Exhibit No.:
Issues: *Fuel Expense and Fuel Inventories*
Witness: *Thomas M. Imhoff*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Direct Testimony*
Case No.: *ER-97-81*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY

OF

THOMAS M. IMHOFF

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-97-81

Jefferson City, Missouri
February 1997

DIRECT TESTIMONY

OF

THOMAS M. IMHOFF

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-97-81

Q. Please state your name and business address.

A. Thomas M. Imhoff, P.O. Box 360, Jefferson City, Missouri 65102.

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

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

Q. Please describe your educational background.

A. I attended Southwest Missouri State University at Springfield, Missouri, from which I received a Bachelor of Science degree in Business Administration, with a major in Accounting, in May 1981. In May 1987, I successfully completed the Uniform Certified Public Accountant (CPA) examination and subsequently received the CPA certificate. I am currently licensed as a CPA in the state of Missouri.

Q. What has been the nature of your duties with the Commission?

A. I have directed and assisted with various audits and examinations of the books and records of public utilities operating within the state of Missouri under the jurisdiction of the Commission.

Q. Have you previously filed testimony before this Commission?

A. Yes. A list of cases in which I have filed testimony before this Commission is attached as Schedule 1 to my direct testimony.

Q. With reference to Case No. ER-97-81, have you made an examination and study of the books and records of The Empire District Electric Company (Empire or Company) relating to its proposed increase in electric rates?

A. Yes, in conjunction with other members of the Commission Staff (Staff).

Q. What is the purpose of your direct testimony?

A. My areas of responsibility in this case relate to fuel expense. This responsibility includes the development of historical analyses relating to fuel expense and generating plant operations. I am also sponsoring the Staff's level of fuel stock inventory to be included in rate base.

Q. What adjustments are you sponsoring in Case No. ER-97-81?

A. I am sponsoring the following adjustments to the Income Statement:

Steam Power Production - Fuel Annualization	S-9.1
Combustion Turbine Production - Fuel Annualization	S-9.2
Purchased Power & Other Production - Purchased Power Annualization	S-11.1
Purchased Power & Other Production - Contracted Demand Charge Annualization	S-12.1

Q. Please describe Staff adjustments S-9.1, S-9.2, S-11.1 and S-12.1.

A. They reflect the Staff's fuel and related expense adjustments to the Staff test year. I will discuss my responsibilities relating to these adjustments later in my testimony.

Q. What was your responsibility in this case with regard to the determination of the cost of fuel and purchased power?

A. My responsibilities were to determine Empire's current prices for coal, natural gas and No. 2 oil/Jet A oil burned in the Company's generating facilities and to determine the annual level of contracted demand charges relating to various system participation power contracts. I also performed various historical analyses relating to the production of electricity by Empire including equipment outages, or unit availability, for each generating unit, the results of which were incorporated in adjustments S-9.1, S-9.2, S-11.1 and S-12.1.

Q. How were the fuel prices utilized in determining the Staff's total annualized fuel and purchased power expense?

A. Staff witness Tom Lin of the Engineering section of the Energy Department used these prices in the REAL TIME production cost model to compute the level of normalized net system fuel and purchased power expense, exclusive of purchased power demand charges, cost of off-system (non-jurisdictional) sales and energy exchanged. Costs associated with purchased power demand charges, off-system sales and energy exchanged were subsequently added to the production cost model results. Also, maintenance and leasing costs for unit trains and maintenance cost for railroad track were added to the production cost model's results to arrive at an overall total annualized level of fuel and purchase power expenses. The REAL TIME production cost model will be discussed in greater detail by Staff witness Lin in his direct testimony.

FUEL COSTS

Q. What plants comprise the Company's generating facilities?

A. The Company owns or co-owns the following generating plants:

Iatan Plant Unit 1 (12% ownership share)
Asbury Plant Units 1 and 2
Riverton Plant Units 7, 8, 9, 10 and 11
Empire Energy Center Units 1 and 2
State Line Unit 1
State Line Unit 2 (under construction)
Ozark Beach Hydro Plant (4 units)

Q. Please describe each plant, including the type of units at each plant, and the primary and secondary fuel sources for each.

