Exhibit No. SNP
Issues: Riverton Unit 12 In-Service; Asbury SCR In-Service; Energy Supply Operating & Maintenance Expense; FAC Supporting Information
Witness: Blake A. Mertens
Type of Exhibit: Direct Testimony
Sponsoring Party: Empire District Electric
Case No.:

Before the Public Service Commission of the State of Missouri

Direct Testimony

Of

Blake A. Mertens

October 2007

****Denotes Highly Confidential****

NP

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OF
BLAKE A. MERTENS
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION

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DIRECT TESTIMONY
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INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Blake A. Mertens. My business address is 602 Joplin St., Joplin, Missouri.

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

A. The Empire District Electric Company ("Empire" or "Company"), I am Manager of Strategic Projects.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I graduated from Kansas State University in 2000 with a Bachelor of Science Degree in Chemical Engineering with a minor in Business. I am currently pursuing a Masters degree in Business Administration at Missouri State University.

Q. PLEASE GIVE AN OVERVIEW OF YOUR PROFESSIONAL EXPERIENCE.

A. I was employed by Black & Veatch Corp. immediately following my graduation from Kansas State University in May of 2000. From June of 2000 through November of 2001, I held roles as a technical analyst and energy consultant for the Strategic Planning Group of Black & Veatch's Power Sector Advisory Services in the Energy Services Division. Duties included assisting in power plant siting studies, economic analysis of potential power plants using production cost

modeling, independent engineering evaluations of plant assets, and market analysis of the California energy crisis of 2000 – 2001. I went to work for Empire in November of 2001 as a Staff Engineer in Energy Supply where my duties included tracking of plant capital and operating & maintenance ("O&M") expenses, involvement in energy supply regulatory issues, evaluation of new generating resource options, assisting in the construction of new plant, and assisting in the modeling and tracking of fuel and purchased power costs. In 2003, my title was changed to Planning Engineer with similar duties but more responsibilities in the area of generation planning. In the fall of 2004 I took a position as Combustion Turbine Construction Project Manager. In this position I was responsible for the construction and commissioning of a 150 MW combustion turbine at Empire's Riverton Power Plant known as Riverton Unit 12. Riverton Unit 12 went into commercial operation in April of 2007. Finally, in the fall of 2006 I took on my current position as Manager of Strategic Projects. In this role I am responsible for the management of new generation and major projects for Energy Supply facilities. This includes representing Empire's interests at the Iatan, Plum Point and other off-system generation facilities.

EXECUTIVE SUMMARY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS CASE BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION")?

A. My Direct Testimony will cover various topics related to Empire's generating units. In the first two sections of my testimony I will discuss new assets added to

Empire's generation fleet. Specifically, the proposed in-service criteria for Riverton Unit 12, which went into commercial operation this past spring, and for the Asbury SCR, which is scheduled to be operational late this fall, will be detailed. In the following section of my testimony I will detail proposed adjustments to Empire's test year level of operating and maintenance expense as they relate to generating assets. These adjustments total $3,247,913, a significant portion of which is related to the new asset additions discussed above. Finally, the last section of my testimony will provide information to support Empire's filing for a fuel adjustment clause as part of this case.

RIVERTON UNIT 12 IN-SERVICE CRITERIA

Q. PLEASE BRIEFLY EXPLAIN THE RIVERTON UNIT 12 ADDITION.

A. In July of 2003 it was determined that in order for Empire to economically meet the continually growing capacity and energy needs of its customers and service territory, additional combustion turbine generating capacity would be needed by the summer of 2007. Over the next year Empire evaluated several different sites and combustion turbine technologies and manufacturers to determine how to most economically meet this need. In the fall of 2004 Empire determined the Riverton Power Plant and a Siemens V84.3A2 combustion turbine would be the site and combustion turbine of choice. During 2005 site preparation activities took place, leading to construction of the combustion turbine and balance of plant facilities in 2006, and commissioning of the unit in 2007. On April 10, 2007 Empire declared Riverton Unit 12 available for commercial operation. This project was

contemplated by our Experimental Regulatory Plan approved by the Commission in Case No. EO-2005-0263.

