $19.5 million in the 2007-2008 GTW Handbook, the time that GMO would have examined the price of turbines for the 2007 cost study, and $25.9 million in the 2009 GTW Handbook, a time when GMO would have conducted its analysis of the value of Crossroads. This indicates that turbine prices in the 2007 and 2008 time period show substantial increases over the prices when Aquila should have installed additional combustion turbines to meet the capacity needs of its MPS customers back in 2005.

The General Electric 7 EA model combustion turbines were valued less in the 2004 time period. At a time when Aquila should have added capacity in 2005, the General Electric 7EA models were significantly less costly than the General Electric 7 EA models Aquila Merchant Services purchased in 2001 and installed at Crossroads in Mississippi. Gas Turbine World reported in its 2004-2005 Handbook that these units were selling for $14.8 million apiece. The 2003 price was $16.6 million and the 2000-2001price was $21 million. This compares to the actual Crossroads book value of ** ___ ** million each. The volatility of the natural gas market exacerbated the decline in sales of gas-fired generation caused by the implosion of the merchant energy market during 2002 to 2005. This was an ideal time to purchase capacity, if a utility needed capacity, which Aquila did.

In 2006, the price for the General Electric 7 EAs (new model PG7121(EA)) had gone up to $19.2 million according to the 2006 Gas Turbine World Handbook.

The costs of the turbines installed at Crossroads were much higher than those turbines that could have been purchased in 2004 and 2005 time frame. The Crossroads turbines were purchased in 2001 at a price of ** ___ ** million per turbine. Comparisons of the 2001 price to later valuations of that same turbine model over several years appear in the following table:

Year of Gas Turbine World	General Electric Model 7EA (new MS7001EA old PG7121EA)	
2013	$24.1 million	
2012	$25.2 million	
2010	$22.7	
2009	$25.9 million	GMO's 2009 Study per Stipulation in ER-2009-0090
2007-2008	$19.5 million	Pricewaterhouse Study & 2007 Aquila Study
2006	$19.2 million	
2004-2005	$14.8 million	End of the Aries contract May 31, 2005
2003	$16.6 million	
2000-2001	$21 million	Crossroads Purchased in 2001

Source: Gas Turbine World Handbook

The South Harper turbines are Siemens 501D5A units rated at 105 megawatts each. These units saw prices following the same pattern, going from high at the start of the last decade to significant price reductions during 2003 and 2004 time frame. In the 2004-05 GTW Handbook, the price of a Siemens 501D5A was quoted at $18.7 million. In the 2003 GTW Handbook, the value was $19.9 million and in the 2000-2001 GTW Handbook has model 5015DAs priced out at $25.5 million. Based on this information, the market cost of these units trended downward during the time Aquila needed the five turbines to replace the Aries PPA capacity.

However, the 2006 GTW Handbook identified the price for the Siemens 501D5A (new model SGT6-2000E) at $22.8 million per unit. In the 2007-2008 GTW, the price of this unit significantly increased to $29.2 million and in the 2013 publication, $31.9 million.

The cost of turbines are not the sole costs peaking generating unit. Gas Turbine World does surveys of the industry and contacts turbine manufactures to determine the pricing information it publishes. Some of its data is from actual purchases made by companies - regulated utilities and merchant companies alike. While these combustion turbines prices may include added costs for specific features based on individual needs, such as duel fuel source burning capability and fast-start capability, typically these are the prices that the industry relies on to trend the costs of turbine equipment.

AQUILA HAD COMBUSTION TURBINES UNDER ITS OWNERSHIP CONTROL

Because the 2003 to 2005 time period was a very good time to buy combustion turbines, Aquila had many opportunities to take advantage of buying generating equipment at steep discounted prices that would have provided customers with capacity badly needed on the MPS system. Aquila failed to do so resulting in the capacity shortfalls experienced by the MPS for several years, causing the need to have short-term purchased power agreements that were more costly in the long-term.

Other utilities such as Ameren Missouri took advantage of the buyers' market and purchased combustion turbines at Raccoon Creek and Goose Creek on extremely favorable terms benefiting both the company and its Missouri customers-- but not Aquila.

Aquila had many options to add generating capacity to its system. Aquila purchased a total of 18 combustion turbines from General Electric ("GE") – Model 7 EA and three turbines from Siemens Westinghouse—Model 501 D. The three Westinghouse turbines ultimately were installed at South Harper at Staff's urging.

Four (340 megawatts) of the 18 General Electric turbines were installed at Raccoon Creek at a site located in Flora, Illinois, approximately 120 miles east of St. Louis, with transmission integration with AmerenCIPS. Six (510 megawatts) of the 18 General Electric

turbines were installed at Goose Creek at a site located in Monticello, Illinois, in central Illinois, with transmission integration with AmerenIP. Four of the 18 General Electric turbines were installed at Crossroads. Of the remaining four General Electric turbines, two were sold to Nebraska municipality and one to Colorado municipality and one turbine was never taken by Aquila. Aquila had to pay a reservation payment to General Electric to not take possession of this last unit. In essence, Aquila lost over one million dollars for the "right" not to take the unit.