A. The Iatan power plant is jointly owned by Kansas City Power & Light Company (KCPL), St. Joseph Light & Power Company and Empire, with ownership percentages of 70%, 18% and 12%, respectively. KCPL is the operating partner of Iatan. The Iatan plant is a base-load steam unit utilizing coal as the primary fuel and No. 2 oil for start-ups and flame stabilization.

The Asbury generating stations consists of two base loaded steam units, which burn coal as the primary fuel and No. 2 oil for flame stabilization.

The Riverton plant consists of five units. Riverton Units 7 and 8 are base load/intermediate steam units, which burn coal as the primary fuel and natural gas for flame stabilization. Riverton Units 9, 10 and 11 are combustion turbine (CT) peaking units, all of which burn gas as the primary fuel and Unit No. 9 using No. 2 oil as a secondary fuel.

The Empire Energy Center consists of two large CT peaking units that burn natural gas as the primary fuel and Jet A oil as a secondary fuel.

The Ozark Beach plant is a hydro plant consisting of four hydro generators and is located between Lake Taneycomo and Tablerock Lake. The running of the hydro units by Empire depends upon the lake levels and the operation of the surrounding dams, which are under the direction of the Army Corps of Engineers.

The State Line Unit 1 plant is a CT peaking unit that burns natural gas as the primary fuel and Jet A oil as a secondary fuel.

Q. Will there be any additions to Empire's generating capacity?

A. Yes. Empire is currently constructing a new CT identified as State Line Unit 2 that the Company believes will be in service as of May 31, 1997. Staff witness C. Bruce Deering of the Engineering section of the Energy Department will make the determination if State Line Unit 2 will meet the Staff's in-service criteria, as outlined in his direct testimony, and be ready for commercial operation by the May 31, 1996 deadline.

Q. How did you determine the fuel prices for each of these plants?

A. An analysis was performed relating to the specific prices associated with the total coal price for each type of coal that is burned at each coal-fired plant. Total coal price includes the initial coal cost plus freight costs and fuel handling costs. For each generating unit, historical information was examined for each component of the total coal price individually and the appropriate price was determined. The individual components were added to derive the total coal prices for each coal unit. I used current prices as of December 31, 1996 to determine the total coal cost for each plant. A blended coal price was used for the Asbury and Riverton plants because they use a blend of low sulfur western coal and local coal.

Historical information for No. 2/Jet A oil and natural gas was examined to determine the appropriate price of each. Current average 1996 prices for No2./Jet A oil were used in the Staff's case. The same No2./Jet A oil price was used for each plant since Empire does not have any contractual obligations set up for specific units and the No2./Jet A oil is purchased on the spot market.

Q. Were the coal prices for each plant the same?

A. No. The coal price for each plant is different because the plants do not use the same coal, do not incur the same delivery costs and have different fuel handling and unit train costs. The coal price developed for each plant will be explained in greater detail later in my direct testimony.

Q. Why did the Staff use the same No. 2/Jet A oil price for each plant?

A. Empire does not have an oil contract with a specific supplier for any of its plants. The Company purchases oil from the vendor that quotes the best price based upon Empire's supply requirements. Since the Company does not purchase oil from a specific supplier, the Staff developed a single oil price to be used for all of Empire's oil requirements.

Q. What No2./Jet A oil price did the Staff use?

A. The Staff analyzed the No2./Jet A oil costs from January 1991 through December 1996 to determine if any trends in the costs existed. This analysis indicated that oil prices have remained relatively stable for the past three years. Therefore, the Staff developed an average price in dollars per gallon for the twelve months ended December 1996. The average dollar per gallon was converted to a dollar per MMBTU based upon the BTUs per gallon of oil.

Q. Why did the Staff use the same monthly natural gas prices for each plant?

A. Empire purchases its natural gas from WESCO (formerly Williams Gas Marketing Company), Westar (formerly Astra Resources), Amoco, Union Pacific Fuels and Mountain Iron. Since natural gas is purchased on the spot market, a single gas cost was developed for all the Company's plants.

