

Exhibit No. 112 NP

Issues: Plant Operating & Maintenance
Expense Adjustments;
Iatan/Plum Point Plant O&M Tracker;
Existing Unit Upgrade Adjustments;
Riverton Unit 12 Long Term Maintenance
Costs

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Witness: Blake A. Mertens
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Sponsoring Party: Empire District Electric
Date Testimony Prepared: August 2014

Direct Testimony

of

Blake A. Mertens

August 2014



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Empire Exhibit No. 112
Date 7-14-15 Reporter KF
File No. EP-2014-0351

NP

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BLAKE A. MERTENS
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2014-0351

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DIRECT TESTIMONY
OF
BLAKE A. MERTENS
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2014-0351

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. Blake A. Mertens. My business address is 602 South Joplin Avenue, Joplin,
4 Missouri.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. The Empire District Electric Company (“Empire” or “Company”), as Vice
7 President, Energy Supply.

8 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

9 A. I graduated from Kansas State University in 2000 with a Bachelor of Science
10 Degree in Chemical Engineering and a minor in Business. I received a Masters
11 Degree in Business Administration from Missouri State University in December
12 2007. I am also a professionally licensed engineer in the state of Kansas.

13 **Q. PLEASE GIVE AN OVERVIEW OF YOUR PROFESSIONAL
14 EXPERIENCE.**

15 A. I was employed by Black & Veatch Corp. immediately following my graduation
16 from Kansas State University in May 2000. From June 2000 through November
17 2001, I held roles as a technical analyst and energy consultant for the Strategic
18 Planning Group of Black & Veatch’s Power Sector Advisory Services in the
19 Energy Services Division. My duties included assisting in power plant siting

1 studies, economic analysis of potential power plants using production cost
2 modeling, independent engineering evaluations of plant assets, and market
3 analysis of the California energy crisis of 2000 – 2001. I went to work for Empire
4 in November 2001 as a Staff Engineer in Energy Supply where my duties
5 included tracking of plant capital and operating & maintenance (“O&M”)
6 expenses, involvement in energy supply regulatory issues, evaluation of new
7 generating resource options, assisting in the construction of new plant, and
8 assisting in the modeling and tracking of fuel and purchased power costs. In
9 2003, my title was changed to Planning Engineer with similar duties but more
10 responsibilities in the area of generation planning. In the fall of 2004, I took a
11 position as Combustion Turbine Construction Project Manager. In this position I
12 was responsible for the construction and commissioning of a 150 megawatt
13 (“MW”) combustion turbine at Empire’s Riverton Power Plant known as Riverton
14 Unit 12. Riverton Unit 12 went into commercial operation in April of 2007. In
15 the fall of 2006, I took on the position of Manager of Strategic Projects. In this
16 role I was responsible for the management of new generation and major projects
17 for Energy Supply facilities. This included representing Empire's interests at the
18 Iatan, Plum Point, and other off-system generation facilities. In January 2010, my
19 duties were expanded to oversee Empire’s environmental and safety departments,
20 and my title was likewise changed to Director of Strategic Projects, Safety, and
21 Environmental Services. In April 2011, I was promoted to my current position,
22 where I am responsible for power plant operations, fuel supplies, energy
23 procurement and marketing, and energy supply services. As Vice President,

1 Energy Supply, I am accountable for the proper budgeting and accounting of
2 capital, operating, and maintenance expenses for Empire's generation assets, both
3 individually- and jointly-owned.

4 **Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY BEFORE THE**
5 **MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION")?**

6 A. Yes. I have presented testimony in several Empire rate cases.

7 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

8 A. I will support Empire's proposed adjustments in the following areas:

- 9 • Annual operation and maintenance expenses at Empire owned and
10 operated generating units;
- 11 • Iatan/Plum Point operation and maintenance expense tracker;
- 12 • Asbury Air Quality Control System ("AQCS") Project; and
- 13 • Riverton 12 long-term maintenance contract.

14 **II. EMPIRE OPERATED PLANTS' OPERATING & MAINTENANCE**
15 **EXPENSE**

16 **Q. WHICH POWER PLANTS DOES EMPIRE OWN AND OPERATE?**

17 A. Empire solely owns and operates four power plants: the Asbury Power Plant
18 ("Asbury"), the Riverton Power Plant ("Riverton"), the Energy Center Power
19 Plant ("Energy Center"), and the Ozark Beach Dam and Hydroelectric Plant
20 ("Ozark Beach"). Empire also operates and jointly owns the State Line Power
21 Plant ("State Line"). Empire solely owns State Line Unit 1 and jointly owns State
22 Line Combined Cycle ("SLCC") with Westar Energy. Empire owns 60 percent of
23 SLCC, and Westar owns the remaining 40 percent.