Aquila could have taken any combination of generating units it already owned and move those units already installed or taken delivery of those yet constructed to a location within MPS' service territory. Had Aquila built the units determined by its 2004 study as least cost option in 2005 replacing the Aries PPA, the Commission would not have faced the issues surrounding Crossroads these past four GMO rate cases. Certainly, GMO would not have incurred and would not continue to incur significant transmission costs from Crossroads if MPS had made a proper and sound business decision to build capacity using any of the distressed generating units available in Aquila's system.

In 2003 and 2004, Aquila had other buying opportunities to acquire economic generation. Not only were there plenty of opportunities to take advantage of a depressed turbine market to buy turbines at deeply discounted prices, Aquila actually had several generating units under its ownership control. MPS needed the capacity but was completely shut out of any opportunity to acquire any of these units.

In 2003, Aquila Merchant sold three General Electric 7 EA turbines with rated capacity of 75 megawatts each to two non-affiliates after the 2002 collapse of Aquila and the decline of the turbine market. Two of these units sold to a utility in Beatrice, Nebraska for ** ____ -** million or ** ____ ** million each and a third turbine was sold to a utility in Colorado for ** ____ ** million (Data Request No. 43 in Case No. EO-2005-0156). All three turbines were sold substantially below the original purchase price of ** ____ ** million each (Data Request No. 77 in Case No. EO-2005-0156). The average price that Aquila Merchant sold these units in 2003 was ** ____ ** million— (** ____ ** million plus ** ____ ** million divided by three). Using this average price, Aquila would have had a far better price at which to deploy these three General Electric turbines to meet its regulated system requirements and greater megawatt capacity. It would have been very economical for Aquila to have installed any or all of these three Model 7 EAs in its service territory to meet its regulated load and increase its generating capacity. And important today, installing these generating units which would have avoided transmission costs because they would have been located in the Southwest Power Pool.

These prices compare with the Crossroads turbine values of ** ____ ** million per unit price for the same GE 7 EA model but priced at 2001 costs.

The total costs for the three General Electric turbines Aquila Merchant sold to third parties was ** ____ ** million with a total capacity of 225 megawatts, or ** _____ ** per kilowatt. This per kilowatt cost is far below the per kilowatt cost of the three Siemens turbine costs GMO installed at South Harper. Two 501D5A turbines are 210 megawatts of capacity. Using the three General Electric units would have been even more cost effective for GMO to install the three General Electric 7 EAs having greater capacity than two of three Siemens units installed at South Harper. With the 315 megawatts of South Harper turbines in addition to the 225 megawatts of three 7 EAs units would have given Aquila the needed capacity to fully replace the Aries power agreement in 2005.

Aquila Merchant made offers to sell four General Electric combustion turbines before executing the contracts under which they were sold. Like the Siemens turbines installed at South Harper, Aquila Merchant offered the General Electric turbines to other entities, including KCPL. In August 2002, Aquila Merchant offered the four General Electric turbines identified above to KCPL. In fact, KCPL was offered a combination of two, three or all four units at ** _____ _____ ** for each turbine. KCPL did not act and Aquila withdrew the offer.
(see Highly Confidential Schedule CGF-r9, page 49 of 50)

As noted above, three of the General Electric 7 EAs offered to KCPL were eventually sold in 2003 to Nebraska and Colorado utilities at even less costs than offered to KCPL in 2002.

Aquila did not consider making using these peaking units available to MPS despite MPS being in need of generating units. Aquila never considered using these turbines for its regulated operations, even though MPS needed to replace the Aries purchased power agreement by June 2005. Aquila indicated that these turbines were sold in 2003.[4] In reality, Aquila should have used these units to meet the capacity shortfall of MPS. Instead, these units sold to other utilities at extremely deep discounted prices. Thus, customers of these Nebraska and Colorado utilities are enjoying the benefits are these units, acquired at a time when the turbine market was a buyers' market and at the time MPS needed to replace the Aries purchased power agreement in 2005. The failure of Aquila to fully replace the 500 megawatt Aries capacity in 2005 results in GMO's high transmission costs today. Had Aquila adequately planned to replace needed capacity with generating facilities within its RTO, Crossroads would not be needed to meet the capacity needs of customers today and, therefore, would not be incurring the transmission costs it is.

AQUILA HAD OTHER POWER PLANTS UNDER ITS OWNERSHIP CONTROL

Aquila had three power plants that it owned which could have been used to relocate to MPS' service territory. Aquila sold two of these facilities to Ameren Missouri (Union Electric)

[4] Aquila response to Date Request 43 in Case No. EO-2005-0156

so that entity's customers are enjoying the benefits of low-cost plant to supply energy needs to them.