Q. What monthly natural gas prices did the Staff utilize in developing its total fuel cost for each plant?

A. I examined the gas invoices, the monthly prices, and the weighted average price by plant and combined composite price from January 1993 to December 1996 to determine if any trends existed. Since Empire also filed a rate case in 1995, the Staff updated its similar analyses from that case enabling the Staff to have information on gas prices dating back to January 1991. The analyses performed by the Staff indicated that natural gas prices are very volatile. Accordingly, the Staff believes that the use of a three year average gas price for each month (i.e., May 1994+May 1995+May 1996/3) is necessary to smooth out these fluctuations. I developed an average price in dollars per Million British Thermal Unit (MMBTU) for the three years ended December 31, 1996 by month, using the combined composite price for all plants. The combined composite price includes the average actual prices paid for gas burns at all of Empire's generating units during the entire year, including high peak gas demand in the winter as well as summer months.

Q. Why is 1994 - 1996 gas cost information appropriate to use in developing the recommended gas cost level in this proceeding?

A. Since 1993, Empire has been purchasing its natural gas from the "spot market" instead of by contract. This enables Empire to shop around for the best price available in the market. Federal Energy Regulatory Commission (FERC) Order 636, issued in the April of 1992, "unbundled" the services gas pipeline can offer and has created more competition in provision of those services. Using the most recent monthly average gas price ensures fuel expense will be determined reflecting the post FERC Order 636 pricing of gas for Empire. This is especially important with the significant increase in gas generation resulting from the addition of the State Line 1 CT in June of 1995, the addition of State Line 2 when it comes on line in May - June of 1997 and the 1995 gas conversion at the two Energy Center units.

Q. Why did the Staff use a current date price for coal, a one year average for oil, and a three year average for gas in determining an appropriate level of fuel expense in this case?

A. The prices for coal are set by contract and coal in recent years is not a volatile commodity, thereby enabling the Staff to use the most current price available for this fuel source. The one year average oil price was used because the prices for oil have remained relatively constant over the last couple of years. The use of a three year average gas price was appropriate due to the extreme price volatility of this fuel source in recent years, and it represented the time frame that FERC Order 636 has been in effect.

Q. Please describe how you determined the total coal price for the Iatan plant that was used as an input to the REAL TIME fuel model in annualizing fuel and purchased power expense.

A. I analyzed and developed a cost per ton for each component of the total coal price. As discussed previously, the total coal price includes the initial coal price, freight and fuel handling costs. Once the individual component prices were determined, they were totaled to derive the total coal price. The total cost on a dollar per ton basis was converted to dollars per MMBTU based upon contractual BTU content of the coal.

Q. Please describe how you calculated the cost for each of the above detailed components for Iatan.

A. The coal at the Iatan plant is supplied from Atlantic Richfield Company and is shipped via Burlington Northern Railroad, both of whom supply Iatan under long term contracts. I examined the coal contract and the freight contract, as well as the prices resulting from the escalation clauses detailed in the contracts, for January 1991 through June 1995 from the last case and updated in this case through December 1996, to determine the current delivered cost per ton of the contract coal. The Staff used the current contract price as of December 31, 1996 for both the coal and freight prices.

The fuel handling costs for the Iatan plant were analyzed on a monthly basis for January 1995 through December 1996. Based upon this analysis, the Staff determined the fuel handling cost for the twelve months ending September 1996 to be reasonable. The total annual cost was divided by the tons of coal consumed for the same period to yield the dollar per ton to be included in the total coal cost.

Q. How does Empire deliver its coal supplies to its generating facilities?

A. Empire has a Company owned unit train which supplies coal to Asbury and Riverton generating units. It also leases an additional unit train to supplement the coal supply

capability for those facilities. Empire negotiated a new unit train lease with Entergy effective May 1996, due to the expiration and unreliability of their previous unit train lease with First Union Interail Inc. Since Empire does not need this unit train full time during the year, it subleases the unit train back to the Union Pacific Railroad. The new lease and sublease amounts are currently based on the same monthly rate and these amounts have been reflected in the annualization. Empire is also responsible for its 12% ownership share of the unit trains leased by KCPL for the Iatan generating station.

