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Issue: Fuel-Interim Energy Charge  
Witness: Cary G. Featherstone  
Sponsoring Party: MoPSC Staff  
Type of Exhibit: Surrebuttal Testimony  
Case Nos.: ER-2004-0034

Date Testimony Prepared: February 20, 2004 as modified February 27, 2004

**MISSOURI PUBLIC SERVICE COMMISSION**

**UTILITY SERVICES DIVISION**

**FILED**

**SURREBUTTAL TESTIMONY**

**FEB 27 2004**

**Missouri Public  
Service Commission**

**OF**

**CARY G. FEATHERSTONE**

**AQUILA, INC. d/b/a AQUILA NETWORKS-MPS (Electric)**

**CASE NO. ER-2004-0034**

*Jefferson City, Missouri  
February 2004*


**BEFORE THE PUBLIC SERVICE COMMISSION**  
**OF THE STATE OF MISSOURI**

In the matter of Aquila, Inc. d/b/a Aquila Networks )  
L&P and Aquila Networks MPS to implement a ) Case No. ER-2004-0034  
general rate increase in electricity. )

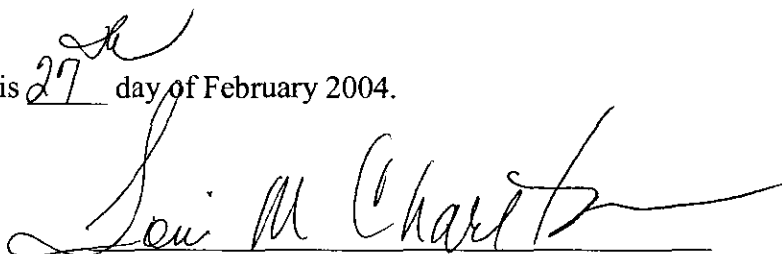
AFFIDAVIT OF CARY G. FEATHERSTONE

STATE OF MISSOURI     )  
                                  )     ss.  
COUNTY OF COLE     )

Cary G. Featherstone, of lawful age, on his oath states: that he has participated in the preparation of the following surrebuttal testimony as modified on February 27, 2004, in question and answer form, consisting of 17 pages to be presented in the above case; that the answers in the following surrebuttal testimony as modified on February 27, 2004, 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.

  
Cary G. Featherstone

Subscribed and sworn to before me this 27<sup>th</sup> day of February 2004.





TONI M. CHARLTON  
NOTARY PUBLIC STATE OF MISSOURI  
COUNTY OF COLE  
My Commission Expires December 28, 2004

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**SURREBUTTAL**  
**OF**  
**CARY G. FEATHERSTONE**  
**AQUILA, INC.**  
**d/b/a AQUILA NETWORKS-MPS Electric**

**CASE NO. ER-2004-0034**

Q. Please state your name and business address.

A. Cary G. Featherstone, 3675 Noland Road, Independence, Missouri.

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

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

Q. Are you the same Cary G. Featherstone who has previously filed direct, rebuttal and surrebuttal testimony in this proceeding?

A. Yes, I am. I filed direct testimony on behalf of the Staff of the Missouri Public Service Commission (Staff) in this case on December 9, 2003 on the areas of cost of removal / salvage and the Aries Combined Cycle generating unit (Aries or Aries Project), rebuttal testimony on January 26, 2004 on the areas of merger savings and Aries and surrebuttal testimony on February 13, 2004 on the areas of cost of removal / salvage and Aries.

Q. What is the purpose of this surrebuttal testimony?

A. The purpose of this surrebuttal testimony is to provide Staff's position on a fuel and purchased power mechanism (fuel mechanism) used to determine the base and

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Cary G. Featherstone

1 forecast levels for fuel and purchased power expense. I will be addressing the rebuttal  
2 testimony of Aquila, Inc.'s (Aquila or Company) witnesses regarding natural gas and  
3 purchased power pricing. Specifically, I will address certain aspects of the rebuttal  
4 testimonies of Company witnesses John C. Browning, Vice President, Resource Operations  
5 relating to his proposed natural gas prices and Jerry G. Boehm, Manager – Resource Planning  
6 relating to his proposed purchased power prices.