In the December 2, 2005 evaluation performed by Max Sherman, Aquila vice president, the analysis identified ** _____ _____ ** [source: Highly Confidential Data Request 355, Case No. ER-2007-0004 attached as Highly Confidential Schedule CGF-r5; emphasis added] While this option was not pursued by Aquila, this analysis was done in late 2005 when Aquila still needed to replace part of the 500 megawatt Aries purchased power agreement. Aquila chose to sell Raccoon Creek and Goose Creek to Ameren Missouri in early 2006, removing those units as an opportunity for MPS, and also chose not to pursue using Crossroads because of the difficulties in getting transmission. In 2005, Aquila also didn't have the four General Electric 7 EAs turbines sold in 2003. That option was long gone, leaving MPS to be subjected to short-term purchased power agreements. More importantly, Aquila's decision not to take advantage of all the many opportunities available to meet MPS energy needs, limited later decisions after Aquila became of Great Plains Energy. By 2008, all the many options were gone except for a generating facility that had been attempted to be sold many times, but had no takers. That plant was Crossroads and the Commission continues to have to deal with the outcome of Aquila's inadequate and improper decision-making regarding capacity short falls of MPS.

Because of Aquila's long standing policy of not building "steel in the ground" generating facilities for its regulated utilities like MPS, the utility, and ultimately its customers suffered. In an interview with Mr. Frank DeBacker (Aquila Vice President) and Mr. Robert Holzwarth (Vice-President and General Manager of UtiliCorp Power Services held on October 28, 2003, Mr. DeBacker stated that it was Aquila's corporate policy not to consider building regulated generating assets. Mr. DeBacker indicated in the interview that "MPS did not intend to build and include in rate base generating units to supply its power needs. Thus, Aquila (UtiliCorp) through its regulated MPS division never considered building generating capacity as a regulated unit."[5]

Aquila's corporate policy caused imprudent decision-making resulting in inadequate capacity additions to meet MPS' system load requirements on a least cost basis.

AQUILA HAD ANOTHER OPPORTUNITY AS ARIES WAS DETERMINED TO BE LEAST COST OPTION

In 1998, Aquila determined that Aries was least cost option to meet MPS capacity addition.

[5] Data Request 548 in Case No. ER-2004-0034

In the spring of 1998, Aquila issued a request for proposal (RFP) for its power needs for MPS in the early years of this decade. It received responses in July 1998 offering to provide MPS power needs through a variety of options from several different entities. As part of this evaluation, Aquila also examined the option of building and owning a 500 megawatt combined cycle unit with a projected in-service date in 2001.

In August 1998, through its own analysis, as well as the independent analysis of Burns & McDonnell, an engineering consulting firm, Aquila determined that the least cost option for serving MPS was to build the 500 megawatt combined cycle unit.

Aquila pursued building the 500 megawatt combined cycle unit but decided it should be constructed as a merchant plant. Aquila assigned the construction project to Aquila Power Corporation, Aquila's non-regulated affiliate later known as Aquila Merchant.

Initially, the regulated Aquila pursued building the Aries Combined Cycle Unit as an unregulated exempt wholesale generator ("EWG"). The studies and analyses performed by personnel of the regulated MPS operations ultimately led to the conclusion that the 500 megawatt combined cycle unit was the least cost option to meet the capacity needs of MPS starting in 2001. This was confirmed by the independent engineering firm, Burns & McDonnell in an August 1998 report to the Company.

In an August 24, 1998 study entitled "UtiliCorp United Inc. Missouri Public Service 1998-2003 Preliminary Energy Supply Plan," the Company independently determined that the construction of a 500 megawatt combined cycle unit was the least cost plan for MPS. Under the Executive Summary Section 1, "Conclusions," the following appears:

> **Conclusions**
>
> Based on the 1998-2003 supply-side analysis, the least cost plan for MPS consists of executing short term purchase contacts to meet MPS capacity needs through the year 2000, and **the construction of a gas-fired 500 MW combined cycle unit to meet all of MPS' capacity needs in 2001-2003 time frame and a majority of its needs thereafter.**
>
> The above supply provides the least cost means to meet the MPS capacity and energy needs even though MPS' has a low annual load factor of <50% and an abundant supply of low-cost energy supplied by its existing resource base which is 64% coal-fired base load generating capacity.
>
> The ability of combined cycle units to complete in the regional energy market place enables these resources to provide sufficient revenue to offset their higher capital cost.

1.5 Recommended Action Plan

As a result of the analysis outlined in this report, it is recommended that UCU [(Aquila/UtiliCorp)]:

Negotiate extension of the existing lease agreements on the Greenwood combustion turbines.

Secure short term capacity to meet MPS' capacity needs thru 2000.