1 **Q. WHAT IS THE TEST YEAR LEVEL OF NON-LABOR O&M FOR**
2 **THESE PLANTS?**

3 A. For the twelve months ended April 30, 2014, non-labor O&M expenses total
4 \$9,876,508. This amount represents 100 percent of the non-labor O&M expenses
5 at the four solely owned and operated plants, 100 percent of State Line Unit 1
6 expenses, 60 percent of SLCC O&M expenses (Westar is responsible for the other
7 40 percent), and 66.67 percent of State Line Common expenses (Westar is
8 responsible for the other 33.33 percent). Please refer to Schedule BAM-1
9 attached to this testimony for a breakdown of these test year level of expenses, as
10 well as historical values for comparison.

11 **Q. IS EMPIRE PROPOSING A NON-LABOR O&M ADJUSTMENT TO THE**
12 **TEST YEAR IN THIS CASE?**

13 A. Yes. Empire proposes an adjustment of \$1,545,272, to bring total non-labor
14 O&M expenses for these plants to \$11,421,780, on a total company basis.

15 **Q. WHAT DOES THIS LEVEL OF O&M EXPENSE REPRESENT?**

16 A. This level of expenses represents the five year average of non-labor operations
17 and maintenance expenses for these generating units, further adjusted to reflect
18 the annual change in the Producer Price Index ("PPI"). Additionally, expenses
19 associated with Riverton Unit 7 have been excluded, as this unit was retired in
20 June of 2014.

21 **Q. WHY HAS EMPIRE CHOSEN TO INCLUDE THIS LEVEL OF ANNUAL**
22 **OPERATING EXPENSES FOR THESE UNITS?**

1 A. Empire believes that these adjusted cost levels more accurately represent the
2 recurring non-labor operating and maintenance costs associated with the operation
3 of the units.

4 **Q. HOW WOULD YOU CHARACTERIZE THIS LEVEL OF COST**
5 **ESCALATION FOR NON-LABOR OPERATING AND MAINTENANCE**
6 **COSTS AT EMPIRE'S OWNED AND OPERATED GENERATION**
7 **UNITS?**

8 A. It is reasonable.

9 **Q. PLEASE EXPLAIN.**

10 A. Over a similar five year period (April 2009 through April 2014), the PPI grew at a
11 Compound Annual Growth Rate of 2.17 percent. In order for prior year(s) costs to
12 be accurately represented, an adjustment for the changes in PPI must be
13 accounted for. See Schedule BAM-1 for further details.

14 **Q. WHY IS THE PRODUCER PRICE INDEX OR PPI RELEVANT FOR**
15 **COMPARISON?**

16 A. The PPI and the Consumer Price Index ("CPI") are independent indices produced
17 by the United States government. The CPI, which is the more commonly referred
18 to index in media reporting, is a measure of the average change over time in the
19 prices paid by urban consumers for a market basket of consumer goods and
20 services. Similarly, the PPI measures the average change over time in the selling
21 prices received by domestic producers of goods and services. Further, these
22 indices are commonly used in the industry to adjust prices paid for goods and
23 services. In fact, Empire's long term service agreement with ** _____

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**

3 **Q. WHAT METHOD OF ADJUSTMENT HAS THE COMMISSION STAFF**
4 **(“STAFF”) SUPPORTED IN THE PAST RELATED TO EMPIRE’S**
5 **PLANT NON-LABOR O&M EXPENSES?**

6 A. Staff has supported an adjustment method that utilizes the annual average of
7 Empire’s past five years of actual expenses, without including an adjustment for
8 price escalation.

9 **Q. HOW WOULD YOU CHARACTERIZE THIS METHOD PREVIOUSLY**
10 **USED BY STAFF?**

11 A. The method used by Staff in Empire’s prior rate cases does not produce
12 reasonable results.

13 **Q. PLEASE EXPLAIN.**

14 A. Using only the five-year average during a period when costs are significantly and
15 continually escalating, ignores the ongoing cost or price escalation actually taking
16 place and establishes ongoing O&M non-labor costs at a level two and a half
17 years old. In addition, this process produces a cost level that predates the
18 beginning of the current test year being used to establish Empire’s revenue
19 requirement. For example, employing the Staff methodology and ignoring five
20 years of escalation would mean establishing ongoing cost levels 8.7 percent below
21 the current level of expenses. Using 8.7 percent of the unadjusted 5 year average
22 of \$10,565,584 in ongoing costs as the starting point, the Staff methodology
23 immediately results in an under-recovery of \$920,909 per year going forward.