Q. How were unit train costs determined?

A. I examined the various components relating to the unit train which include depreciation, property taxes, leased train charges and miscellaneous operations and maintenance (O&M) and diversion charges for January 1995 through December 1996. Railroad "spur" line costs were also examined. The unit train costs were added to the output results from the REAL TIME fuel model as a separate component since the unit train costs were not included as an input to the REAL TIME fuel model. The annualized level of depreciation expense and property taxes related to the unit train were treated consistently with how these costs are handled for the other property in the case. Since the lease and sublease payment for the unit train is a constant monthly fee, the Staff utilized the December 1996 amount for its annualization. The O&M costs for unit train and railroad spur line were also included based on the twelve months ending September 30, 1996. The Staff totaled the annualized dollars for each cost component of the unit train and included this amount in arriving at total energy costs.

Q. Please describe how you determined the total coal price for the Asbury plant.

A. I used the same methodology described above relating to the total coal price for the Iatan plant at Asbury. However, Empire burns a blend of low sulfur western coal and high sulfur local coal at this plant. Therefore, I had to develop the total coal price of each type of coal. A blended coal price was then computed based upon the contractual BTU content of each type of coal and Empire's expected burn for each type of coal.

Q. Please describe how you calculated the cost for each component of Asbury's total coal price.

A. The coal at the Asbury plant is supplied from two sources: Peabody Holding Company (Peabody) and Mackie-Clemens Fuel Company (Mackie-Clemens). Empire has a long term contract with both Peabody and Mackie-Clemens to meet the coal requirements at Asbury. The Peabody coal (i.e., the western coal from Wyoming) is shipped to the Asbury plant via Kansas City Southern Railroad, with whom Empire also has a contract. The Mackie-Clemens coal (i.e., the local coal) is delivered by truck to the Asbury plant and the trucking cost is included in the coal contract.

I examined the coal contracts and the freight contracts, as well as the resulting prices for each for January 1995 through December 1996, to determine the current contractual delivered coal price per ton for each type of coal. The Staff utilized the current coal and freight prices as of December 31, 1996.

I analyzed the fuel handling costs on a monthly basis from January 1992 through December 1996. The Staff determined that the cost for the twelve months ending September 1996 the (Staff's test year) was reasonable; therefore, the annual cost was divided

by the tons of coal consumed for the same period to yield the dollar per ton to be included in the total coal cost.

I used the same methodology relating to the various components for unit train costs for both the Asbury and Riverton generating facilities (i.e., maintenance, repairs, special unit train leases, etc.). However, this cost is only applicable to the western coal which is delivered by train to Asbury. The Staff utilized the total annual costs for the twelve months ending September 1996. I totaled the annualized level for each component and included this amount to arrive at total energy costs for Asbury.

Q. How was the blended coal price for the Asbury plant determined?

A. The Peabody total coal price and the Mackie-Clemens total coal price were weighted based upon the contractual BTU content of each coal and the percentage of each type of coal burned at the plant to derive a blended coal cost.

Q. Please describe how you determined the total coal price for the Riverton plant.

A. I used the same methodology described above relating to the total coal price for the Iatan and Asbury plants. Empire also burns a blend of low sulfur western coal and high sulfur local coal at Riverton as it does at Asbury, although different burn percentages are used for each type of coal at each plant. Therefore, the Staff had to develop the total coal price of each type of coal and compute a blended coal price based upon Empire's expected burn for each coal at the Riverton plant.

Q. Please describe how you calculated the cost for each component of Riverton's total coal price.

A. The coal for Riverton Units 7 and 8 is supplied from the same two sources as the Asbury plant, Peabody and Mackie-Clemens. The coal and freight contract terms as detailed above for the Asbury plant are the same for the Riverton plant. However, once the Peabody (western) coal is dumped at the Asbury plant it must be trucked to the Riverton plant; therefore, an additional trucking charge is incurred in the delivered price of the western coal for the Riverton plant. The Mackie-Clemens coal (local) trucking charge is also slightly higher at Riverton because Riverton is further away than Asbury from the local coal mine.