Q. DO YOU HAVE PROPOSED IN-SERVICE CRITERIA FOR RIVERTON UNIT 12?

A. Yes, I do. Empire worked with the Commission Staff ("Staff") to develop the following in-service criteria that would be utilized for Riverton Unit 12:

1. All major construction work is complete.
2. All preoperational tests have been successfully completed.
3. Unit successfully meets all contract operational guarantees.
4. Unit successfully demonstrates its ability to initiate the proper start sequence resulting in the unit operating from zero (0) rpm (or turning gear) to full load when prompted at a location (or locations) from which it is normally operated.
5. If unit has fast start capability, the unit demonstrates its ability to meet the fast start capability.
6. Unit successfully demonstrates its ability to initiate the proper shutdown sequence from full load resulting in zero (0) rpm (or turning gear) when prompted at a location (or locations) from which it is normally operated.
7. Unit successfully demonstrates its ability to operate at minimum load for one (1) hour.
8. Unit successfully demonstrates its ability to operate at or above 95% of nominal capacity for 4 continuous hours.
9. Unit successfully demonstrates its ability to produce an amount of energy (MWhr) within a 72 hour period that results in a capacity factor of at least

50% during the period when calculated by the formula: capacity factor = (MWhrs generated in 72 hours) / (nominal capacity x 72 hours).

10. Sufficient transmission interconnection facilities shall exist for the total plant design net electrical capacity at the time the unit is declared fully operational and used for service.

11. Sufficient transmission facilities shall exist for the total plant design net electrical capacity from the generating station into the utility service territory at the time the unit is declared fully operational and used for service.

It is my understanding that these in-service criteria, deemed "Combustion Turbine Unit In-Service Test Criteria (Nameplate Capacity of ≥ 95 MW)", are commonly used by other Missouri regulated utilities as in-service criteria for similar combustion turbines. These criteria are also included as a part of Empire's approved Experimental Regulatory Plan.

Q. HAS RIVERTON UNIT 12 MET EACH OF THE IN-SERVICE CRITERION?

A. Yes. Supporting documentation of such was supplied to the Staff on July 17th of this year. While the Staff has requested additional details surrounding some of the supporting documentation, to date the Staff has not disputed that the in-service criteria has been met.

Q. HAS RIVERTON UNIT 12 BEEN UTILIZED TO MEET EMPIRE'S CUSTOMER NEEDS DURING THE SUMMER OF 2007?

A. Yes. Through July 31, 2007, Riverton Unit 12 had produced over 32,000 megawatt-hours of energy to assist in meeting the needs of our customers.

ASBURY SELECTIVE CATALYTIC REDUCTION ("SCR") IN-SERVICE

Q. PLEASE BRIEFLY EXPLAIN THE CIRCUMSTANCES LEADING TO THE DECISION TO CONSTRUCT THE ASBURY SCR.

A. The EPA issued its final Clean Air Interstate Rule ("CAIR") on March 10, 2005. The CAIR governs NO_x and SO_2 emissions from fossil fueled units greater than 25 megawatts and will affect 28 states, including Missouri, where our Asbury, Energy Center, State Line and Iatan Plants are located and Arkansas where the future Plum Point Energy Station will be located.

The CAIR is not directed to specific generation units, but instead, requires the states (including Missouri and Arkansas) to develop State Implementation Plans ("SIPs") to comply with specific NO_x and SO_2 state-wide annual budgets. Missouri and Arkansas have finalized their respective regulations and have submitted their SIPs to the EPA for approval; however, until these SIPs are approved by the EPA, we cannot definitively determine the allowed emissions of NO_x and SO_2 for the Asbury, Energy Center, State Line and Iatan Plants in Missouri or the Plum Point Energy Station in Arkansas.