1 The simple average approach in this area produces unreasonable results and, if
2 advanced by Staff in this case, should not be adopted by the Commission.

3 **III. IATAN AND PLUM POINT O&M**

4 **Q. WHAT IS EMPIRE'S OWNERSHIP INTEREST IN THE IATAN AND**
5 **PLUM POINT POWER PLANTS?**

6 A. Empire owns 12 percent of the Iatan Power Station. This includes the Iatan Unit
7 1, Iatan Unit 2, and Iatan Common facilities. Empire owns 7.52 percent of the
8 Plum Point facility. At both plants, Empire pays its pro-rata ownership share of
9 O&M and capital expenditures.

10 **Q. WHAT WAS THE TEST YEAR LEVEL OF NON-LABOR O&M**
11 **EXPENSES FOR THESE FACILITIES?**

12 A. Excluding AQCS consumables, which are recovered as part of Empire's Fuel
13 Adjustment Clause ("FAC"), Empire's pro-rata share of test year expenses at
14 Iatan and Plum Point were \$2,749,880 and \$1,626,079, respectively. See
15 Schedule BAM-1 for additional breakdown.

16 **Q. IS EMPIRE PROPOSING ANY ADJUSTMENT TO THE IATAN AND**
17 **PLUM POINT EXPENSE LEVELS AS PART OF THIS CASE?**

18 A. Yes. Empire is proposing to change the base expense levels established in
19 Empire's last rate case, Case No. ER-2012-0345, for these two generating units.
20 Empire is proposing to rebase the O&M trackers for Iatan Unit 2, Iatan Common,
21 and Plum Point, to \$1,872,745 Missouri jurisdictional, \$2,144,836 Missouri
22 jurisdictional, and \$2,103,017 Missouri jurisdictional, respectively. This level of
23 expenses represents the four year average of non-labor operations and

1 maintenance expenses, adjusted to reflect the annual change in the PPI, test year
2 labor, and test year non-labor administrative and general expenses. Empire
3 believes it is reasonable and equitable for both Empire and its customers to
4 continue utilizing a tracker mechanism for these expenses in this case.

5 **Q. WHY IS IT REASONABLE AND EQUITABLE TO CONTINUE AN**
6 **EXPENSE TRACKER FOR IATAN AND PLUM POINT O&M**
7 **EXPENSES?**

8 A. Iatan Unit 2, parts of Iatan Common, and Plum Point are relatively new units;
9 they all went into service in the latter part of 2010 and have been in commercial
10 operation for less than 4 years. This means there is still very limited operating
11 history that can be used to determine ongoing expense levels.

12 **Q. HAS THE COMMISSION PREVIOUSLY AUTHORIZED TRACKERS**
13 **FOR O&M EXPENSES FOR UTILITIES WITH INTERESTS IN THE**
14 **IATAN OR PLUM POINT FACILITIES?**

15 A. Yes. Empire currently has such as tracker in place.

16 **IV. GENERATING UNIT UPGRADES**

17 **Q. DOES EMPIRE HAVE ANY SIGNIFICANT CAPITAL PROJECTS AT**
18 **ITS EXISTING GENERATING FACILITIES THAT ARE NOT**
19 **REFLECTED IN PLANT-IN-SERVICE AS OF APRIL 30, 2014, WHICH**
20 **ARE EXPECTED TO BE COMPLETE BY THE END OF THE YEAR?**