Since the coal and freight contracts for Riverton Units 7 and 8 are the same as those for Asbury, the delivered contractual price per ton of coal for Asbury was used as the base for the delivered price of coal for Riverton. The additional trucking cost is included in the delivered price of coal for Riverton. The trucking contracts for both the western and local coal were examined to determine the current trucking cost. The current contract price per ton as of December 31, 1996 was included in the delivered cost of coal for Riverton.

The Staff analyzed the fuel handling costs on a monthly basis from January 1992 through December 1996. The Staff determined that the cost for the twelve months ending September 30, 1996 was reasonable; therefore, the annual cost was divided by the tons of coal consumed for the same period to yield the dollar per ton to be included in the total coal cost.

The Staff utilized the same unit train cost at Riverton that it developed for Asbury, including this amount to arrive at Riverton's total energy costs.

Q. How was the blended coal price used for the Riverton plant determined?

A. The Peabody total coal price and the Mackie-Clemens total coal price were weighted based upon the contractual BTU content of each coal and the percentage of each coal burned at Riverton to derive a blended coal price.

Q. How was the fuel cost for the Riverton Units 9, 10 and 11 calculated?

A. The prices for natural gas and No. 2 oil, discussed previously in my testimony, were given to Staff witness Lin as an input for the Staff's production cost model. Since there are no fuel handling costs incurred at these units, the total fuel cost is the cost of the natural gas and/or No. 2 oil.

Q. How was the fuel cost for the Energy Center calculated?

A. The Energy Center was converted to burn natural gas as its primary fuel source in April 1995. Jet A fuel oil is now used as a backup fuel source. There are no fuel handling costs incurred at either of these generating facilities. Total fuel cost for the Energy Center is the cost of the gas per MMBTU. This price was given to Staff witness Lin as an input for the Staff's production cost model.

Q. How was the fuel cost for the State Line Unit 1 CT calculated?

A. State Line Unit 1 burns natural gas with Jet A fuel oil as a back up fuel source. The Staff used the same gas price at State Line Unit 1 as it did for the two generating units at the Energy Center.

The Staff also used this gas price for the Riverton units that burn natural gas (Riverton Units 9, 10 and 11).

SYSTEM PARTICIPATION CONTRACTED DEMAND CHARGES

Q. Please describe the various system participation contracts that Empire has entered into.

A. Due to Empire's increasing system demand and the lack of available sources for increased Company generation, Empire has contracted with several companies to obtain the additional power needed to meet its load requirements.

Q. How did you determine the demand charge associated with the various contracts?

A. The demand charge is based upon the total capacity that Empire reserves for each year. The contract year for each company runs from June 1 to May 31. The Staff annualized the contract rate at June 1, 1996 for each company with which Empire has a capacity agreement.

Q. How are the contract demand charges reflected in the Staff's case?

A. Adjustment S-9.1 represents the Staff's adjustment to increase the contract demand charges. The annualized demand charge was added to the results of the Staff's production cost model to determine the total annualized level of fuel and purchased power expense. As stated previously, this amount is added separately because the REAL TIME production cost model only accounts for energy charges.

Q. Were there any other fuel or purchased power related costs which were not calculated in the Staff's production cost model?

A. Yes. The fuel costs associated with off-system (non-jurisdictional) sales and energy exchanged were added to the results of the Staff's production cost model since the model is based upon net system input only and does not reflect these types of sales.

Q. What level of fuel costs associated with off-system sales and energy exchanged was included in the Staff's annualized fuel and purchased power expense?

A. The Staff analyzed off-system sales and energy exchanged and determined the test year level to be reasonable. Therefore, the test year level of fuel costs associated with interchange sales and energy exchanged was utilized.

GENERATING UNIT AVAILABILITY

Q. What historical analysis was performed relating to the generating units' availability?

A. I updated the historical unit availability analysis from Empire's last three rate cases, Nos. ER-90-138, ER-94-174 and ER-95-279, to include the most current information. This analysis, when taken together from the prior rate cases, covers a period of ten years from 1987 through December 31, 1996, on a monthly as well as an annual basis.

