

**EXHIBIT**

Exhibit No.: \_\_\_\_\_

Issue(s):

Natural Gas Prices

Witness/Type of Exhibit:

Busch/Direct

Sponsoring Party:

Public Counsel

Case No.:

ER-2004-0570

**DIRECT TESTIMONY**

**FILED**

DEC 28 2004

**OF**

Missouri Public  
Service Commission

**JAMES A. BUSCH**

Submitted on Behalf of the Office of the Public Counsel

**THE EMPIRE DISTRICT ELECTRIC COMPANY**

**CASE NO. ER-2004-0570  
(REVENUE REQUIREMENT)**

**\*\* Denotes Highly Confidential \*\***

September 20, 2004

**NP**

Exhibit No. 85MP  
Case No(s) ER-2004-0570  
Date 12-06-04 Rptr KF



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**DIRECT TESTIMONY**

**OF**

**JAMES A. BUSCH**

**CASE NO. ER-2004-0570**

**EMPIRE DISTRICT ELECTRIC COMPANY**

Q. Please state your name and business address.

A. My name is James A. Busch and my business address is P. O. Box 2230, Jefferson City, MO 65102.

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

A. I am a Public Utility Economist with the Missouri Office of the Public Counsel (Public Counsel).

Q. Please describe your educational and professional background.

A. In June 1993, I received a Bachelor of Science degree in Economics from Southern Illinois University at Edwardsville (SIUE), Edwardsville, Illinois. In May 1995, I received a Master of Science degree in Economics, also from SIUE. Prior to joining Public Counsel, I worked just over two years with the Missouri Public Service Commission as a Regulatory Economist in the Procurement Analysis Department and worked one year with the Missouri Department of Economic Development as a Research Analyst. I accepted my current position with Public Counsel in September 1999. Further, I also am a member of the adjunct faculty of Columbia College, Jefferson City Campus, teaching Economics at the undergraduate and graduate level.

1 Q. Have you previously testified before this Commission?

2 A. Yes. Attached is Schedule JAB-1, which is a list of the cases in which I have  
3 filed testimony before this Commission.

4 Q. What is the purpose of your testimony in Case No. ER-2004-0570?

5 A. The purpose of my testimony is to provide Public Counsel's recommendation and  
6 support for the appropriate price of natural gas Empire District Electric Company  
7 (Empire or Company) should utilize in the establishment of its base rates in this  
8 proceeding.

9 Q. What materials and resources did you review in preparation of this testimony?

10 A. I have reviewed and studied the natural gas futures market over the past few  
11 years. This includes the two and half years I worked as an Economist in the  
12 Procurement Analysis Department with the Staff of the Commission. I have also  
13 reviewed storage data as reported by the Energy Information Administration  
14 (EIA) and the Short-Term Energy Outlook produced monthly by the EIA. I also  
15 review publications in order to stay abreast of the natural gas industry. This  
16 review includes "InsideFERC" and a daily email publication called "Enerfax  
17 Daily", a daily review of the natural gas industry. I also read articles concerning  
18 natural gas in the Wall Street Journal and from an email publication called  
19 "RIGZONE Industry" news.

20 Q. Are those materials that are typically relied upon by experts in the field of energy  
21 and fuel-related policy for regulated utilities?

22 A. Yes they are.

1                                   **NATURAL GAS PRICE MOVEMENT IN THE PAST YEAR**

2           Q.   What has been the general price level in the natural gas market over the past year?

3           A.   In late 2003, natural gas hit a price level just under \$4.50 per MMBtu. Since that  
4           time, the price of natural gas, based off of monthly NYMEX expirations, as been  
5           trading between \$5.00 and \$6.70 per MMBtu through 2004.

6           Q.   What is NYMEX?

7           A.   NYMEX is the New York Mercantile Exchange. This is the central location for  
8           the trading of futures and option contracts in natural gas and various other  
9           commodities. The NYMEX price for natural gas is widely regarded as the  
10          benchmark price of natural gas in the market. The NYMEX futures contract is  
11          based on delivery at the Henry Hub in Louisiana. This is the market hub for  
12          various natural gas interstate pipelines that serves the Midwest, East Coast, and  
13          Gulf Coast in the U.S.

14          Q.   Where does Empire receive most of its natural gas supplies?

15          A.   Empire receives most of its natural gas supplies via the Southern Star Central  
16          pipeline. This interstate pipeline generally connects Empire with natural gas  
17          supplies in the Mid-Continent and/or Rocky Mountain area.

