Exhibit No.
Issue: Fuel and Purchased Power
Witness: Todd W. Tarter
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Empire District
Case No. ER-2006-0315

Before the Public Service Commission
of the State of Missouri

Rebuttal Testimony

of

Todd W. Tarter

July 2006

** Denotes Highly Confidential**

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REBUTTAL TESTIMONY
OF
TODD W. TARTER
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2006-0315

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Todd W. Tarter. My business address is 602 Joplin Street, Joplin, Missouri.

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

A. I am employed by The Empire District Electric Company ("Empire" or "Company") as the Manager of Strategic Planning.

Q. ARE YOU THE SAME TODD W. TARTER THAT FILED DIRECT TESTIMONY IN THIS CASE BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION")?

A. Yes, I am.

EXECUTIVE SUMMARY

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to positions taken in the direct testimony of other parties on the topic of on-system fuel and purchased power expense. In section II, I have organized my testimony to address the direct testimony positions of the Staff of the Commission ("Staff"), the Office of the Public Counsel ("OPC') and Praxair and Explorer Pipeline ("Industrials") in that order. Throughout my testimony, I will approach this topic from the standpoint of trying to determine the appropriate level of fuel and purchased power expense to include in the Missouri retail rates to be effective beginning January of 2007. The OPC and Industrials have taken the position in direct testimony that the current IEC should remain in place, but those parties also addressed the issue of the appropriate level of fuel and purchased power to include in this case in the event that the current IEC was terminated. I will also present an updated normalized on-system fuel and purchased power model run in section III.

Q. WILL YOUR TESTIMONY ADDRESS ALL OF THE COMPONENTS OF FUEL AND PURCHASED POWER EXPENSE?

A. No. My testimony will address on-system fuel and purchased power expense on a total company basis. This includes variable on-system fuel and purchased power expense calculated by a computer production cost model, purchase demand charges, natural gas firm transportation charges, and other on-system fuel related expenses. Empire witness Scott Keith will cover the topics of off-system sales and the appropriate rate case treatment of a test year gain on unwinding natural gas contracts in his rebuttal testimony.

Q. PLEASE SUMMARIZE THE REBUTTAL TESTIMONY YOU HAVE PREPARED.

A. After reviewing the production cost model run of the Staff and the direct testimony of all of the parties, it appears that the future cost of natural gas is a primary energy cost issue in this case. Empire has made an updated normalized production cost model run based on updated information including July 10, 2006 natural gas data for calendar year 2007 deliveries. Based on this model run Empire supports an annual total company fuel and purchased power expense including demand charges of $166,012,277 or 30.87 $/MWh. This amount is comprised of total variable fuel and energy costs from the production cost model run of $140,908,100 with the remaining $25,104,177 assigned to purchase demand charges, natural gas firm transportation charges, and other on-system fuel related expenses.

The weighted average natural gas price in this updated run is **____**/MMBtu. While this is lower than the **_____**/MMBtu from the Company's initial filing, the total $/MWh from the update run is slightly higher than the initial run due to other changes and a correction which will be described in this testimony. The testimony concludes by comparing the Company's updated level of on-system fuel and purchased power expense to that of the other parties based on their direct testimony, and with a table that summarizes each of the Company's on-system fuel and purchased power model runs presented in this rate proceeding to date.

II. RESPONSE TO OTHER PARTIES' DIRECT TESTIMONY

Q. WERE THERE ANY ERRORS OR OMISSIONS IN STAFF'S FILING CONCERNING EMPIRE'S NATURAL GAS FIRM TRANSPORTATION CONTRACTS?

A. Yes. In the Staff's initial filing, the costs associated with one of Empire's natural gas transportation contracts was inadvertently omitted. This contract has been in place for almost two years and the Company has been paying for service under this contract since September of 2004. The contract has an annual reservation charge of approximately **___** million (2006 level). This omission was brought to the Staff's attention during the settlement discussions held the week of July 10th and the Staff has indicated that its filing will be revised to include this cost.