To help meet CAIR NO_x requirements, we are constructing a SCR at Asbury. We expect the SCR to be in-service the fourth quarter of 2007. We have awarded a contract and the SCR is under construction and will be tied into the existing unit during our scheduled 2007 major outage this fall. Our current cost estimate for the SCR at Asbury is $31 million (excluding AFUDC). This project was also contemplated as part of our Experimental Regulatory Plan approved by the Commission in Case No. EO-2005-0263.

Q. DO YOU HAVE PROPOSED IN-SERVICE CRITERIA FOR THE ASBURY SCR?

A. Yes. As part of Empire's Experimental Regulatory Plan that was approved by the Commission the parties agreed that "they will develop and agree to in-service criteria for the emissions equipment that is to be installed on.....Asbury SCR and that the equipment will meet the in-service criteria before the costs for the equipment will be included in Empire's rate base." Empire worked with the Staff to draft in-service criteria for the Asbury SCR and these criteria were presented to the other parties during Empire's Integrated Resource Plan meeting that took place on March 30, 2007. No objections were raised and Empire therefore presents the in-service criteria as follows:

In-Service Criteria for NO_X Control Equipment

1. All major construction work is complete.
2. All preoperational tests have been successfully completed.
3. Equipment successfully meets all operational contract guarantees. The operational contract guarantees that have been satisfied by the time of Staff's direct, rebuttal, or surrebuttal testimony filing in the current rate case will be evaluated by the Staff. Note: This applies to operational contract guarantees that are not addressed in criteria 4, 5, and 6 (as listed below).
4. The equipment shall be operational and demonstrate its ability to operate at a NO_X reduction efficiency equal to or greater than 83.7% over a continuous four (4) hour period while the generating unit is operating at or above 95% of its design load.

5. The equipment shall also demonstrate its ability to operate at a NO_X reduction efficiency equal to or greater than 79.2% over a continuous 120-hour period while the generating unit is operating at or above 80% of its design load.

6. Continuous emission monitoring systems ("CEMS") are operational and demonstrate the capability of monitoring the NO_X emissions to satisfy the parameters in items (4) and (5) above.

Q. HAS THE ASBURY SCR MET EACH OF THESE IN-SERVICE CRITERION?

A. No. As stated previously, the Asbury SCR is still under construction and is scheduled to be complete and commissioned during Asbury's 2007 fall outage. The SCR is expected to be ready for service in November of this year. Once Empire has deemed the in-service criteria met it will provide proof of such to Staff and ask for concurrence. Supplemental testimony verifying that the Asbury SCR has met each of the in-service criteria will also be provided.

Q. WILL THE ASBURY SCR BE CONSIDERED PART OF EMPIRE'S RATE BASE IN THIS CASE?

A. Yes. To the extent the in-service criteria is met, Empire will roll the construction costs for the Asbury SCR, estimated to be $31 million excluding AFUDC, into plant in-service some time late this year so that those costs will be included in the test year true-up process as part of this case.

ENERGY SUPPLY OPERATING AND MAINTENANCE ADJUSTMENTS

Q. WHAT AREAS OR PLANTS OF ENERGY SUPPLY WILL YOUR TESTIMONY ADDRESS AS IT RELATES TO OPERATING AND MAINTENANCE ("O&M") EXPENSES?

A. Energy Supply O&M expenses include operating and maintenance expenses incurred at Empire's Asbury, Energy Center, Ozark Beach, Riverton, and State Line plants. In addition, Empire's 12-percent share of O&M expenses incurred at the Kansas City Power & Light operated Iatan plant are included in O&M expenses.

Q. WHAT WAS THE TEST YEAR'S (TWELVE-MONTHS-ENDING ("TME") JUNE 30, 2007) LEVEL OF O&M EXPENSES FOR THESE ENERGY SUPPLY FACILITIES, EXCLUDING LABOR?

A. O&M expenses for TME June 2007 totaled $9,952,668, which includes 60 percent of State Line Combined Cycle's ("SLCC's") O&M expenses. This unit is jointly owned – Westar owns 40% and Empire owns 60%. Thus, Empire is responsible for approximately 60 percent of the O&M costs at SLCC.