18          Q.   What were some of the factors that led the price of natural gas to remain at those  
19          inflated levels?

20          A.   One factor is the current uncertainty in the Middle East. The problems occurring  
21          in the Middle East have caused oil prices to reach high levels, approaching \$50  
22          per barrel. These high levels for oil prices have had a negative impact on the  
23          price of natural gas. Further, since there seems to be a constant threat of

1 disruption in the supply of oil, the price of natural gas remains high. Another  
2 factor is the perceived shortage of U.S. natural gas supplies in the face of an  
3 overall increase in demand. Even though there has been substantial demand  
4 destruction in the natural gas market, there is still a tremendous level of demand  
5 for natural gas from the industrial and power generation sector. Further, there has  
6 been a downward trend in the development of newer natural gas supplies in recent  
7 years.

8 Q. Has the price of oil subsided in recent weeks?

9 A. Yes. The price of oil has fallen slightly to the \$40 per barrel range. OPEC has set  
10 a target of anywhere between approximately \$25 and \$30 per barrel. So even  
11 though prices have receded from recent highs, the price for oil is still elevated.

12 **CURRENT CONDITIONS IN THE NATURAL GAS MARKET**

13 Q. What are the current conditions in the natural gas market?

14 A. Currently, the natural gas market is nearing the end of the injection season. The  
15 injection season generally runs from April to October. This indicates that Local  
16 Distribution Companies (LDCs) are generally injecting natural gas into storage  
17 facilities for future use. The period of November through March is generally  
18 considered the withdrawal season. This indicates that natural gas is being  
19 withdrawn from storage to meet the increased demand associated with winter  
20 heating needs. Current storage levels are above both the five-year average and  
21 above last year's storage amount. As of September 10, 2004, the most current  
22 information released by EIA on September 16, 2004, there is 2.874 Tcf of natural  
23 gas in storage. To be considered 100% full, there would need to be approximately

1           3.3 Tcf in storage. This current amount of storage is nearly 10% above last year's  
2           level and approximately 7.5% greater than the five-year average.

3           Q. What is the current 12-month NYMEX futures strip?

4           A. As of September 16, 2004, the 12-month futures strip is \$5.9514 per MMBtu.  
5           This represents the 12-months of October 2004 through September 2005.

6           Q. What is causing the 12-month futures strip to remain so high?

7           A. In the past few weeks, the futures price of natural gas for October has dropped  
8           considerably. At the close of business on Thursday, September 16, 2004, the  
9           October 2004 contract closed at \$4.719 per MMBtu. However, the February 2005  
10          contract closed at \$6.558 per MMBtu. This spread of nearly \$2.00 per MMBtu is  
11          unusual. It is this huge gap between current prices and the winter futures prices  
12          that is causing the 12-month strip to be so high. Fundamentally, there does not  
13          seem to be a solid reason for this disparity. One factor, however, could be the  
14          threat of a cold winter. Some traders in the market believe a cold snap could  
15          potentially strain natural gas supplies even though storage is again nearing record  
16          levels. Also, the ongoing threat of global disruption in the oil market could be a  
17          factor. Another theory that tries to explain the gap between current prices and  
18          winter futures is that the threat of a cold winter has already been priced into the  
19          futures market. If this is the case, a cold winter should not cause a spike in the  
20          price of natural gas. On the other hand, if the weather proves to be normal or  
21          warmer-than-normal, further reductions in price should occur.

22           **POTENTIAL FUTURE MOVEMENT IN THE PRICE OF NATURAL GAS**

23          Q. What is the outlook for the price of natural gas for this winter's heating season?

1 A. Current conditions point to a continued reduction in the price of natural gas,  
2 assuming normal or below-normal weather this winter. Gas prices have been  
3 falling dramatically lately due to the lack of demand in the market. This has  
4 caused natural gas storage to reach near record levels. One reason why the  
5 futures price is running high is the threat of shortages if the weather is colder-  
6 than-normal this winter. If this is the case, colder weather will not affect the price  
7 all that much. On the other hand, normal to below normal weather could lead to  
8 further erosion in the price of natural gas.