7 Q. What is the fuel mechanism for fuel and purchased power expense?

8 A. The fuel mechanism is an approach that allows higher fuel and purchased  
9 power prices to be used in determining interim rates in this case that will be subject to refund  
10 with interest. The amount of the fuel and purchased power costs that are in interim rates and  
11 subject to the true-up process is called the Interim Energy Charge (IEC). Specifically, the  
12 IEC envisions that a base amount of fuel and purchased power costs is established in  
13 permanent rates, with an additional amount of fuel and purchased power costs set in interim  
14 rates.

15 Q. Has this fuel mechanism been used before in other cases?

16 A. Yes. In a Unanimous Stipulation and Agreement (Stipulation)  
17 approved by the Commission in 2001 general rate case filed by The Empire District Electric  
18 Company (Empire), the IEC was used during a time of high natural gas and purchased power  
19 prices. The volatility of energy costs in 2001 is not unlike that being experienced in today's  
20 energy markets. High natural gas and purchased power prices have inflicted tremendous cost  
21 increases during much of 2003 and they continue in 2004 to date.

22 Q. Were you involved in the Empire's IEC?

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1           A.     Yes. Both Staff witness James Watkins and I sponsored the IEC mechanism in  
2 the Empire case.

3           Q.     How did the Empire IEC agreement work?

4           A.     This agreement (attached as IEC surrebuttal Schedule 1) provided for recovery  
5 of a base amount of fuel and purchased power and an interim amount that was subject to  
6 refund with interest. The base amount was determined using actual natural gas and purchased  
7 power costs. The interim amount was determined using Aquila's forecasted natural gas and  
8 purchased power costs. Since there was a refund provision, the IEC agreement provided a  
9 "safety net" for both Empire and its customers.

10           Paragraph 4 of the Empire Stipulation states the following:

11                   The signatories agree that resolution of the fuel and purchased power  
12 expense issues in this case has been achieved as between themselves by  
13 the inclusion of a specific amount in the cost of service on a permanent  
14 (i.e., not subject to refund) basis and by the inclusion of another  
15 additional amount on an interim and subject to true-up and refund  
16 basis. The specific amount to be included in the Missouri jurisdictional  
17 cost of service on a permanent basis is \$91,599,932. This figure is  
18 meant to encompass all retail Missouri jurisdictional charges  
19 accumulated in the FERC account numbers 501, 547 and 555 and will  
20 be updated in the August 2001 true-up portion of this case. The other  
21 portion, referred to herein as an "interim Energy Charge," is explained  
22 in more detail herein and generally is designed to attempt to address the  
23 potential volatility in natural gas and wholesale electricity prices. This  
24 Interim Energy Charge ("IEC") will be reflected separately on all  
25 Empire Missouri rate schedules. The revenue from the IEC will be  
26 collected on an interim and subject to true-up and refund basis under  
27 the terms of this Agreement...

28                   [IEC surrebuttal Schedule 1]

29  
30           Q.     What amount of the IEC did Empire receive?

31           A.     In Case No. ER-2001-299, Empire received an amount in excess of  
32 \$19 million for the IEC.

33           Q.     Did Empire have to return any monies through the IEC refund mechanism?

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1           A.     Yes. In Case No. ER-2002-424, Empire refunded, with interest, all of the  
2 monies collected under the IEC, after having reduced the amount collected under the IEC by  
3 some \$7 million annually in Case No. ER-2002-1074.

4           Q.     How has Staff determined fuel and purchased power costs in prior Aquila rate  
5 cases?

6           A.     Staff has traditionally used actual fuel and purchased power prices to  
7 determine the level of fuel and purchased power expenses included in the development of the  
8 revenue requirement. Fuel costs include the cost of coal, oil and natural gas. Staff witness  
9 Graham Vesely identifies the reasons Staff used actual historical averages for these costs in  
10 his direct, rebuttal and surrebuttal testimonies filed in this proceeding. Fuel costs also include  
11 the amounts for purchased power. Staff witness Leon Bender determined the amounts of  
12 purchased power costs in his direct, rebuttal and surrebuttal testimonies filed in this case.