The unit availability analysis was provided to Staff witness Lin for his input into the production cost model. The production cost model requires a level of scheduled and forced outages rates be included to reflect the simulation of "actual" generating unit operations.

Q. Why is it necessary to reflect outages in the production cost model?

A. Generating units will require planned maintenance or experience equipment failure on an ongoing basis. A scheduled outage occurs when a generating unit is taken out of service for general maintenance and equipment repair on a planned basis. Scheduled outages generally occur during periods of off peak production, such as the spring or fall months of the year.

Forced outages occur when generating units experience equipment failure on an unplanned or unexpected basis. These outages occur randomly and infrequently.

There is also another outage type, referred to as partial outages, which result in the generating unit's production of electricity being reduced. The generating unit is able to stay on-line and generate electricity, but is unable to produce at its rated capacity.

Information on each of the three types of outages was compiled by outage duration and any related deratings for each generating unit by month from 1987 to present. Scheduled outage rates are determined to input into the fuel model to reflect the expected outages for planned maintenance which occurs for each generating unit, such as turbine and boiler overhauls. Each of Empire's generating units is on a five-year overhaul cycle for both turbines and boilers, with the exception of Iatan, which has a six-year overhaul cycle for its turbine.

Forced outages are determined for the production cost model to reflect the unexpected outages for unplanned maintenance to repair equipment failures. Both forced and equivalent forced outages are considered in the production cost model.

FUEL STOCK INVENTORIES

Q. What was your responsibility in this case with regard to the determination of fuel stock inventory levels?

A. My responsibility was to determine reasonable inventory levels and costs for Empire's coal inventories maintained at its Iatan, Asbury and Riverton plants and for the No. 2 oil inventories maintained at its Iatan, Asbury, Energy Center and State Line plants.

Q. What coal inventory level have you included in this case for Empire's Iatan, Asbury and Riverton plants?

A. I have included a 45-day supply of coal for each of these plants based upon the Staff's annualized burn.

Q. What is the basis for your 45-day supply recommendation for the Iatan, Asbury and Riverton plants?

A. As stated in response to Staff Data Request No. 53, the Company's current policy is to maintain a 45-day supply of coal at its Asbury and Riverton plants, and a similar supply at Iatan which is operated by KCPL. To be consistent at each plant, the Staff computed a 45-day supply of coal based upon the annualized burn at each plant computed in its production cost model.

Historically, Staff has included a 90-day supply of coal for inclusion in rate base. This represents a three-month supply based upon the annual amount of coal burned at each generating plant.

However, since fuel inventory is included in rate base, any inventory amount included in rate base greater than the amount the Company actually maintains would result

in Empire earning a return on investment (coal inventory) that does not exist. Therefore, the Staff is recommending a 45-day coal supply rather than the maximum ratemaking level of a 90-day coal supply.

Q. What No2./Jet A oil inventory levels have you included in this case for Empire's Iatan, Asbury and Energy Center plants?

A. The Staff examined No. 2 oil inventory levels on a monthly basis from January 1989 through December 1996 for the Iatan and Asbury plants. The Company's average inventory level remained fairly consistent from year to year. Therefore, the Staff calculated a 13-month average inventory level (in barrels). The Company's No. 2 oil inventory levels for the Energy Center plant from April 1995 through December 1996 have remained fairly consistent over this time frame; therefore, the Staff calculated a 13-month average for this unit as well. A 13-month average was used to smooth out fluctuations which occur throughout the year and is consistent with Staff policy regarding other rate base items, such as material and supplies, and prepayments. The 13-month average inventory level is priced out at the Staff's annualized No. 2 oil price to determine total inventory price.