9 Q. What is the outlook for the price of natural gas beyond this winter?

10 A. Assuming a normal winter, storage levels should remain relatively strong as the  
11 industry leaves the winter heating season and enters the injection season in April.  
12 Under this scenario, I believe that the price of natural gas at NYMEX should drop  
13 to the \$4.25 to \$5.75 range over the foreseeable future, once this current heating  
14 season ends. This assumes a winter of normal to below-normal temperatures.

15 **INTERIM ENERGY CHARGE**

16 Q. Please describe the Interim Energy Charge.

17 A. The Interim Energy Charge (IEC) is an additional charge that would be added to  
18 each customer's bill. The IEC was originally designed by parties to a past Empire  
19 case acting in collaborative recognition of a time period of high prices and  
20 volatility in the natural gas market. In the rate case prior to Empire's last rate  
21 case, Case No. ER-2001-299, an amount was built into rates for fuel and  
22 purchased power expense to develop a "base" rate. This figure included a level of  
23 natural gas prices that was approximately \$3.50 per MMBtu. Changing the price



1 of natural gas to around \$5.50 per MMBtu while keeping all other factors constant  
2 derived the "ceiling" for fuel costs. The difference between the base and ceiling  
3 was the additional amount to be charged to customers, or the IEC. At the time of  
4 the stipulation reached in that case, the IEC was \$0.0054 per kWh.

5 Q. How did the IEC work?

6 A. In simple terms, the IEC insulated the Company from the impact of upward  
7 swings in natural gas prices. It worked as follows: if the combined, prudently  
8 incurred energy costs of Empire are above the base level but below the ceiling,  
9 the Company would refund the difference between the IEC it has been charging  
10 its consumers and its actual costs. If total energy costs exceed the amount  
11 collected from the IEC, the Company must absorb those excess charges above the  
12 ceiling. If total energy costs are below the base, the Company retains the amount  
13 of the cost reductions below the base. Therefore, the Company benefits from  
14 price movements below the base and is insulated from price increase up to the  
15 ceiling.

16 Q. What was the original term of the IEC?

17 A. The Stipulation and Agreement in Case No. ER-2001-299 contemplated that the  
18 IEC would be charged from October 1, 2001 through September 30, 2003.  
19 However, the Stipulation and Agreement in that case did not address whether a  
20 rate case filed after the IEC took effect and ending prior to the expiration of the  
21 IEC would have affected the IEC.

22 Q. What factors were relevant in the natural gas market at the time of the  
23 implementation of the IEC for Empire?

1       A.   One of the reasons driving Empire's rate case at that time was the impact the price  
2       of natural gas was having, and could have had in the future, on the Company.  
3       Prices at the beginning of 2001 were near \$10 per MMBtu and had only fallen  
4       back to the \$5.00 range by the spring of that year. In Case No. ER-2001-299,  
5       Empire requested recognition of a going forward price of natural gas of roughly  
6       \$5.50 per MMBtu, based upon then current futures market price level. Public  
7       Counsel and Staff, each using different techniques, countered that the appropriate  
8       price of natural gas on a going forward basis should have been closer to \$3.50 per  
9       MMBtu. Through the negotiation phase of the case, it was determined that **for**  
10      **that particular time**, the market was extremely unstable and an alternative  
11      solution should be explored for determining the appropriate mechanism for  
12      pricing natural gas. Thus the concept of an interim energy charge was agreed  
13      upon to help enable Empire to weather the storm of extremely high and volatile  
14      natural gas prices in a way that also provided some protection for consumers.

15      Q.   How were consumers protected by the IEC?

16      A.   If Empire had taken the natural gas cost issue to hearing in Case No. ER-2001-  
17      299 and had prevailed, the going forward price of approximately \$5.50 per  
18      MMBtu would have been used in the fuel run to help determine rates. As the  
19      price of natural gas fell and Empire started purchasing cheaper natural gas, any  
20      amounts below the built in rate would have essentially gone to Empire's bottom  
21      line as profits. Therefore, the IEC created a base rate that allowed consumers the  
22      opportunity to benefit from lower natural gas prices, down to the base amount.  
23      Once costs drop below the base level, the Company receives all of the benefits.