Q. FOR PURPOSES OF THIS CASE, WERE ANY ADJUSTMENTS MADE TO THE LEVEL OF EXPENSE TO BETTER REPRESENT NORMAL ONGOING O&M EXPENSES IN ENERGY SUPPLY?

A. Yes. Nine adjustments were made to normalize the level of expense to allow for abnormalities that occurred during the test year and to match O&M related to assets coming into service. These adjustments are summarized in Table 1 below.

Table 1

Item	Description	Amount
	Adjustments for Test Year Abnormalities	
I	Plant Operating Expense Normalization	$ 315,761
II	Asbury Maintenance Expense	
III	a. Normalization	$ 592,883
	b. Major Outage Amortization	$ 188,000
	SLCC Maintenance Normalization	$ -678,987
IV	Riverton Maintenance Normalization	$ 448,383
V	Miscellaneous Maintenance Normalization	$ 553,889
VI	OPSA Catch-up Payment	$** **
	Adjustments for New Assets	
VII	Riverton Unit 12 Maintenance	$ 100,000
VII	Asbury SCR Operations & Maintenance	$ 1,292,500
IX	Asbury and Riverton Mercury Analyzer Maintenance and Testing	$ 284,000
	Total	**$ 3,247,913**

I. Plant Operating Expense Amortization

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR PLANT OPERATING EXPENSE NORMALIZATION.

A. Operating expenses for the Asbury, Energy Center, Riverton, Ozark Beach, SLCC (60%), and Iatan plants totaled $2,748,279 for the test year TME June 2007. The five-year average of plant operating expenses for these facilities totals $3,064,039 when adjusted for inflation using the Producer Price Index ("PPI") produced by the *U.S. Department of Labor: Bureau of Labor Statistics*. Empire asserts an adjustment of $315,761 is warranted to realize the 5-year average amount (adjusted for inflation) as this better represents normalized operating levels for the generating units and normalizes the outage schedule for these units. Please refer to Schedule BAM-1 for further breakdown of this adjustment.

II. Asbury Maintenance Expense

Q. PLEASE EXPLAIN THE ADJUSTMENTS MADE FOR ASBURY MAINTENANCE EXPENSE.

A. As shown in Table 1 above, there are two adjustments that need to be made to reflect Asbury's maintenance expenses. The first is to normalize Asbury's maintenance expense to reflect normal annual outage durations. In the spring of 2007, Asbury only took a nine day scheduled outage versus its normally scheduled 23 day outage. A shorter outage was taken because Asbury moved its scheduled 5-year major outage from the spring to the fall to allow for the major outage to take place at the same time as the SCR tie-in. This results in an adjustment of $592,883, which brings Asbury's maintenance expense to the 5-year average level adjusted for inflation using the PPI (less Asbury major outage amortization).

The delay of Asbury's major outage relates to the second adjustment that needs to be accounted for, which is the amortization of Asbury's 5-year major outage. The amortization of Asbury's last major outage concluded in November 2006. Asbury's major outage was originally scheduled for the spring of 2007; however, as stated above, it was decided to be more economical to move the outage from the spring of 2007 to the fall of 2007 so that the SCR tie-in and the major outage work could take place at the same time and thus shorten total outage hours for the unit. Asbury personnel estimate that maintenance expenses in the upcoming fall major outage falling under the amortization category will total $2,225,000 (compared to amortized values of $2,654,667 and $2,991,210 for the 1996 and 2001 major outages, respectfully). Amortized over five years, this

equates to $445,000 in annual expense. After subtracting the amount of amortization already in the test year, $257,000, an adjustment of $188,000 to Asbury's normalized maintenance expenses is required. Please see Schedules BAM-1 and BAM-2 for further clarification of the calculation of these adjustments. The actual cost of the outage can be determined during the test year true-up process, once actual costs are accounted for, and this amount can be adjusted to reflect the actual cost.

III. State Line Combined Cycle ("SLCC") Maintenance Normalization

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR SLCC MAINTENANCE NORMALIZATION.