Q. What Jet A oil inventory level did the Staff compute for the State Line generating station?

A. The Staff is computing a pro-forma level of oil inventory for the State Line 1 CT based on a three-day burn during the winter months of December, January, and February when there is a risk of gas curtailment. The risk of gas curtailment at the State Line 1 CT has been greatly reduced since the last rate proceeding due to a firm transportation gas contract that Empire currently intends to enter into, as stated in its response to Staff Data Request

No. 212. This agreement greatly reduces the likelihood of State Line 1 CT being taken off of the gas system during periods of severely cold weather. The risk of curtailment lessens during the non-winter months. Therefore, Staff is only computing a one-day burn for these months and weighting them with the winter month levels to produce a normalized inventory level. A twelve-month average was computed as opposed to a thirteen-month average due to basing inventories on an annual weather cycle. This level was then valued at the 1996 current average oil prices.

Q. Did you calculate a Jet A oil inventory level for State Line 2 CT for purposes of this filing?

A. No. This issue will be addressed in the Staff's true-up audit period.

Q. What items will you be responsible for updating in the true-up period?

A. As explained in the direct testimony of Staff Accounting witness David G. Winter, the Staff is recommending a true-up in this case through March 31, 1997, with potential isolated adjustments reflected through May 31, 1997. I will be responsible for updating fuel prices for any changes that might occur through the true-up period of March 31, 1997. I will also be responsible for reflecting demand capacity contract changes through June 1, 1997 in the true-up audit period if appropriate, and calculating a fuel inventory for the new State Line 2 CT, if it meets the Staff's in-service criteria.

Q. Will actual fuel inventory levels be known for State Line 2 at May 31, 1997?

A. No. Therefore, the Staff will compute a pro-forma level of oil inventory for the State Line 2 CT based on a three-day burn during the winter months of December, January and February, and a one day burn for the milder months of March through November.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the matter of The Empire District Electric Company of Joplin, Missouri, for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Missouri Service Area of the Company.	)))))	ER-97-81

AFFIDAVIT OF THOMAS M. IMHOFF

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Thomas M. Imhoff, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of 21 pages to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Thomas M. Imhoff

Subscribed and sworn to before me this 11th day of February, 1997.

J. Kay Niemeier
Notary Public

J KAY NIEMEIER
NOTARY PUBLIC STATE OF MISSOURI
COLE COUNTY
MY COMMISSION EXP. FEB. 26,2000

My Commission Expires: _____

RATE CASE PROCEEDINGS PARTICIPATION

THOMAS M. IMHOFF

Company Name	Case No.
Bowling Green Gas Company	GR-82-104
Atlas Mobilfone Inc.	TR-82-123
Missouri Edison Company	GR-82-197
Missouri Edison Company	ER-82-198
Great River Gas Company	GR-82-235
Terre-Du-Lac Utilities	SR-82-69
Terre-Du-Lac Utilities	WR-82-70
Citizens Electric Company	ER-83-61
General Telephone Company of the Midwest	TR-83-164
Missouri Telephone Company	TR-83-334
Mobilpage Inc.	TR-83-350
Union Electric Company	ER-84-168
Missouri-American Water Company	WR-85-16
Great River Gas Company	GR-85-136
Grand River Mutual Telephone Company	TR-85-242
ALLTEL Missouri, Inc.	TR-86-14
Continental Telephone Company	TR-86-55
General Telephone Company of the Midwest	TC-87-57
St. Joseph Light & Power Company	GR-88-115
St. Joseph Light & Power Company	HR-88-116
Camelot Utilities, Inc.	WA-89-1
GTE North Incorporated	TR-89-182
Capital Utilities, Inc.	SA-90-224
Empire District Electric Company	ER-90-138
St. Joseph Light & Power Company	EA-90-252
Kansas City Power & Light Company	EA-90-252

SCHEDULE 1-1

RATE CASE PROCEEDINGS PARTICIPATION

THOMAS M. IMHOFF

Sho-Me Power Corporation	ER-91-298
St. Joseph Light & Power Company	EC-92-214
St. Joseph Light & Power Company	ER-93-41
St. Joseph Light & Power Company	GR-93-42
Citizens Telephone Company	TR-93-268
Empire District Electric Company	ER-94-174
Missouri-American Water Company	WR-95-205
Missouri-American Water Company	SR-95-206
Union Electric Company	EM-96-149

SCHEDULE 1-2