Pursue the construction of a 500 MW combined cycle unit proposed with an in service date of June 1, 2001.

[Source: Data Request No. 607 in ER-2004-0034— 1998-2003 Preliminary Energy Supply Plan; emphasis added]

Aquila, then operating as UtiliCorp, never considered the option of building and owning the Aries Combined Cycle Unit as part of its regulated operations because of its corporate policy not to construct regulated power plants. Staff is aware of numerous examples, in Aquila electric rate cases for the MPS (Case Nos. ER-2001-672 and ER-2004-0034) where Aquila readily admitted that at no time did it consider allowing its regulated operations to own or control generating units as regulated plant for serving MPS. While the EWG option was pursued for MPS by Aquila regulated operations, the combined cycle unit was never planned to be part of the traditional regulated operations of MPS, and Aquila never planned for the unit to be included in rate base even though it was determined to be least cost option.

Q. Does Staff believe that Aquila's capacity planning from a long-term perspective was prudent?

A. No. Staff has been very critical of Aquila's approach to addressing its capacity needs for its system. Examples of the imprudence or questionable decision making by Aquila follow:

- Having a corporate policy not to build regulated generation evidenced by not having built generation since 1983, except for South Harper in 2005 which affects the regulated operations to this day and Iatan 2 in August 2010. It transferred Crossroads to its regulated operations in August 2008.

- In 1997 attempted to move all generating assets to an Exempt Wholesale Generator (EWG) status, Case No. EM-97-395. Application was withdrawn after opposition by Staff.

- MPS Resource planning in 1992 determined need for a combined cycle unit by 2000 for MPS yet Aquila's corporate decision was to build unit as a non regulated merchant plant (Aries) after regulated operations did most of the preliminary work and planning for the development of the project.

- Based on a 1998-2003 least cost analysis, the least cost plan for MPS was the construction of a 500 megawatt natural gas-fired combined cycle unit in 2001-2003. This power plant was not built by MPS but Aquila Merchant instead as Aries unit. [source- Data Request 607 in Case No. ER-2004-0034 – study entitled "UtiliCorp United Inc. Missouri Public Service 1998-2003 Preliminary Energy Supply Plan"]

- Aries was built on land previously owned by MPS, adjacent to MPS substation.

- MPS purchased power agreement from 2001 to 2005 from a non-regulated Aquila affiliate (the Aries Combined Cycle Agreement.)

- In 2004, Aquila sold its 50% share of Aries giving its partner ** _____ _____ ** to take unit over.

- Aquila attempted unsuccessfully to re-acquire Aries in December 2006.

- Despite having a known certain date to replace the Aries Agreement by June 2005, Aquila did not timely plan for the replacement of this capacity. Until January 2004, Aquila did not seriously consider building generation instead looking at another purchased power agreement from an affiliate (Aries II).

- Aquila Merchant attempts to sell at steep discounts three turbines which were to be installed at Aries as Aries II in 2002. Units were placed in storage. While units were for sale, at no time were the units ever considered or offered to MPS to meet its growing capacity needs before January 2004. In January 2004 Aquila finally made decision to replace Aries Capacity Agreement with three combustion turbines it had left over from its merchant business. These units had been in storage since 2002 during which the units' warranty expired. Units were eventually installed at the South Harper facility in June and July 2005.

- South Harper legal issues were caused by having to move forward on project to get units in service by June 2005 to replace Aries Agreement. Since Aquila already had possession of units since 2002, appropriate planning could have taken place much earlier than it did providing ample time to get necessary community support.

- Aquila had many combustion turbines, three of which were new units, in its asset portfolio that it sold at distressed values resulting in hundreds of millions of dollars of impairment charge losses that it did not consider to use for its regulated operations despite need for capacity to serve MPS. (Raccoon Creek (340 megawatts) and Goose Creek (510 megawatts) sold to Union Electric Company d/b/a Ameren Missouri, in 2005 with sale completed in early 2006 and three other General Electric 7 EAs combustion turbines sold to non-investor owned utilities in Nebraska and Colorado). None of these units were offered to meet the shortfall in capacity to serve the MPS rate district.

- In 2000 Aquila re-acquired MPS' four combustion turbines at Greenwood which it had built starting in 1975 and sold under a sale lease back which had a provision where the Company could acquire the units at the end of the lease at the existing market value. Aquila re-acquired the units at greater than the original purchase price even though the units were 25 years old. The units were reacquired by an Aquila non-regulated MPS affiliate with a corporate decision that MPS entered into a 15-year purchased power agreement at higher lease payments than the newly acquired cost to Aquila. This was an attempt by Aquila to "profit" from an affiliated relationship the regulated utility. This agreement was ultimately terminated and the units were moved back in the regulated operations of MPS. The 25-year old units are now in rate base at a greater amount than what they were originally purchased for in 1975 and 1976. Customers in essence paid for these units twice- once through the lease payments which were included in rates and now again in rate base. If the units had been rate based from the mid-1970s the units would have either been fully depreciated or depreciated for the impact of unit additions occurring over the operating life of the asset additions.