A. In June of 2001 Empire entered into a long term maintenance agreement ("LTP") for scheduled outage services for the two combustion turbines that are a part of SLCC (SLCC 2-1 and 2-2). Payments related to this contract are based on the actual operating characteristics of the unit (equivalent hours and equivalent starts). In order to normalize these operating characteristics (i.e, normalize outage schedules) and thus normalize the payments and other maintenance expenses, Empire adjusted to the inflation adjusted five-year average of maintenance expenses for SLCC. This adjustment is a reduction in maintenance expenses of $678,987.

IV. Riverton Maintenance Normalization

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR RIVERTON MAINTENANCE NORMALIZATION.

A. Riverton Units 7 and 8 are on five-year major outage schedules. Riverton Unit 7's last major outage took place in 2005 and Unit 8's last major outage took place in

2003. In order to normalize and account for these maintenance costs, Empire adjusted to the 5-year average maintenance expense level (adjusted for inflation) for the Riverton Plant. This equals an adjustment of $448,383 to increase maintenance expense.

V. Miscellaneous Maintenance Normalization

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR MISCELLANEOUS MAINTENANCE NORMALIZATION.

A. In addition to the normalization of the major items listed in the above adjustments, Empire asserts maintenance expenses at its other generating plants, Iatan, Ozark Beach, Energy Center, and State Line Unit 1, should also be normalized to a five year average level adjusted for inflation. Aggregating the adjustments for these plants creates an adjustment of $553,889. Please refer to Schedule BAM-1 for a breakdown of this adjustment between the plants.

VI. Amortization of Energy Center and State Line OPSA Catch-Up Payment

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE TO ENERGY CENTER AND STATE LINE O&M EXPENSES WITH REGARD TO THE OPERATING PLANT SERVICE AGREEMENT ("OPSA") CONTRACT.

A. As part of the OPSA entered between Empire and Siemens-Westinghouse for long-term maintenance on Energy Center Units 1 and 2 and State Line Unit 1, the contract was priced in two components. The first component has been calculated such that it pays for scheduled outages due to operation of the units prior to the signing of the agreement. This first component is thus known as the "catch-up" payment. The second component was priced to pay for and levelize future

scheduled outages. "Catch-up" maintenance was performed in late 2001 and into year 2002. Payment for these "catch-up" inspections began in January 2002 and continued for the first six months of 2002. Empire and the Commission Staff agreed in one of Empire's previous rate cases (Case No. ER-2002-424) that these "catch-up" payments would be amortized over the term of the contract – seven years. This normalization is detailed in Adjustment No. S-34.4 made by Commission Staff analyst Phil Williams and attached to my testimony as Schedule BAM-3. As a result of this normalization O&M is increased **_____**.

VII. Riverton Unit 12 Maintenance

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR RIVERTON UNIT 12 MAINTENANCE.

A. As stated previously, Riverton Unit 12 went into commercial operation on April 10, 2007. Consequently, essentially no O&M expenses for this unit are included in the test year. Empire made an adjustment of $100,000 to allow for a level of O&M expenses to be included for this unit.

Q. HOW WAS THE $100,000 PER YEAR AMOUNT DETERMINED?

A. First, as part of the preventative maintenance program Unit 12 will require a minor combustor inspection each year. Siemens, the original equipment manufacturer has provided a quotation for this inspection of $**_____**. The remaining $**_____** is an attempt to account for consumables used by the unit (i.e. filters, lubricants, glycol, etc.).

VIII. Asbury SCR O&M

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR ASBURY SCR O&M.

A. As stated previously, the Asbury SCR is expected to be completed and operational after Asbury's fall outage. Consequently, no O&M expenses for the SCR are included in the test year; however, going forward there will obviously be significant operating and maintenance expenses related to the Asbury SCR. Empire has made an adjustment of $1,292,500 to include Asbury SCR O&M expenses in this rate case.