Q. WERE THERE ANY ISSUES WITH STAFF'S FILING CONCERNING CONTRACT PURCHASES OF ELECTRICITY?

A. No, not from a cost standpoint. But I want to correct a misstatement in Staff's direct testimony. At page 4, line 16 of the direct testimony of Staff witness David Elliott, he points out that "capacity purchases are made through contracts for the purchase of energy

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and capacity. Under such contracts the purchaser pays a monthly fixed cost for the ability to receive a maximum amount of energy per hour (megawatts)…." At page 5, line 1, Mr. Elliott continues by stating that Empire has "two capacity contracts representing the Jeffrey Energy Center contract and the Elk River Wind Farm contract…." The Staff's testimony is correct in listing Empire's contract purchases, but Mr. Elliott's testimony implies that all such contracts have a monthly fixed capacity charge. However, the Elk River Wind Farm contract has no monthly fixed cost. It only has a cost per megawatt hour ("MWh") of energy actually received by Empire. Based on the review of Staff's exhibits, it appears that the costs of these two contracts were handled correctly.

Q. ARE THERE ANY CORRECTIONS THAT SHOULD BE MADE TO STAFF'S DESCRIPTION OF THE OPERATION OF EMPIRE'S UNITS?

A. Yes, I need to correct a statement made in Staff's testimony about Riverton Unit 7 and Riverton Unit 8, although this misstatement did not appear to have an impact on Staff's modeling of the units in the Staff's production cost model. In the direct testimony of Staff witness Janis Fischer at page 16, line 5, she states "the use of petroleum coke as a blend fuel reduces the capacity to 23 MW for Riverton Unit 7 and 45 MW for Riverton Unit 8. The remainder of the capacity can be obtained by over-firing natural gas." It is true that Riverton Unit 7 and Riverton Unit 8 must over-fire with natural gas to obtain their rated capacity, but the use of petroleum coke as a blend fuel has nothing to do with this operating characteristic. These units operated in this same manner before petroleum coke was ever used as a blend fuel at the Riverton Plant.

Q. DID YOU REVIEW THE RESULTS OF THE STAFF'S PRODUCTION COST MODEL?

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A. Yes.

Q. DO YOU HAVE ANY ISSUES WITH THE RESULTS FROM THE STAFF'S PRODUCTION COST MODEL FOR EMPIRE'S SYSTEM?

A. Overall, with the exception of the Staff's assumptions on natural gas pricing, it appears that Staff's modeling of Empire's system is reasonable. The primary energy cost issues between the Staff and the Company are related to the future cost of natural gas.

Q. WHAT ISSUES ARE ASSOCIATED WITH STAFF'S NATURAL GAS PRICING METHODOLOGY IN THIS CASE?

A. First, the spot natural gas prices used by Staff are "backward looking" instead of a forward view of natural gas prices. Staff utilized the weighted average of the actual natural gas spot purchases for the twelve months historical period ending March 31, 2006, as part of the estimate of the gas price used in its production cost model.

Q. HOW CAN THE USE OF A HISTORICAL COST OF NATURAL GAS INFLUENCE THE OUTPUT FROM A PRODUCTION COST MODEL?

A. The Staff's approach does not eliminate the impact of abnormal weather during the test year. When trying to determine the correct level of costs in a rate case it is important to use normalized weather data. When the Staff's spot natural gas price is based upon actual historical prices and actual purchases during a given twelve-month period, this incorporates the bias of the actual weather in that period.

Q. CAN YOU PROVIDE AN EXAMPLE?

A. Yes, January 2006, which was included in the historical period Staff considered, was one of the warmest Januarys of the past 75 years based on NOAA temperature data. Typically January is one of the coldest months of the year and as a result represents one of Empire's higher natural gas requirement months. In addition, January typically has some of the highest spot natural gas prices when compared to the other months of the year. Because January 2006 was so much warmer than normal, the Company did not purchase any spot natural gas in that month. Whenever a weighted average cost of natural gas is calculated based on a period without spot natural gas purchases in January, such as Staff has done in this case, the calculation omits what are normally some of the higher prices for spot natural gas. In addition, the January spot natural gas purchases usually have considerable weighting in the overall average cost of natural gas.

Q. WHAT OTHER CONCERNS DO YOU HAVE REGARDING STAFF'S NATURAL GAS PRICING METHODOLOGY?

A. In addition to the weather bias built into the Staff's average cost of natural gas, the Staff's natural gas pricing methodology has an incorrect assumption associated with the quantity of natural gas that is hedged by Empire at this time. The Staff included the Company's actual financial and physical hedges for the forward looking 21 month period April 2006 through December 2007 as of March 31, 2006 in its original analysis. At the time the Staff made this calculation about **____** of Empire's expected natural gas needs were hedged for April 2006 through December 2007. The Staff then inappropriately and without justification adjusted Empire's hedged natural gas position to represent 80% of the natural gas consumed, with the remaining 20% attributed to the higher cost spot natural gas price. This change in assumption or adjustment artificially lowered the average cost of natural gas in the Staff's production cost model.