The foregoing demonstrates that Aquila did not have appropriate and effective decision-making regarding its resource plans or its resource planning process. These events and circumstances are not the actions of a typical utility this Commission regulates. When Great Plains Energy acquired GMO, it inherited the many problems and the long-term issues with Aquila's capacity planning. These decisions directly relate to high transmission costs GMO is seeking this case from Crossroads. Had Aquila made prudent decisions adding new generating capacity for its growing system load requirements, the Commission would not be faced with the surrounding Crossroads rate base valuation in last several rate cases or the transmission costs issue in each of those cases as well as this current case.

SCHEDULE CGF-r3

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE CGF-r4

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE CGF-r5

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

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SCHEDULE CGF-r6

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SCHEDULE CGF-r7

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SCHEDULE CGF-r8

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HIGHLY CONFIDENTIAL

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SCHEDULE CGF-r9

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

Kansas City Power and Light Company
KCP&L Greater Missouri Operations Company

Power Plant Name	Primary Fuel Source	Plant Located in Service Area	Power Plant Address	Mileage One-way	Mileage Roundtrip	Travel Time One-way	Year Plant Completed	Estimated 2016 MW Capacity--Owned & Jointly Owned
Kansas City Power & Light Generating Fleet								
Iatan No. 1 and 2	Coal	No	20250 MO-45, Weston, MO	38 Miles	76 Miles	43 Minutes	1980, 2010	981
Wolf Creek Nuclear Generating Station	Nuclear	No	1550 Oxen Lane NE, Burlington, KS	99.1 Miles	198.2 Miles	1 Hour 32 Minutes	1985	549
La Cygne No.1 and 2	Coal	No	25166 E 2200th Rd, La Cygne, KS	59.9 Miles	119.8 Miles	56 Minutes	1973, 1977	699
Hawthorn No. 5, 6, 7, 8, 9	Coal/Natural Gas	Yes	8700 Hawthorne Rd, Kansas City, MO	7 Miles	14 Miles	20 Minutes	1969	564
Montrose No. 1, 2, and 3 Station	Coal	No	400 SW Highway P, Clinton, MO	74.2 Miles	148.4 Miles	1 Hour 15 Minutes	1960, 1964	340
West Gardner No. 1,2,3, and 4	Natural Gas	Yes	18827 Dillie Rd Edgerton, KS	34.6 Miles	69.2 Miles	42 Minutes	2003	311
Osawatomie	Natural Gas	Yes	32808 Lone Star Rd, Paola, KS	47.1 Miles	94.2 Miles	56 Minutes	2003	77
Northeast No.11,12,13,14,15,16,17,18, and Black Start Unit	Oil	Yes	920 N Olive Street, Kansas City, MO	2.7 Miles	5.4 Miles	6 Minutes	1972, 1975, 1976, 1977, 1985	956
Spearville 1 & 2 Wind Energy Facility	Wind	No	10193 126 Rd, Spearville, KS	320 Miles	640 Miles	4 Hour 52 Minutes	2006, 2010	46
KCP&L Greater Missouri Operations Generating Fleet								
Iatan No. 1 and 2	Coal	Yes	20250 MO-45, Weston, MO	38 Miles	76 Miles	43 Minutes	1980, 2010	287
Jeffrey Energy Center	*Coal*	*No*	*25905 Jeffrey Rd, St. Marys, KS*	*98.9 Miles*	*197.8 Miles*	1 Hour *41 Minutes*	1978, 1980, *1983*	*172*
Sibley No. 1, 2, and 3	Coal	Yes	33200 E Johnson Rd, Sibley, MO	30.3 Miles	60.6 Miles	47 Minutes	1960, 1962, 1969	461
Lake Road No. 1, 2, 3, 4, 5, 6, 7	Coal/Natural Gas/Oil	Yes	SW Lower Lake Rd, Saint Joseph, MO	54.8 Miles	109.6 Miles	57 Minutes	1951, 1957, 1962, 1967, 1974	235
South Harper No. 1, 2, and 3	Natural Gas	Yes	24400 S Harper Rd, Peculiar, MO	32.8 Miles	65.4 Miles	38 Minutes	2005	303
Crossroads Energy Center	**Natural Gas**	**No**	**19th and West Tallahatchie Street Clarksdale, MS**	**520 Miles**	**1040 Miles**	**8 Hours 41 Minutes**	**2002**	**292**
Ralph Green No. 3	Natural Gas	Yes	101 S Front St, Pleasant Hill, MO	34.7 Miles	69.4 Miles	43 Minutes	1981	71
Greenwood Energy Center	Natural Gas/Oil	Yes	14015 S Smart Rd, Greenwood, MO	27.5 Miles	55 Miles	34 Minutes	1975-1979	247
Nevada	Oil	Yes	256A 1400 Rd, Nevada, MO 64772	95 Miles	190 Miles	1 Hour 30 Minutes	1974	18