- 1 Q. How many IECs have been implemented for Missouri electric companies?
- 2 A. There have been two negotiated IECs. Empire was the first to implement an IEC  
3 in Case No. ER-2001-299. Aquila, Inc received an IEC in its last rate case, ER-  
4 2004-0034.
- 5 Q. How were these IECs determined?
- 6 A. In both cases, the parties reached a settlement agreement to implement an IEC.
- 7 Q. Does Public Counsel believe the Commission has the authority to order an IEC  
8 type mechanism absent a settlement among the parties?
- 9 A. No. It is Public Counsel's opinion that the Commission does not have the legal  
10 authority to impose an IEC without approval of all parties. This opinion stems  
11 primarily from the Missouri Supreme Court case UCCM v. PSC, which outlawed  
12 the use of the fuel adjustment clause (FAC) in the state of Missouri. Public  
13 Counsel believes that the IEC method contains elements that are sufficiently  
14 similar in nature to the elements of the illegal FAC, which is outlawed under  
15 Missouri law.
- 16 Q. Is Empire recommending an IEC in this proceeding?
- 17 A. Yes. In its direct testimony, Empire asked for either a FAC or an IEC. However,  
18 since the Legislature chose not to enact a FAC, Empire has abandoned the FAC  
19 and has focused solely on the IEC.
- 20 Q. Is the IEC that Empire is proposing in this case similar to Empire's original IEC?
- 21 A. It is similar to the original IEC in many respects. It is my understanding that the  
22 main difference is that Empire is proposing a five-year time frame for this IEC.
- 23 Q. Is Public Counsel recommending an IEC in this case?

1 A. No. However, Public Counsel has initiated settlement negotiations with regard to  
2 the fuel issue, including the implementation of an IEC. As always, Public  
3 Counsel is willing to listen to various proposals in the context of settling issues in  
4 the course of any proceeding.

5 Q. Does Public Counsel have policy concerns regarding the IEC Empire is proposing  
6 in this proceeding?

7 A. Yes. I plan to address these concerns in my rebuttal testimony.

8 **PUBLIC COUNSEL'S RECOMMENDATION**

9 Q. Based on your expert analysis and the discussion above, what is Public Counsel's  
10 recommendation for the price of natural gas to be imbedded in rates in this case?

11 A. At this time, Public Counsel recommends the use of the traditional method of  
12 incorporating a natural gas price into a fuel run to determine an appropriate level  
13 of fuel costs to be used in the development of electric rates on a going forward  
14 basis.

15 Q. What should be the price level utilized to determine the appropriate fuel costs in  
16 the determination of Empire's base rates?

17 A. Public Counsel recommends that the price used should be \$4.59 per MMBtu.  
18 However, due to the current state of the natural gas industry, I reserve the right to  
19 update my estimation if significant market factors change in the near future.

20 Q. How did you arrive at that price level?

21 A. I utilized a weighted average of Empire's actual hedged price of natural gas for  
22 the year 2005 and my estimation of what prices may be during that time.

23 Q. Please explain.

1 A. According to Empire's Gas Position Summary<sup>1</sup> and direct testimony in this case,  
2 Empire has approximately 40% of its expected natural gas usage hedged at \$4.15  
3 per MMBtu. To determine my recommended price, I took this \$4.15 price, and I  
4 weighted that price with my calculation of the potential future price of natural gas,  
5 in a manner similar to the methodology used by Empire witness Brad Beecher in  
6 his direct testimony. I determined the potential future price of natural gas by  
7 taking the 24-month NYMEX futures settlement strip prices as of the close of  
8 business on September 16 averaged with the past 24-month NYMEX expirations.  
9 The 24-month period that I used for future settlements was the period October  
10 2004 – September 2006. The 24-month period that I used for historical NYMEX  
11 expirations was October 2002 – September 2004. This resulted in a price of \$5.42  
12 per MMBtu. Combining the hedged amount with my blended mix of prices gives  
13 me a weighted average of approximately \$4.59 per MMBtu. Thus I recommend  
14 that a price of \$4.59 should be the amount utilized in a fuel run to help determine  
15 the ultimate rates for Empire in this proceeding. Please see Schedule JAB-2 for  
16 the calculation I used to determine my recommendation.

17 Q. Have you used this methodology in the past?

18 A. Yes. I have generally utilized a blend of both historical and futures prices to  
19 come up with an estimated price of natural gas to include in ratemaking  
20 calculations.

21 Q. Does Empire have any gas hedged beyond 2005?

22 A. Yes it does. According to its Gas Position Summary, Empire has gas hedged in  
23 various amounts through 2008.

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<sup>1</sup> Empire's response to OPC Data Request No. 601.