Q. HOW WAS THE $1,292,500 PER YEAR AMOUNT DETERMINED?

A. The majority of the SCR O&M is related to the purchase and consumption of ammonia in the reaction process. Alstom, the original equipment manufacturer for the SCR project, estimates that at full load the SCR will require 650 lb/hour to achieve 90% reduction with a starting emission rate of 0.86 lb NOx/mmBtu. From 2002 through 2006, the average capacity factor of Asbury Unit 1 is 78.86%. Using these values along with a cost of $490/ton for ammonia, the following calculation estimates the cost of the ammonia used by the SCR (also see Schedule BAM-2):

$650 lb/hr x 8760 hrs/yr x 78.86% x 1 ton/2000 hrs x $490/ton = $1,100,120/yr

In addition to this cost, Table 2 below summarizes the additional O&M costs Empire has utilized to arrive at $1,292,500 / year for SCR O&M.

Table 2

Item	Description	Cost
Ammonia Supply	90% reduction from 0.86 lb/mmBtu	$1,100,000
CEMS	Continuous Emissions Monitoring	
- Calibration Gases		$ 20,000
- Quarterly Maintenance		$ 50,000
- Repairs / Parts		$ 5,000
Risk Management Program*	Anhydrous ammonia safety program	
- HAZWOPER* Training	Annual refresher plus new employees	$ 8,000
- Replacement Suits	Consumed during year	$ 2,000
- Program Review/Update	Monitoring / updating program required	$ 2,000
LEPC Meetings	Local Emergency Planning Commission	$ 500

Mechanical Integrity Eval	Testing of critical piping and tanks	$ 10,000
Annual Coupon Tests	Evaluation of catalyst integrity	$ 25,000
TOTAL		**$ 1,292,500**

** Hazardous Waste Operations and Emergency Response Standard program*

Q. PLEASE EXPLAIN THE ADJUSTMENT MADE FOR ASBURY AND RIVERTON MERCURY ANALYZER MAINTENANCE AND TESTING.

A. On March 15, 2005, EPA issued the Clean Air Mercury Rule (CAMR) to permanently cap and reduce mercury emissions from coal-fired power plants. The CAMR requires affected electric utility units to continuously monitor mercury mass emissions. The Asbury and Riverton plants are in the process of installing technically-feasible, compliance-capable technologies to insure that the Hg emission reduction goals of CAMR are met. These mercury analyzers will be in place in 2008 to allow for testing and certification. Official CAMR mercury monitoring and reporting begins January 1, 2009. Empire estimates annual O&M and testing expenses related to these analyzers to be $284,000.

Q. HOW WAS THE $284,000 PER YEAR AMOUNT DETERMINED?

A. Table 3 below summarizes these costs on a per plant basis. Since these costs will apply to both the Riverton and Asbury plants, the $142,000 amount must be doubled.

Table 3

Item	Description	Cost
Ontario-Hydro Testing	Required annual certification	$ 50,000
Mercury Generator Certification	Mist traceability protocol requirement - $7,000 per analyzer (2) per quarter	$ 56,000
Argon Gas	Consumed by analyzer	$ 1,000
Preventive Maintenance	Annual parts and labor	$ 35,000
TOTAL (per plant)		**$ 142,000**

Q. WHAT ARE THE VALUES IN TABLE 3 BASED UPON?

A. The above values are based on estimates obtained from consultants and vendors within the emissions monitoring industry. Consensus among these consultants and vendors is that there will be upward pressure on these values due to the large number of utilities that will be adding similar monitoring equipment at their coal-fired power plants in order to comply with the EPA CAMR requirements.

FUEL ADJUSTMENT CLAUSE ("FAC") SUPPORTING INFORMATION

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. When requesting a FAC, the Commission requires a utility to provide certain supporting information per 4 CSR 240-3.161 (2). Specifically, I will respond to items 16 and 18 of this requested information.

Q. CONCERNING ITEM 16 WHICH REQUESTS A PROPOSED SCHEDULE AND TESTING PLAN FOR HEAT RATE OR EFFICIENCY TESTS, HOW DO YOU RESPOND?

A. At the present time, Empire monitors performance of its generating units on an ongoing basis and logs historical data to determine heat rate and efficiencies of its generating units.