21 A. Yes. Empire is currently constructing an AQCS at the Asbury Plant.

22 **Q. PLEASE DESCRIBE THE AQCS PROJECT TAKING PLACE AT THE**
23 **ASBURY PLANT.**

1 A. The Federal Clean Air Act (“CAA”) and comparable state laws regulate air
2 emissions from stationary sources such as electric power plants through
3 permitting and/or emission control and related requirements. These requirements
4 include maximum emission limits for sulfur dioxide (SO₂), particulate matter,
5 nitrogen oxides (NO_x), carbon monoxide (CO), and hazardous air pollutants,
6 including mercury. In order to comply with current and forthcoming
7 environmental regulations, Empire is taking actions to implement its compliance
8 plan and strategy (“Compliance Plan”). The Mercury Air Toxic Standards
9 (“MATS”) and the Clean Air Interstate Rule (“CAIR”), and its subsequent
10 replacement rule, are the drivers behind our Compliance Plan and its
11 implementation schedule. Empire’s Compliance Plan largely follows the preferred
12 plan presented in our Integrated Resource Plan (“IRP”), filed in July, 2013 with
13 the Commission. As a result, we are in the process of installing a scrubber, fabric
14 filter, and powder activated carbon injection system at our Asbury plant. The
15 addition of this air quality control equipment is expected to be completed by the
16 end of 2014, and it is contractually required to be completed no later than
17 February 1, 2015, without financial penalties to the constructor of the equipment.

18 **Q. WHAT IS THE CAPITAL COST ASSOCIATED WITH THIS PROJECT?**

19 A. The total estimated cost of this project is \$122,412,831, which includes
20 \$92,540,436, expended through the end of April 2014, excluding AFUDC. Please
21 refer to Schedule BAM-2 for additional details.

22 **Q. IS EMPIRE PROPOSING TO ADJUST OPERATIONS AND**
23 **MAINTENANCE EXPENSES AS A RESULT OF THIS PROJECT?**

1 A. Yes. Excluding consumables, which are recovered as part of Empire's FAC,
2 Empire is proposing an increase in operation and maintenance costs associated
3 with the addition of the AQCS. Non-labor operations and maintenance costs are
4 projected to be \$238,300 annually. Please refer to Schedule BAM-3 for further
5 breakout of these expenses.

6 **V. RIVERTON UNIT 12 LONG TERM MAINTENANCE CONTRACT**

7 **Q. PLEASE DESCRIBE THE RIVERTON LONG TERM MAINTENANCE**
8 **CONTRACT WITH SIEMENS.**

9 A. In August 2014, Empire signed a Program Parts and Scheduled Outage Services
10 Contract or Long Term Parts ("LTP") contract with Siemens for Unit 12 at the
11 Riverton plant. Empire currently has a similar agreement at its State Line
12 Combined Cycle facility. These long term maintenance agreements provide
13 operational benefits to the plant along with normalizing costs for our customers.
14 The annual cost includes three parts: equivalent operating hours ("EOH"), the
15 annual fixed fee, and the amortized initial fee.

16 **Q. IS EMPIRE PROPOSING TO ADJUST OPERATIONS AND**
17 **MAINTENANCE EXPENSES AS A RESULT OF THIS AGREEMENT?**

18 A. Yes. Empire is proposing to increase non-labor operations and maintenance costs
19 as a result of this agreement. The forecasted non-labor operations and
20 maintenance costs are \$4,687,245 annually. Please refer to Schedule BAM-4 for
21 complete cost analysis. This amount represents the projected EOH expense of
22 **** _____ ****, the annual fixed fee of **** _____ ****, and the amortized initial
23 fee of **** _____ ****.

1 **Q. PLEASE EXPOUND ON THE DERIVATION OF THE EOH EXPENSE.**

2 A. As part of the contract, as of January 1, 2015, Empire will be charged a dollar
3 amount for each EOH the unit operates. An EOH can be derived in three ways.
4 First, each hour the unit operates is one (1) EOH. Second, each time the unit is
5 started, the unit will incur ten (10) EOH. Third, if the unit trips unexpectedly
6 during operation, the unit will incur a number of EOH dependent upon the load
7 the unit was operating at when it tripped. Empire has projected a number of hours
8 of operation for the unit in 2015, along with a number of starts on the unit in
9 2015, that reflects the unit's recent simple cycle operating experience in the SPP
10 IM. In addition, Empire is in the process of converting this unit to a combined
11 cycle, which is planned to be complete by mid-year 2016. The testing of this new
12 combined cycle facility is scheduled to begin in the fall of 2015. Empire will be
13 charged EOH expenses by Siemens during this testing phase. Empire is not
14 specifically projecting any unit trips. In total, Empire is projecting **** _____ ****
15 EOH under simple cycle operation and **** _____ **** EOH under combined cycle
16 operation. These total EOH are then multiplied by the EOH factor of
17 **** _____ ****, for a total EOH expense of **** _____ ****.

18 **Q WILL THIS AMOUNT OF EOH EXPENSE DEFINITELY BE**
19 **INCURRED IN 2015?**

20 A. No. As shown above, this is a variable fee based on operating characteristics of
21 the unit. It could be higher; it could be lower. The above level of expense is
22 Empire's best estimate at this time.