1 Q. What is the general price at which Empire has hedged in those years?

2 A. Empire has locked in approximately \*\* \_\_\_\_\_ \*\* of its expected natural gas  
3 supplies between \*\* \_\_\_\_\_ \* for those years. Thus with a modest  
4 decrease in natural gas price, Empire should be well positioned regarding natural  
5 gas prices if my recommended level of \$4.59 per MMBtu is utilized in this case.

6 Q. Does the traditional methodology you used establish the appropriate incentives?

7 A. Yes. In fact, this methodology allows Empire to manage its resources at its  
8 discretion to make the most economical choices in providing electricity to its  
9 customers. When used in conjunction with purchase power and coal, and any  
10 other methodology utilized by Empire to provide electricity to its customers,  
11 Empire's shareholders will profit when costs fall. When used in an IEC formula,  
12 Empire's shareholders lose the opportunity to profit by the economical choices it  
13 could make in its dispatch. It is this type of incentive created by using a price  
14 certain that Public Counsel feels is in the best interest of ratepayers and the  
15 Company.

16 Q. Please summarize your position.

17 A. In summary, Public Counsel recommends that the Commission establish a price  
18 certain for natural gas to be used in the fuel run in the determination of rates for  
19 Empire. In this case, the price of natural gas that should be used should be \$4.59  
20 per MMBtu. The traditional method of using a given price for fuels and purchase  
21 power provides superior incentives to the Company and should be maintained.

22 Q. Does this conclude your Direct Testimony?

23 A. Yes it does.

NP

**Cases of Filed Testimony  
James A. Busch**

<u>Company</u>	<u>Case No.</u>
Union Electric Company	GR-97-393
Missouri Gas Energy	GR-98-140
Laclede Gas Company	GO-98-484
Laclede Gas Company	GR-98-374
St. Joseph Light & Power	GR-99-246
Laclede Gas Company	GT-99-303
Laclede Gas Company	GR-99-315
Fiber Four Corporation	TA-2000-23; et al.
Missouri American Water Company	WR-2000-281/SR-2000-282
Union Electric Company d/b/a AmerenUE	GR-2000-512
St. Louis County Water	WR-2000-844
Empire District Electric Company	ER-2001-299
Missouri Gas Energy	GR-2001-292
Laclede Gas Company	GT-2001-329
Laclede Gas Company	GO-2000-394
Laclede Gas Company	GR-2001-629
UtiliCorp United, Inc.	ER-2001-672
Union Electric Company d/b/a AmerenUE	EC-2002-1
Laclede Gas Company	GR-2002-356
Empire District Electric Company	ER-2002-424
Southern Union Company	GM-2003-0238

Aquila, Inc.	EF-2003-0465
Missouri American Water Company	WR-2003-0500
Union Electric Company d/b/a	GR-2003-0571
Aquila, Inc.	ER-2004-0034
Aquila, Inc.	GR-2004-0072
Missouri Gas Energy	GR-2004-0209



# OPC NATURAL GAS RECOMMENDATION

Case No. ER-2004-0570  
Empire District Electric Company

ACTUAL NYMEX SETTLEMENTS				NYMEX			
	2002	2003	2004	SEP 16, 2004 SETTLEMENTS			
Jan		4.988	6.150	Oct	4.719	5.963	5.455
Feb		5.660	5.775	Nov	5.443	6.2	5.7695
Mar		9.133	5.150	Dec	6.193	6.418	6.7235
Apr		5.146	5.365	Jan	6.553	6.558	5.9055
May		5.123	5.935	Feb	6.558	6.518	6.0335
Jun		5.945	6.680	Mar	6.453	6.368	6.3615
Jul		5.291	6.141	Apr	5.963	5.658	5.76325
Aug		4.693	6.048	May	5.853	5.533	5.53175
Sep		4.927	5.082	Jun	5.883	5.553	5.36125
Oct	3.686	4.430		Jul	5.918	5.578	3.9815
Nov	4.126	4.459		Aug	5.943	5.598	4
Dec	4.140	4.860		Sep	5.938	5.583	4.09525
				Four-year average			5.415125

### OPC Recommendation

\$ 4.15	4,200,000	0.6511628	\$ 2.70	Empire's hedged amount for 2005
\$ 5.42	2,250,000	0.3488372	\$ 1.89	OPC's blended natural gas price
	6,450,000		\$ 4.59	OPC's RECOMMENDED NATURAL GAS PRICE