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Q. DOES THE COMPANY'S CURRENT RISK MANAGEMENT POLICY AUTHORIZE THE HEDGING OF UP TO 80% OF ITS NATURAL GAS REQUIREMENTS?

A. Yes. Empire's Risk Management Policy states that up to 80% of any year's expected requirement can be hedged if appropriate, given the associated volume risk. But there is no guarantee that because the Company has **____** hedged at a given price, that it can hedge an additional **___** at that same price level. In fact, the Company has hedged additional natural gas since Staff's analysis. As of July 2006, Empire has about **___** of the expected natural gas needs hedged for the period Staff considered, and the weighted average price of the hedged natural gas has increased by about 2%.

Q. ARE THERE ANY OTHER ISSUES WITH THE STAFF'S TESTIMONY CONCERNING FUEL AND PURCHASED POWER?

A. Yes. There are issues associated with off-system fuel and purchased power cost and a test year gain on unwinding natural gas contracts. These issues are discussed in the rebuttal testimony of Empire's witness Scott Keith.

Q. DID THE OPC USE A PRODUCTION COST MODEL TO DETERMINE THE APPRORIATE LEVEL OF FUEL AND PURCHASED POWER COSTS FOR THIS CASE?

A. To the best of my knowledge, OPC did not utilize a production cost model.

Q. WHAT WERE THE ISSUES RAISED BY THE OPC WITH REGARD TO ON-SYSTEM FUEL AND PURCHASED POWER EXPENSE IN THIS CASE?

A. Based on my understanding of the direct testimony of Ralph Smith, who presented testimony on behalf of the OPC in this proceeding, the OPC is concerned about nonrecurring fuel costs that are related to Powder River Basin ("PRB") coal delivery problems that occurred during the test year (See Ralph Smith Direct Testimony beginning at page 10, line 17) and the natural gas prices that appeared in the Company's initial filing, which were based on November 2005 natural gas cost information (See Ralph Smith Direct Testimony beginning at page 7, line 19).

Q. DID EMPIRE RESTRICT THE OUTPUT OR AVAILABILITY OF ANY OF ITS COAL UNITS OR CONTRACT PURCHASES IN ITS INITIAL FILING DUE TO THE PRB DELIVERY PROBLEMS?

A. No. None of the normalized fuel and purchased power model runs developed by the Company for this rate proceeding have included constraints to reflect PRB coal delivery problems. Furthermore, the results of the production cost simulations used in the Company's initial filing and update run do not need to be adjusted to reflect PRB delivery problems.

Q. HAS EMPIRE UPDATED THE NORMALIZED ON-SYSTEM FUEL AND PURCHASED POWER COSTS FOR THIS CASE BASED ON MORE CURRENT INFORMATION?

A. Yes. In section III of this testimony, I present an updated computer model run for normalized, on-system fuel and purchased power costs. Empire has updated the natural gas pricing in this run based on information as of July 10, 2006. This updated fuel information will address the natural gas price concerns raised in Mr. Smith's testimony.

Q. DID THE INDUSTRIALS (PRAXAIR AND EXPLORER PIPELINE) USE A PRODUCTION COST MODEL TO DETERMINE THE APPRORIATE LEVEL OF FUEL AND PURCHASED POWER COSTS FOR THIS CASE?

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A. To the best of my knowledge, they did not utilize a production cost model. I reviewed the direct testimony of Maurice Brubaker, who presented testimony in this rate case on behalf of these two industrial customers, and he made no mention of a production cost model in his direct testimony.

Q. WHAT WERE THE ISSUES RAISED BY THE INDUSTRIALS WITH REGARD TO ON-SYSTEM FUEL AND PURCHASED POWER EXPENSE?

A. Based on my review of Mr. Brubaker's direct testimony, the Industrials only adjusted Empire's normalized computer model simulation to reflect changes to the natural gas prices. Like the OPC, the Industrials pointed out that forward natural gas prices have declined since November 2005. In addition, Mr. Brubaker also recommended an adjustment to annual fuel and purchased power costs based on an abnormal test year gain from unwinding natural gas hedge positions. This topic will be addressed for Empire by Scott Keith in his rebuttal testimony.