* Power plant name, primary fuel, Year Completed, and Estimated 2016 MW Capacity obtained from 2015 Great Plains Annual Shareholder Report - page 22

** All mileage and travel time obtained from Google Maps with a starting point of KCP&L headquarters of 1200 Main St, Kansas City, MO

Schedule CGF-r10

Power Plant Name	Primary Fuel Source	Plant Located in Service Area	Power Plant Address	Mileage One-way	Mileage Roundtrip	Travel Time One-way	Year Plant Completed	Estimated 2016 MW Capacity–Owned & Jointly Owned
Audrain CTG	Natural Gas	Yes	9200 Audrain Rd 124, Centralia, MO 65240 (Audrain Co.)	137 Miles	274 Miles	2 Hours 18 Minutes		600
Callaway	Nuclear	Yes	Portland, MO 65067 (Callaway Co.)	109 Miles	218 Miles	1 Hour 52 Minutes	1984	1193
Fairgrounds C.T.	Oil	Yes	2627 Industrial Dr, Jefferson City, MO 65102 (Cole Co.)	134 Miles	268 Miles	2 Hours 26 Minutes	1974	54
Goose Creek CTG Energy Center	Natural Gas	No	760 E 2150 North Rd, Monticello, IL 61856 (Platt Co.)	167 Miles	334 Miles	2 Hours 27 Minutes	2001	432
Howard Bend		Yes	14769 Olive Blvd, Chesterfield, MO 63017-2221	20.3 Miles	40.6 Miles	29 Minutes	1973	47
Keokuk	Hydro	No	525 N Water St, Keokuk IA	180 Miles	360 Miles	3 Hours 17 Minutes	1913 (1-15)	140
Kinmundy Generation Station	Natural Gas	No	2816 Kinoka Rd, Patoka IL 62875	88 Miles	176 Miles	1 Hour 29 Minutes	2001	206
Kirksville C.T.	Natural Gas	Yes	29430 Kellogg Ave, Macon MO 63552 (Kirksville, MO)	171 Miles	342 Miles	2 Hours 57 Minutes	1967	13
Labadie	Coal	Yes	226 Labadie Power Plant Rd, Labadie MO 63055 (Franklin Co.)	42.5 Miles	85 Miles	46 Minutes	1970 (1), 1971 (2), 1972 (3), 1973 (4)	2372
Maryland Heights LF	Methane Gas	Yes	1938 Creve Coeur Mill Rd, Maryland Heights, MO 63166 (St Louis Co.)	20.2 Miles	40.4 Miles	28 Minutes		8
Meramec	Coal / Oil	Yes	St Louis MO 63129 (St Louis Co.)	21 Miles	42 Miles	28 Minutes	1953 (1), 1954 (2), 1959 (3), 1961 (4), 1974 (GT1), 2000 (GT2)	591 (Coal), 54 (Oil), 282 (Natural Gas)
Mexico C.T.	Oil	Yes	13557 Highway JJ, Mexico MO 65265	109 Miles	218 Miles	1 Hour 58 Minutes	1978	53
Moberly C.T. (Thomas Hill Energy Center)	Oil	Yes	5693 Highway F, Clifton Hill, MO 65244 (Moberly, MO)	178 Miles	356 Miles	2 Hours 52 Minutes	1978	53
Moreau C.T.	Oil	Yes	3930 Algoa Rd Jefferson City, MO 65102 (Jefferson Co.)	121 Miles	242 Miles	2 Hours 24 Minutes	1978	53
O'Fallon	Solar	Yes	551 Pearl Dr, St Peters, MO 63376	35.4 Miles	70.8 Miles	39 Minutes		3
Osage (Bagnell Dam)	Hydro	Yes	617 River Rd, Lakeside, MO 65049	177 Miles	354 Miles	2 Hours 55 Minutes	1931 (1-7), 1953 (8)	234
Peno Creek C.T.	Natural Gas	Yes	16303 Pike 43. Bowling Green, MO 63334	89.3 Miles	179 Miles	1 Hour 28 Minutes	2002 (GT1-4)	188

