Exhibit No.: Issues:

Rate Base, Construction Audit

Witness:Leon C. BenderSponsoring Party:MO PSC StaffType of Exhibit:Direct TestimonyCase No.:ER-2007-0002Date Testimony Prepared:December 15, 2006

#### **MISSOURI PUBLIC SERVICE COMMISSION**

#### UTILITY OPERATIONS DIVISION

### **DIRECT TESTIMONY**

#### OF

## **LEON C. BENDER**

## UNION ELECTRIC COMPANY d/b/a AMERENUE

#### CASE NO. ER-2007-0002

Jefferson City, Missouri December 2006

#### **BEFORE THE PUBLIC SERVICE COMMISSION**

#### **OF THE STATE OF MISSOURI**

In the Matter of Union Electric Company ) d/b/a AmerenUE for Authority to File ) Tariffs Increasing Rates for Electric ) Service Provided to Customers in the ) Company's Missouri Service Area. )

Case No. ER-2007-0002

#### **AFFIDAVIT OF LEON C. BENDER**

STATE OF MISSOURI ) ) ss COUNTY OF COLE )

Leon C. Bender, of lawful age, on his oath states: that he has participated in the preparation of the following Direct Testimony in question and answer form, consisting of 5 pages of Direct Testimony to be presented in the above case, that the answers in the following Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

iem Buden

Leon C. Bender

Subscribed and sworn to before me this  $-/2^{+/}$  day of December, 2006.



SUSAN L. SUNDERMEYER My Commission Expires September 21, 2010 Callaway County Commission #06942086

Notary Public

My commission expires 9-21-10

1 2	DIRECT TESTIMONY	
3 4	OF	
2 3 4 5 6 7 8 9	LEON C. BENDER	
7 8	UNION ELECTRIC COMPANY d/b/a AMERENUE	
	CASE NO. ER-2007-0002	
10 11		
12	Q. Please state your name and business address.	
13	A. Leon C. Bender, P.O. Box 360, Jefferson City, Missouri, 65102.	
14	Q. By whom are you employed and in what capacity?	
15	A. I am employed by the Missouri Public Service Commission Staff (Staff) as a	
16	Regulatory Engineer in the Energy Department of the Utility Operations Division.	
17	Q. Please describe your educational and work background. I received a Bachelor	
18	of Science degree in Mechanical Engineering in August 1978 from Texas Tech University.	
19	I became employed by Southwestern Public Service Company (SPS) as a power generation	
20	plant design engineer in September 1978. While employed by SPS, I was lead engineer on	
21	many projects involving design and construction of new power generating stations and the	
22	upgrading of its older plants. In 1983, I became a registered Professional Engineer in the	
23	state of Texas. In 1986, I transferred to SPS's newly formed subsidiary company, Utility	
24	Engineering Corporation, and was responsible for various projects at various other clients'	
25	power generation plants. In June 1990, I accepted employment as a systems engineer with	
26	Entergy Operations, Inc. at the nuclear powered generating station, Arkansas Nuclear One.	
27	In December 1995, I accepted employment with the Missouri Public Service Commission	
28	(Commission).	
29	Q. Have you filed testimony in previous cases before this Commission?	
	1	

A. Yes, please refer to Schedule 1 for a listing of previous cases in which I have
 filed testimony.

Q. What is the purpose of your direct testimony in this case, Union Electric
Company, d/b/a AmerenUE (AmerenUE), Case No. ER-2007-0002?

A. The purpose of my testimony is to describe the construction audit of the
AmerenUE generating plants constructed by AmerenUE since the last rate case, EC-20020001 and the results of those audits.

- Q. Which AmerenUE generating plants were audited by Staff for the construction
  audits in this instant case?
- A. The generating plants audited were; Venice Units 2, 3, 4, 5, and Peno Creek
  Units 1, 2, 3, and 4.
- 12

Q. Please describe the Venice 2 generating unit.

- A. The Venice 2 unit is a Pratt & Whiney FT8 aero-derivative simple cycle
  natural gas or oil fueled combustion turbine/generator. It is located on the north end of the
  existing Venice Plant property in Venice, Illinois. Venice 2 began producing approximately
  48 megawatts (MW's) net of station use in June of 2002.
- 17

Q. Please describe the Venice 3 and 4 generating units.

A. The Venice 3 and 4 units are each Siemens-Westinghouse 501FD simple cycle
natural gas fueled combustion turbine/generator. They are located side-by-side on the south
end of the existing Venice Plant property in Venice, Illinois. The Venice 3 and 4 units
began producing approximately 165 MW's net of station use each in June of 2005 for a total
of approximately 330 MW's.