13           The development of the fuel and purchased power costs typically has substantially  
14 relied on the actual historical information on the generating facilities and their operational  
15 costs. It is very difficult to predict or forecast future costs, especially for fuel. Because of the  
16 volatility in prices, it is even more difficult to predict the prices for fuels burned in the  
17 Company's generating facilities and the cost of energy purchased through the interchange  
18 markets, either through a capacity agreement or spot purchase.

19           Q.     Is the cost of natural gas difficult to forecast?

20           A.     Yes. Along with purchased power costs, the volatility in natural gas costs is  
21 probably the most difficult to predict with any certainty. Natural gas markets have  
22 historically been quite volatile, but in the recent past they have been even more volatile. No

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1 one can predict with a reasonable degree of certainty, the natural gas prices that utilities will  
2 pay in the future to fuel their power generating facilities.

3 An example of the volatility of natural gas prices can be seen by comparing the recent  
4 natural gas prices identified in Aquila witness Browning's direct testimony. The following  
5 table illustrates the wide fluctuations in the natural gas markets using the forecasts that Aquila  
6 used to develop its natural gas price in this case as found at pages 9 through 12 of his direct  
7 testimony:

8

Forecast Firm	2003	2004
Cambridge Energy Research Associates	\$5.80 mmBtu	\$5.35 mmBtu
Stephen Smith Energy Associates	\$5.10 mmBtu with prices between \$4 and \$7	n/a
Raymond James and Associates	\$6.00 mmBtu	n/a
Energy and Environmental Analysis	\$6.50 mmBtu	\$6.50 mmBtu with prices between \$5 and \$9
Jefferies & Co.	\$5.00 mmBtu	\$4.50 mmBtu
A.G. Edwards	\$5.25 mmBtu	\$4.25 mmBtu
Fitch Ratings	\$4.50 mmBtu	\$ 3.50 mmBtu
Lehman Brothers	\$5.00 mmBtu	\$4.50 mmBtu

9  
10 The above amounts represent the natural gas prices only and do not reflect any  
11 transportation charges necessary to deliver the fuel to Aquila's generating units. The above  
12 illustrates the rather wide fluctuation between forecasts for 2003 and 2004. The forecasts are  
13 well above historical levels of between \$3 and \$4 per mmBtu (delivered costs) of the not-to-  
14 recent past, which also shows the vast fluctuations in the prices of this commodity. While  
15 Aquila use of forecasted natural prices in this case tend to be on the high side of the 2004  
16 forecast, the more recent higher actual natural gas prices relative to the actual historical levels

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1 incurred by Aquila over the last couple of years, equally tend to support an upward movement  
2 in these prices.

3 The current market prices do show some signs of stabilizing from the higher levels  
4 experienced this past year.

5 Q. Is it difficult to satisfactorily predict a single point for fuel and purchased  
6 power prices?

7 A. Yes. It is extremely difficult in the current volatile energy market using either  
8 actual historical prices or some type of forecast levels. An IEC avoids the need to develop a  
9 single price or 12 monthly prices because, while you still have to determine a base amount to  
10 set permanent rates, the forecast amount that is subject to refund allows flexibility in pricing  
11 the natural gas and purchased power prices.

12 Q. When Staff filed its direct case in December 2003, did it believe the use of  
13 actual fuel and purchased power cost components were reasonable?

14 A. Although Staff still believes that the use of historical costs is by far the most  
15 reliable approach to determining fuel prices, it is extremely difficult in the current energy  
16 market to predict the future with any degree of certainty. Therefore, total reliance on  
17 historical averages to determine fuel prices is not the method that Staff would recommend the  
18 Commission use to set rates for Aquila in this case. Because of the extreme volatility in the  
19 natural gas and purchased power markets during the past year starting in early 2003, Staff has  
20 had to develop its prices by reflecting higher prices of today's market. The greater the  
21 volatility of the energy market, the less confident the Parties can be about their fuel price  
22 determinations. Using historical levels to develop prices for natural gas costs may lead to



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1 under-collection of fuel costs by the Company, while use of forecasts may result in over-  
2 collection.

3 Q. If the more recent actual natural gas prices are more reflective of current  
4 market conditions in a volatile market, then why didn't Staff use the natural gas prices Aquila  
5 incurred for 2003?