Power Plant Name	Primary Fuel Source	Plant Located in Service Area	Power Plant Address	Mileage One-way	Mileage Roundtrip	Travel Time One-way	Year Plant Completed	Estimated 2016 MW Capacity-Owned & Jointly Owned
Pinckneyville	Natural Gas	No	4553 White Walnut Rd, Pinckneyville, IL 62274	73.1 Miles	146 Miles	1 Hour 20 Minutes	2002	316
Raccoon Creek CTG	Natural Gas	No	1619 County Rd 625 N, Louisville, IL 62858 (Clay County, IL)	113 Miles	226 Miles	2 Hours 2 Minutes	2000	300
Rush Island	Coal	Yes	100 Big Hollow Rd, Festus, MO 63028 (Jefferson Co.)	43.4 Miles	69 Miles	46 Minutes	1976 (1), 1977 (2)	1178
Sioux	Coal	Yes	8501 N State Route MO-94 West Alton, MO 63386 (St Charles Co.)	37.5 Miles	75 Miles	43 Minutes	1967 (1), 1968 (2)	970
Taum Sauk Hydroelectric Power Station	Hydro / Pumped Storage	Yes	Lesterville MO 63654 (Reynolds Co.)	107 Miles	214 Miles	1 Hour 59 Minutes	1963 (1-2)	440
Venice C.T.	Natural Gas	No	701 Main St, Venice, IL 62090	5.5 Miles	11 Miles	18 Minutes	1942 (ST1,2 Ret 2002), 1943 (3 Ret 2002), 1948 (4 Ret 2002), 1950 (5,6 Ret 2002), 1967 (GT1), 2002 (GT2)	487

* Power plant name, primary fuel, Year Completed, and Estimated 2016 MW Capacity obtained from FERC Form 1 and Ameren 2015 Annual Report.

** All mileage and travel time obtained from Google Maps with a starting point of Ameren's Corporate HQ Office at 1901 Chouteau Ave, St Louis MO 63103.

Power Plant Name	Primary Fuel Source	Plant Located in Service Area	Power Plant Address	Mileage One-way	Mileage Roundtrip	Travel Time One-way	Year Plant Completed	Estimated 2016 MW Capacity-- Owned & Jointly Owned
State Line Combined Cycle (60% ownership)	Natural Gas	Yes	2299 State Line Rd Joplin, MO 64801	7.7 Miles	15 Miles	15 Minutes	2001	295
Riverton (7 removed in service 6/30/14; 8 & 9 retired 6/30/15)	Natural Gas	Yes	7240 Kansas 66, Riverton, KS 66770	11.4 Miles	22.8 Miles	18 Minutes	1906, 1954	0
Riverton (10, 11, 12)	Natural Gas	Yes	7240 Kansas 66, Riverton, KS 66770	11.4 Miles	22.8 Miles	18 Minutes	1964, 2007, 2016	177
Empire Energy Center	Natural Gas	Yes	2537 Fir Rd, Sarcoxie, MO 64862	28.2 Miles	56.4 Miles	37 Minutes	1978, 2003	257
State Line Unit #1	Natural Gas	Yes	2299 State Line Rd Joplin, MO 64801	7.7 Miles	15 Miles	14 Minutes	1995	96
Asbury	Coal	Yes	21133 Uphill Rd, Asbury, MO 64832	22.4 Miles	44.8 Miles	29 Minutes	1970, 1986	198
Iatan 1 & 2 (12% ownership)	Coal	Yes	20250 MO-45, Weston, MO	185 Miles	370 Miles	3 Hours 2 Minutes	1980, 2010	190
Plum Point Energy Station (7.52% ownership)	Coal	No	2732 S Co Rd 623, Osceola, AR 72370	350 Miles	700 Miles	5 Hours 54 Minutes	2010	50
Ozark Beach (Powersite Dam)	Hydro	Yes	Ozark Beach, Forsyth, MO 65653	115 Miles	230 Miles	2 Hours	1913	16

* Power plant name, primary fuel, Year Completed, and Estimated 2016 MW Capacity obtained from FERC Form 1 and Empire 2015 Annual Report.

** All mileage and travel time obtained from Google Maps with a starting point of Empire District's Headquarters Office at 602 S Joplin Ave, Joplin MO.