Q. WHY DOES EMPIRE MONITOR ITS GENERATING PERFORMANCE ON AN ONGOING BASIS, RATHER THAN USING A SPECIFIC TESTING PROGRAM OR SCHEDULE?

A. There are at least two significant reasons why Empire has not used a specific testing schedule on its generating units. First, there are numerous operating conditions (cold, mild, and hot weather; minimum, partial, or full load; low and high humidity;

etc.) for each of Empire's generating units. It is nearly impossible to perform an efficiency test on a unit one day and compare it to a test of the same unit performed on another day under different operating conditions and come away with any relevant correlation. Tracking historical data under numerous operating conditions seems more relevant to Empire. Secondly, and probably the most significant reason Empire has not embarked on a specific testing schedule of each unit, is the cost to perform such a testing regimen. To perform accurate tests the generating units have to be ramped up and down and operate at numerous load levels during the tests or even under varying weather conditions. It is obviously not the most economical to operate units at various load levels or possibly start a unit purely for the purpose of testing. Empire believes it is more prudent and economical to use historical data that comes from various load levels and weather conditions that occur during normal operations rather than operate the unit(s) at inefficient (and more costly) levels solely for the sake of testing. Further, Empire does not currently possess the measuring equipment needed to perform extensive performance testing such as that proposed by The American Society of Mechanical Engineers' Performance Test Codes ("ASME-PTCs").

Q. ARE YOU SUGGESTING THAT EMPIRE NOT BE REQUIRED TO PERFORM HEAT RATE AND EFFICIENCY TESTS?

A. No. I am suggesting that the heat rate curves available for Empire's units based on historical data be used to meet this testing requirement rather than direct Empire to perform specific heat rate tests for each of its units that will provide little to no benefit when compared to the historical data. In essence this is a continuous

"testing" program. If Empire is directed to perform specific unit testing and scheduling, this will ultimately lead to an increase in fuel and equipment costs which, in turn, will have to be passed on to its customers.

Q. CONCERNING ITEM 18, IS EMPIRE INCLUDING ANY OF THE COSTS OR MARGINS RELATED TO EMMISSION ALLOWANCES IN THE PROPOSED FUEL ADJUSTMENT?

A. Empire is including the cost related to emissions allowances in its fuel adjustment request at this time. Currently Empire projects that we will have sufficient SO_2 allowances granted to us by the EPA or in our existing inventory to supply our needs through about 2012 so the inclusion of FERC account 509 in the FAC is not expected to have any impact until that time.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