Q. WHAT ARE YOUR CONCERNS REGARDING THE INDUSTRIALS' RECOMMENDED NATURAL GAS PRICE ADJUSTMENT TO EMPIRE'S FUEL AND PURCHASED POWER EXPENSE?

A. Based on my review of Mr. Brubaker's direct testimony, his method only considered the natural gas component without considering other key parameters or the impacts of the change of natural gas prices on the dispatch of Empire's supply resources. Mr. Brubaker's adjustments for natural gas prices were made to the results of the production cost computer model simulation that was provided in the Company's direct testimony from February 2006. This computer simulation has been updated and corrected, which I will explain later in this testimony. I do agree with a statement from Mr. Brubaker's direct testimony at page

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10, line 14 concerning the unhedged portion of the natural gas cost where he states, "the more current forward price information is, in my opinion, a more reliable indicator of the prices that Empire will face during the time that the rates that will be set in this proceeding are in effect." Mr. Brubaker's direct testimony also mentions that ratemaking is "prospective". However, when Mr. Brubaker adjusted natural gas prices for the months of January through June in the schedules attached to his direct testimony, he utilized the actual January 2006 through June 2006 Southern Star Index prices, which are historical in nature and not prospective. In other words, although he acknowledges the need to use forward-looking prices, for half of the year Mr. Brubaker uses backward looking prices instead of forward prices. Since Mr. Brubaker uses historical prices for January 2006 through June 2006, there is a question as to whether these natural gas prices may not be weather normalized.

III. UPDATED FUEL AND PURCHASED POWER MODEL RUN

Q. HAS EMPIRE UPDATED ITS FUEL AND PURCHASED POWER MODEL RUN?

A. Yes. The Company has made a new production cost computer model run with the PROSYM model. The PROSYM model has been utilized by the Company for all the on-system fuel and purchased power dispatch simulation runs in this proceeding. A description of the PROSYM model can be found in my direct testimony on page 17 beginning at line 4.

Q. PLEASE SUMMARIZE THE CHANGES MADE TO THE UPDATED MODEL RUN COMPARED TO THE MODEL RUN YOU PRESENTED IN YOUR DIRECT TESTIMONY.

A. The updated run contains the following changes: (1) the hourly loads have been changed to match the hourly loads in the model run presented by Staff in its direct testimony; (2) a correction has been made to the number of scheduled outage days for each of the three units that make up the Westar Jeffrey contract purchase; (3) the spot purchase availability (capacity) has been changed to match the model run presented by Staff in its direct testimony; (4) the minimum up time for the State Line Combined Cycle ("SLCC") has been changed to match the model run presented by Staff in its direct testimony; (5) the hedged portion of natural gas has been updated to reflect Empire's current, July 2006 hedged position for calendar year 2007; and (6) the spot natural gas prices have been updated to reflect the amount needed to physically hedge the remaining expected natural gas needs for 2007 based on price quotes from July 10, 2006.

Q. HOW MUCH OF EMPIRE'S EXPECTED NATURAL GAS BURN FOR 2007 WAS HEDGED AT JULY 2006?

A. About **____** of the Company's expected natural gas needs for calendar year 2007 are hedged at this time.

Q. PLEASE PROVIDE MORE DETAIL ON THE NATURAL GAS PRICES USED IN THE UPDATED MODEL RUN.

A. The hedged natural gas used in the updated model run reflects the Company's hedged position for 2007 as of July 10, 2006. The prices and corresponding volumes can be found on page 5 of my supplemental direct testimony. The spot natural gas prices used in the updated model run are based on the physical fixed price contract price quotes Empire received on July 10, 2006 for 2007 deliveries. These prices can be found on pages 5 and 6 of my supplemental direct testimony.

Q. WHY WERE THESE MORE RECENT NATURAL GAS PRICES USED FOR THE UPDATED RUN?

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A. The production simulation in Empire's initial filing was based on information available in November 2005. Since that time natural gas prices have declined. The updated production simulation contains recent forward looking natural gas price information for calendar year 2007, the period during which rates from this rate proceeding are likely to be in effect. Natural gas price information from July 10, 2006 was used in the update of the Company's production cost simulation to be consistent with the information presented in supplemental direct testimony. These current natural gas prices have been used to model the future, because they are the best proxy available for the non-hedged portion of Empire's natural gas requirements at this time. However, due to the volatility of the natural gas market, the future price of natural gas cannot be predicted precisely.