6 A. Staff's inclusion of recent prices to develop its average of actual natural gas  
7 prices using 2002 through September 30, 2003, was made to give weight to the higher prices  
8 that Aquila actually experienced while also giving consideration to some of the recent lower  
9 prices. In effect, Staff's proposal was to ensure that the Company's natural gas costs would  
10 not be overstated. Equally important, however, is the concern that Aquila will incur the 2003  
11 price levels and not return to the lower 2002 levels, thus the reason for the need to develop a  
12 fuel mechanism like the IEC. The IEC, in effect, acts like a protection from over- and under-  
13 recovery of fuel costs when the proper safeguards are implemented.

14 Q. How is the IEC a protection from over- and under-recovery of fuel costs?

15 A. Because a base using more conservative prices for natural gas and purchased  
16 power is determined and a ceiling, or cap, using higher forecasted prices for these  
17 commodities is determined, the IEC allows for the return of monies if the forecast amounts do  
18 not materialize. In reality, the IEC ensures that the customers get benefit of any lower fuel  
19 costs if the energy market declines and the Company is protected from the upside of higher  
20 fuel costs if the energy market stays at its historical highs.

21 If the IEC is not implemented, and a single point is used for the natural gas price, say  
22 in the \$4.00 per mmBtu range and purchased power price, say in the \$30.00 per MWh range,  
23 what happens if the prices for these commodities stay in the \$5.00 per mmBtu and low \$30.00

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1 per MWh levels? The Company will under-recover the higher fuel and purchased power  
2 costs. Conversely, if the energy costs are set too high in rates, without some sort of refund  
3 mechanism, the Company will reap a windfall if these prices fall. As an example, if the price  
4 for natural gas is set at \$6.00 per mmBtu level, and the price for purchased power is set at  
5 \$38.00 per MWh level, the Company would over-collect if the energy prices fell below these  
6 levels, thus creating the worse possible situation for customers to be in if they were paying  
7 \$6.00 per mmBtu natural gas and the Company was buying that commodity for \$3.50 per  
8 mmBtu. Without any opportunity for a refund of this over-collection, the Company would  
9 benefit substantially.

10 Q. Have there been other times when energy costs were difficult to determine in  
11 the course of setting rates?

12 A. Yes. Developing fuel prices is always difficult, but there have been several  
13 times, including the most current time frame, where the task has become even more difficult.  
14 During the winter of 2000/2001 period, natural gas prices hit unprecedented levels. In some  
15 cases, natural gas prices hit upwards of \$12 mmBtu. The IEC was developed to address this  
16 extremely volatile market.

17 In the early 1980s, the Commission authorized the use of a forecasted fuel mechanism  
18 for several electric utilities that had been exposed to escalating fuel costs. This mechanism  
19 was used to address extraordinary circumstances and Staff believed that a similar approach  
20 could be used to address the unprecedented, volatile and extremely high costs of natural gas.

21 Q. Did Staff believe that a solution to the difficulty of developing natural gas and  
22 purchased power pricing in this case would be to pursue an IEC styled fuel mechanism?

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1           A.     Yes. Staff, early in the audit of Aquila, believed that it would be advisable to  
2 attempt to develop an alternative approach to address the volatility found in the natural gas  
3 market that had been driving up prices. The Company discussed this process with Staff prior  
4 to filing this case. Aquila filed a natural gas cost cap proposal of adding 50 cents to its  
5 forecasted levels with a true-up mechanism in the Company's direct filing.

6           Intervenor Sedalia Industrial Energy Users' Association in its direct filing also  
7 proposed fuel mechanism with a true-up process.

8           In his direct testimony, Staff witness Graham Vesely alluded to the prospect of  
9 pursuing an IEC mechanism.