23

Q.

Please describe the Venice 5 generating unit.

1 A. The Venice 5 unit is a Siemens-Westinghouse 501D5A simple cycle natural 2 gas fueled combustion turbine/generator. It is located on the north end of the existing 3 Venice Plant property in Venice, Illinois. Venice 5 began producing approximately 117 4 MW's net of station use in October of 2005. 5 Please describe the Peno Creek Units 1, 2, 3, and 4 generating units. Q. 6 The Peno Creek units are Pratt & Whiney FT8 aero-derivative simple cycle A. 7 natural gas or oil fueled combustion turbine/generator. They are located in Pike County off 8 of Pike County Road 43, near Highway 54, close to Bowling Green, Missouri. They each 9 began producing approximately 48 MW's net of station use in May of 2002. 10 What is a construction audit? Q. 11 A construction audit is the Staff's review of a construction project to determine A. 12 the final cost of the project and whether the project was completed as planned and on time per schedule. 13 14 What was your responsibility on the construction audit? Q. 15 I monitored the progress of the project during construction and reviewed the A. change order costs associated with the project. 16 How did you monitor the progress of the construction project? 17 Q. 18 I and other members of the Staff made numerous visits to the construction sites A. 19 and had numerous telephone conversations during the construction and testing phases of the projects when the plants were being built and tested. I obtained construction and testing 20 schedules and monitored the progress of the construction and testing. I visited with various 21 22 AmerenUE managerial personnel during the visits to obtain regular updates on the progress 23 of the projects.

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Q.

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Q. How did you review the costs associated with the project?

A. I reviewed the construction contracts with the various contractors AmerenUE
had hired. I also reviewed the change orders to those contracts.

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Q. What is a change order and what does it do?

A A change order is a method by which the contractor receives approval from the company to initiate a change in the work and/or the cost specified in the original contract. Change orders provide a method which the company can track any changes in the cost of the contract and provide specific information and a record as to why the cost changed.

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Is it unusual to have change orders on a project this size?

A. No. Most construction projects require change orders due to unforeseen
situations which occur during construction or a change in the original requirements or scope
of work by the company. The more complex the project is, the more likely unforeseen
situations will occur as construction progresses.

14

Q. How is a change order processed?

15 AmerenUE and the engineering firm employed to manage and oversee the A. 16 construction projects review requests from contractors and vendors for changes to the 17 original contracts. AmerenUE or its representative must approve and authorize any changes 18 and the resulting costs, from the original work defined in the contracts. With the 19 authorization from AmerenUE or its representative, contractors perform the additional or 20 changed work scope charging any additional cost to the project. Only those costs that have 21 been approved are paid to the contractors and become part of the total construction costs to 22 the project.

Has Staff identified any concerns with the construction costs of the generating Q. 1

2 units discussed previously in this direct testimony?

Staff has not identified any construction costs during construction that should A. not be allowed in rate base.

- Does this conclude your direct testimony? Q.
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Yes, it does. A.

## Schedule 1

# List of Previously Filed Testimony

Kansas City Power & Light Company	Fuel and Purchase Power
Aquila, Inc.	Construction Audit
Aquila, Inc.	Plant in Service,
	Construction Audit
The Empire District Electric Company	Fuel and Purchase Power
Aquila, Inc.	Purchase Power
Union Electric Company d/b/a AmerenUE	Fuel and Purchase Power
The Empire District Electric Company	Fuel and Purchase Power
Kansas City Power & Light Company	Fuel and Purchase Power
Utilicorp United, Inc.	Fuel Expense
Utilicorp United, Inc.	Fuel Expense
	Aquila, Inc. Aquila, Inc. The Empire District Electric Company Aquila, Inc. Union Electric Company d/b/a AmerenUE The Empire District Electric Company Kansas City Power & Light Company Utilicorp United, Inc.