Q. BASED ON THE CHANGES YOU HAVE DESCRIBED, WHAT IS THE TOTAL ON-SYSTEM FUEL AND PURCHASED POWER COST FROM THE UPDATED PRODUCTION SIMULATION RUN?

A. The total Company on-system fuel and purchased power costs, including demand charges and fuel related expenses, from the updated run is $166,012,277 or 30.87 $/MWh. The weighted average natural gas price from this run is **____** $/MMBtu. A summary of this run is attached to my testimony as Schedule TWT-1. The updated average fuel and energy cost including demand charges of $30.87 per MWh is slightly higher than the cost of $30.76 per MWh initially used in Empire's original filing on February 1, 2006.

Q. HOW DOES YOUR UPDATE OF FUEL AND PURCHASED POWER COSTS COMPARE TO THE STAFF, OPC, AND INDUSTRIALS' RECOMMENDED FUEL AND PURCHASED POWER COSTS?

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A. It is substantially higher and includes total variable fuel and energy costs of $140,908,100. By contrast, the Staff production cost simulation included variable fuel and energy costs of only $135,558,979. The primary reason for this approximately $5.4 million differential is the average cost of natural gas included in each model. The Company has used a forward-looking average natural gas cost of **_____** per MMBtu while the Staff production cost model included **____** per MMBtu as an average cost of natural gas. The **_____** per MMBtu differential in natural gas price multiplied by roughly **________** MMBtu of natural gas consumed accounts for the roughly $5.4 million differential. The OPC did not use a production cost model to present its recommendations concerning fuel and energy costs so there is really nothing to compare the Company's update against. However, as I mentioned earlier, the Company's update of fuel and energy cost does address the PRB and natural gas pricing issues raised by OPC witness Ralph Smith in his direct testimony. The Industrials are in a similar position to the OPC in that they did not use a production cost model to make a recommendation concerning fuel and energy costs. But Mr. Brubaker, representing the Industrials, does make an adjustment to Empire's initial run for a difference in natural gas prices. This adjustment would make the Industrials total variable fuel and energy costs about **___________** on a total Company basis at the time that their direct testimony was filed (this excludes the natural gas unwinding issue, and is based on a lower set of hourly loads, an incorrect number of outage days for the Jeffrey contract purchase, and a lower natural gas burn than Staff's initial run and Empire's update run). Because the Industrials adjusted Empire's initial model run and Empire has updated its model run, it is assumed that the Industrials may need to modify their adjustment. In addition, I have estimated that Mr. Brubaker uses an average cost of natural gas of about

_____ per MMBtu in his recommendation on natural gas price. As I mentioned earlier, this was based on a historical look at natural gas prices for half the year, and forward look at prices for the other half of the year. By contrast, the Empire production cost update includes an average cost of natural gas of **_____** per MMBtu.

Q. PLEASE SUMMARIZE ALL OF THE COMPANY'S MODEL RUNS PRESENTED IN THIS RATE PROCEEDING TO DATE.

A. The following table summarizes each of the model runs that Empire has made to date in this rate proceeding.

Run Description	Date	Total Cost With Demand ($000s)	Avg $/MWh With Demand	GBtu Natural Gas Consumed	Wtd Avg Cost of Natural Gas $/MMBtu
Normalized Run for Direct Testimony	2/1/06	$162,888	$30.76	**_____**	**_____**
Supp. Direct – Physical Hedging 2007	7/14/206	**_______**	**_____**	**_____**	**_____**
Supp. Direct – Physical Hedging 2008	7/14/206	**_______**	**_____**	**_____**	**_____**
Supp. Direct – Physical Hedging 2009	7/14/206	**_______**	**_____**	**_____**	**_____**
Supp. Direct – Financial Hedging 2007	7/14/206	**_______**	**_____**	**_____**	**_____**
Supp. Direct – Financial Hedging 2008	7/14/206	**_______**	**_____**	**_____**	**_____**
Supp. Direct – Financial Hedging 2009	7/14/206	**_______**	**_____**	**_____**	**_____**
Normalized Run for Rebuttal Testimony	7/28/06	$166,012	$30.87	**_____**	**_____**

As indicated, the updated production cost simulation produces a total cost of $166,012,277 or an average cost of $30.87 per MWh. This updated analysis is based on a more current set of assumptions and produces results that are very close on a $/MWh basis to the results of the initial Empire production cost simulation originally filed on February 1, 2006.

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Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.