1 Q. PLEASE EXPOUND ON THE DERIVATION OF THE ANNUAL FIXED
2 FEE.

3 A. The contract includes a provision to charge Empire an annual fee of
4 ** _____ ** to cover Siemens' fixed expenses associated with the contract.

5 Q. PLEASE EXPOUND ON THE DERIVATION OF THE INITIAL FEE
6 AMORTIZATION.

7 A Riverton Unit 12 has been in service since April 2007. Due to the unit's operating
8 history, it is due for a hot gas path inspection within the next couple years. This
9 inspection has a significant expense associated with it that Siemens will have to
10 cover as part of the contract. If Empire would have entered into this agreement
11 upon commercial operation of the unit, it would have been making payments
12 towards this expense over the last several years. Since Empire just now entered
13 into the contract, we agreed to an initial fee of ** _____
14 ____ **; however, this expense covers maintenance costs associated with the
15 ** _____ ** under the contract. Empire projects it will take
16 approximately ** _____ **. For accounting
17 purposes, we are thus amortizing this expense ** _____
18 _____ **.

19 Q. IS EMPIRE REQUESTING AN O&M TRACKER FOR THE RIVERTON
20 12 UNIT THAT IS SIMILAR TO THE O&M TRACKERS USED FOR THE
21 IATAN AND PLUM POINT UNITS?

22 A. Yes. Due to the implementation of the SPP IM, the hours of unit operation may
23 vary significantly from the hours the unit was operated when it was used to serve

1 Empire's load. As I mentioned earlier, significant changes in operating hours can
2 translate to significant variations in the cost of the Siemens' EOH maintenance
3 charges. Due to this uncertainty and the potential for significant variations in
4 actual EOH charges, Empire is requesting an expense tracker for the Siemens'
5 Riverton 12 long-term maintenance contract as part of this case.

6 **Q. ARE YOU RECOMMENDING THAT A TRACKER BASE BE**
7 **ESTABLISHED FOR THE RIVERTON 12 SIEMENS' MAINTENANCE**
8 **CONTRACT?**

9 A. Yes. We recommend that a Missouri jurisdictional tracker base of
10 **** _____ **** be established for the Riverton 12 Siemens' maintenance
11 contract. Fluctuations in actual Siemens charges above and below this annual
12 level of expense (base) will be recorded in a regulatory asset/liability account.
13 The balance recorded in the regulatory asset/liability account at the time of
14 Empire's next Missouri rate case will be amortized over three years, and the
15 revenue requirement associated with the tracker will be taken into account during
16 Empire's next Missouri rate case.

17 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

18 A. Yes, it does.

HIGHLY CONFIDENTIAL IN ITS ENTIRETY
SCHEDULE BAM-2
Asbury Environmental Retrofit

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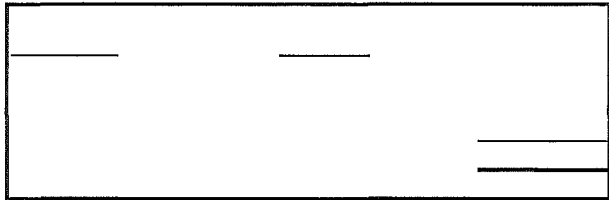
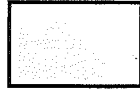
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Annual Expected AQCS Related Costs

Asbury Plant

SCHEDULE BAM-3

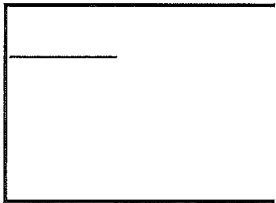
The Empire District Electric Company
Riverton LTP Cost Analysis
SCHEDULE BAM-4



HIGHLIGHT CONFIDENTIAL IN ITS ENTIRETY

SCHEDULE BAW
PAGE 2 OF 2

The Empire District Electric Company
Riverton LTP Cost Analysis
SCHEDULE BAW-4



NP

AFFIDAVIT OF BLAKE A. MERTENS

STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 26th day of August, 2014, before me appeared Blake A. Mertens, to me personally known, who, being by me first duly sworn, states that he is Vice President – Energy Supply of The Empire District Electric Company and acknowledges that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.



Blake A. Mertens

Subscribed and sworn to before me this 26th day of August, 2014.



Notary Public

My commission expires: Nov. 16, 2014.