THE EMPIRE DISTRICT ELECTRIC COMPANY

Historical TME June Operations and Maintenance Expenses Adjusted for Infl

		June Producer Price Index (PPI)					
		143.1	*148.7*	*154*	*161.7*	*167.1*	
		1.17	*1.12*	*1.09*	*1.03*	*1.00*	
Ozark Beach		**2003**	**2004**	**2005**	**2006**	**2007**	**5-Yl**
	Operations	$ 241,835.64	$ 304,782.47	$ 197,445.83	$ 200,810.35	$ 164,719.94	$
	Maintenance	$ 24,169.70	$ 22,063.71	$ 37,049.89	$ 9,792.44	$ 9,670.00	$
Asbury							
	Operations	$ 837,233.99	$ 909,327.35	$ 842,193.39	$ 762,126.94	$ 796,984.46	$
	Maintenance	$ 2,492,687.58	$ 2,218,013.85	$ 1,902,680.93	$ 1,912,768.23	$ 1,031,566.05	$
	5-yr Amortization	$ 638,298.30	$ 598,994.24	$ 609,380.24	$ 616,799.01	$ 256,999.62	
	Adjusted Maintenance[3]	$ 1,854,389.28	$ 1,619,019.61	$ 1,293,300.69	$ 1,295,969.22	$ 774,566.43	$
Riverton							
	Operations	$ 386,211.40	$ 399,913.02	$ 354,402.28	$ 293,438.62	$ 312,563.76	$
	Maintenance	$ 2,093,897.30	$ 687,568.83	$ 663,593.86	$ 1,019,745.65	$ 555,722.31	$
State Line							
	Operations	$ 37,751.32	$ 42,570.01	$ 28,794.61	$ 23,105.05	$ 46,995.21	$
	Maintenance	$ 1,032,871.39	$ 641,885.02	$ 191,130.02	$ 69,067.28	$ 456,026.35	$
		$ -					
Energy Center							
	Operations	$ 175,964.12	$ 286,786.16	$ 234,074.61	$ 299,130.08	$ 267,988.56	$
	Maintenance	$ 1,311,827.20	$ 2,656,160.26	$ 691,464.91	$ 234,204.58	$ 276,666.51	$
Iatan							
	Operations	$ 285,079.99	$ 218,275.04	$ 227,256.65	$ 214,316.93	$ 244,814.80	$
		$ 988,742.95	$ 739,356.28	$ 1,093,255.31	$ 504,661.59	$ 1,127,200.92	$
SLCC							
	Operations	$ 1,404,364.56	$ 1,201,800.64	$ 1,073,341.31	$ 1,089,583.00	$ 914,210.96	$
	Maintenance	$ 3,010,040.67	$ 2,526,937.50	$ 2,799,411.69	$ 3,258,829.34	$ 3,747,538.03	$
Total							
	Operation	$ 3,368,441.02	$ 3,363,454.70	$ 2,957,508.68	$ 2,882,510.97	$ 2,748,277.69	$
	Maintenance	$ 10,315,938.48	$ 8,892,991.20	$ 6,769,206.37	$ 6,392,270.10	$ 6,947,390.55	$

Notes

1. All values are TME June of the respective year
2. Values for 2003 through 2006 are adjusted for inflation using the Producer Price Index (PPI) listed above.
3. "Asbury Adjusted Maintenance" equals "Maintenance" less "5-year Amoritization".

THE EMPIRE DISTRICT ELECTRIC COMPANY
Asbury Maintenance Adjustment Calculations

Estimated 5-year Amortization Expense

Desription		Amount	Acc
Turbine Outage / Inspection	$	2,000,000	513
Boiler Chemical Clean	$	225,000	512
	$	2,225,000	
Amortized over 5-years	$	445,000	
Amortization Expense in Test Year	$	257,000	
Amortization Adjustment	$	188,000	

Calculation of Asbury SCR Ammonia Expense

Estimated Ammonia Consumption Rate[1]			650	lbs/hour
Annual Hours per Year	x		8,760	hours/year
5-year Average Capacity Factor	x		78.9%	
Annual Ammonia Consumption in lbs			4,490,288	lbs-ammon
	÷		2,000	tons/lb
Annual Ammonia Consumption in tons			2,245	tons-ammc
	x	$	490	$/ton-amm
Annual Ammonia Expense		$	1,100,000	$/year

Note: 1. Based on 90% Reduction from 0.86 lb Nox/mmbtu - estimate provided by OEM

Empire District Electric Company
Case No. ER-2002-424
12-Months Ended Dec. 31, 2001

File Name: Maintenance Contract for SL1 - EC1 - EC2
Prepared By: PKW
Date Prepared: Aug 2, 2002
Date Printed: 8/13/2002
Time Printed: 12:43 PM

Sheet Name: Maint To Meet Spec.
Maintenance to meet specifications for the Turbine Contract Maintenance

	Acct. No.	Total Expense
State Line 1, Energy Center 1 & 2 Maintenance to meet contract requirements:		
Energy Center 1	553.231	$ ** **
Energy Center 2	553.231	$ ** **
State Line 1	553.231	$ ** **
Total Cost to meet specifications		$ ** **
Divided by:		$ 7
Staff will normalize over 7 years the life of mintenance contracts.		$ ** **
Amount included in Test Year expense		$ -
Adjustment to Increase Test Year Expense		$ ** **
Adjsutment No.		**S-34.4**

Source:
Company Response to Staff D.R. No.'s 242 and 243.
These items were not booked during the test year but were booked during the first 6 monts of 2002
Additional Painting costs which have began but are not complete have not been included in Staffs adjustments.

NP