Power Plant Name	Primary Fuel Source	Plant Located in Service Area	Power Plant Address	Mileage One-way	Mileage Roundtrip	Travel Time One-way	Year Plant Completed	Estimated 2016 MW Capacity–Owned & Jointly Owned
Abilene Energy Center	Gas	Yes	1013 2000 Ave, Abilene KS 67410	91.6 Miles	183 Miles	1 Hour 23 Minutes	1973 (GT1)	77
Central Plains Wind Farm	Wind	Yes	County Road 25, Marienthal KS 67863 (38.497225, -101.127771), 6,000 acres in Wichita County between Leoti & Scott City, KS	337 Miles	674 Miles	4 Hours 54 Minutes	2009	99
Emporia Energy Center (7 GTs)	Natural Gas	Yes	1685 Rd 200, Emporia, KS 66801	63 Miles	126 Miles	1 Hour 6 Minutes	2008, 2009	665
Flat Ridge Wind Energy	Wind	Yes	7329 NE Ridge Rd, Nashville, KS 67112 (~24 Miles SE of Pratt, KS in Barber County)	218 Miles	436 Miles	3 Hours 20 Minutes	2009	100
Gordon Evans Energy Center	Natural Gas	Yes	6001 N 151st W Colwich, KS, 67030	154 Miles	308 Miles	2 Hours 15 Minutes	1961 (ST1), 2000 (GT2), 1967 (ST2), 2001 (GT3), 1969 (5-IC), 2000 (GT1)	136 (ST1), 98.3 (GT2), 390 (ST2), 178.5 (GT3), 2.9 (5-IC), 98.3 (GT1)
Hutchinson Energy Center	Natural Gas	Yes	3200 E 30th Ave, Hutchinson, KS 67502	175 Miles	350 Miles	2 Hours 27 Minutes	1974 (GT1), 1950 (ST1), 1950 (ST3), 1974 (GT2), 1951 (ST4), 1975 (GT4), 1950 (ST2), 1974 (GT3)	71 (GT1), 23 (ST1), 35 (ST3), 71 (GT2), 172 (ST4), 86 (GT4), 23 (ST2), 71 (GT3)
Jeffrey Energy Center (Westar owns 92%, Great Plains owns 8%)	Coal	Yes	25905 Jeffrey Rd, St Marys, KS 66536	37.4 Miles	75 Miles	49 Minutes	1978 (1), 1980 (2), 1983 (3)	720 ea (1-3)
La Cygne Energy Center (Westar & KCPL each own 50%)	Coal	Yes	25166 E 2200th Rd, Lacygne, KS 66040	99.5 Miles	199 Miles	1 Hour 34 Minutes	1973 (ST1), 1977 (ST2)	893 (ST1), 685 (ST2)
Lawrence Energy Center	Coal	Yes	1250 N 1800 Rd, Lawrence, KS 66049	23.4 Miles	47 Miles	26 Minutes	1952 (2, closed 2000), 1955 (3), 1960 (4), 1971 (5)	38 (2), 49 (3), 114 (4), 403 (5)

Meridian Way Wind Farm (67 Vestas V90 3.0 MW turbines)	Wind	Yes	1409 Iron Road, Concordia, KS 66901-7182 (O&M) 801-899 210th Rd, Aurora, KS 67417 (SubS) (39.427150 -97.544180)	151 Miles (O&M) 123 Miles (SS)	302 Miles (O&M), 246 Miles (SS)	2 Hours 3-6 Minutes	Dec 2008	201
Murray Gill Energy Center	Natural Gas	Yes	6100 W 55th St South Wichita, KS 67215	151 Miles	302 Miles	2 Hours 15 Minutes	1952 (ST1), 1954 (ST2), 1956 (ST3), 1959 (ST4)	46 (ST1), 75 (ST2), 114 (ST3), 114 (ST4)
Neosho Energy Center (closed)	Natural Gas	Yes	2365 22000th Road. Parsons, Kansas 67357.	151 Miles	302 Miles	2 Hours 31 Minutes	1954 (3), closed 1986, reopened 1999, closed 2012	69-73 MW during operation
Rolling Meadows Landfill Gas (Partner with Waste Mgmt)	Landfill Gas	Yes	4080-5198 NW 70th St, Topeka, KS 66618	12.6 Miles	25 Miles	15 Minutes	2010	6
Spring Creek Energy Center	Natural Gas	No	18200 West Simmons Rd, Edmond, OK 73025 (Logan Co.)	291 Miles	582 Miles	4 Hours 14 Minutes	2001 (CT1-4)	84.5 MW ea (CT1-4)
State Line Combined Cycle Plant (Westar Owns 40%)	Natural Gas	No	2299 State Line Rd Joplin, MO 64801	191 Miles	382 Miles	3 Hours 6 Minutes	1995 (1-GT), 1997 (2-2 CT), 2991 (2-3 CA), 2001 (2-1 CT)	123 (1-GT), 180 (2-2 CT), 206 (2-3 CA), 150 (2-1 CT)
Tecumseh Energy Center	Coal	Yes	Tecumseh, KS 66542	8 Miles	16 Miles	12 Minutes	1957 (7-ST), 1962 (8-ST), 1972 (1-GT), 1972 (2-GT)	82 (7-ST), 150 (8-GT), 29 (1-GT), 29 (2-GT)
Wolf Creek Nuclear Generating Station	Nuclear	Yes	1550 Oxen Lane NE, Burlington, KS	60.5 Miles	121 Miles	1 Hour 10 Minutes	1985	549

* Power plant name, primary fuel, Year Completed, and Estimated 2016 MW Capacity obtained from FERC Form 1 and Empire 2015 Annual Report.

** All mileage and travel time obtained from Google Maps with a starting point of Westar Energy District's Headquarters Office at 818 S Kansas Ave (8th and Kansas), Topeka, KS 66612.