10          Q.     Please explain why it became necessary to develop the Interim Energy Charge.

11          A.     Just as fuel prices were uncertain in the 1980s, they have become even more  
12 volatile and less predictable in the recent past. Years ago, Staff was interested in developing a  
13 forecasted fuel process that identified natural gas as the only fuel source that would form the  
14 basis for the forecasted fuel mechanism. After extensive discussions in the recent Empire  
15 case, it became apparent that a broader forecasted fuel mechanism would be necessary  
16 because of the interrelationship between gas prices and wholesale electricity prices for  
17 purchased power. With the unprecedented and extraordinary high natural gas prices that had  
18 been experienced during much of the latter part of year 2000 and the early part of 2001, it  
19 became apparent that a modification of the traditional and historical approach to determining  
20 fuel prices in that rate case was necessary. A major contributing factor to the decision to  
21 depart from using historical costs only to determine the basis of the fuel prices used for fuel  
22 expense was the plant addition of State Line Combined Cycle Unit. The State Line Combined  
23 Cycle Unit went into service in June 2001. This generating facility burned only natural gas

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1 and therefore represented a significant increase to Empire's fuel burn using natural gas.  
2 Empire's exposure to the increase in natural gas fuel burn came at a time when natural gas  
3 prices had been steadily rising. When the unit did go into service, natural gas prices were  
4 retreating but still higher than in previous periods. This placed significantly more risk on  
5 Empire than most of the other electric utilities operating in the state of Missouri.

6 Q. Has Aquila experienced a similar increase in its natural gas consumption?

7 A. Yes. Aquila, like Empire has seen a significant increase in natural gas use to  
8 fuel its generators and through the purchased power agreement with Aries. MPS supplies the  
9 natural gas to fuel the energy it receives from the Aries unit. In much the same way as  
10 Empire, Aquila has increased its dependence on natural gas, which in turn increases the  
11 Company's exposure to the fluctuations of that very volatile energy market.

12 Q. You suggested earlier that the natural gas market has an effect on the prices  
13 paid for purchased power. Please explain.

14 A. Yes. Equally important are the effects high natural gas prices have had on the  
15 purchased power market. With escalating natural gas prices, the purchased power costs have  
16 also increased. While certainly not the only factor, there is a relationship between natural gas  
17 prices and purchased power costs. Moreover, if a forecasted fuel mechanism was used that  
18 did not include purchased power costs, the utility could potentially benefit from forecasting  
19 natural gas only. The forecasted natural gas prices may make the purchased power prices  
20 more economical, giving the utility an incentive to purchase power and not generate power  
21 from natural gas. In other words, the utility could "game" or benefit from such a situation.  
22 The inclusion of purchased power costs along with the other fuel cost components in the  
23 forecasted fuel process will significantly reduce the risk of the process being taken advantage

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1 of. It is not the intent that either the utility or its customers unduly benefit from the forecast  
2 fuel process. This fuel and purchased power mechanism cannot be used to allow utilities to  
3 reap windfall profits, nor can this process allow customers to unduly benefit from being  
4 totally insulated from the rising fuel and purchased power costs.

5 Q. How has the volatile energy market exposed the Company to grater risk?

6 A. Company witness Keith Stamm, Aquila's Senior Vice President and Chief  
7 Operating Officer, in his direct testimony at page 18, line 15 indicates that "for each \$1  
8 increase in natural gas commodity prices, the annualized cost of fuel to serve our intermediate  
9 and peaking loads increases by approximately \$10.5 million." As indicated above, with the  
10 Company dependent on natural gas to fuel its electric generators, the increased costs of the  
11 natural gas commodity exposes Aquila to much the same risk as Empire with respect to its use  
12 of natural gas as a fuel source.

13 The increased risk to Aquila is illustrated by using the above-noted numbers presented  
14 by Mr. Stamm. If the estimates for natural gas price are missed by just \$1, the potential for  
15 Aquila either to receive a windfall or to incur shortfall in costs would be substantial. If  
16 Aquila over-collected in its fuel cost by this estimate, the customers would be paying  
17 significantly greater rates than they should. On the other hand, if the forecast in fuel cost was  
18 under-stated, then Aquila would under-collect its fuel cost in rates resulting in a significant  
19 shortfall. If these shortfalls were on the order of the \$10.5 million, that would be  
20 approximately one fifth of net operating income for the Company's MPS electric operations  
21 as determined by the amount in Staff's December 9, 2003 direct filing (\$10.5 million  
22 compared to the \$51.2 million of adjusted jurisdictional amount shown in Accounting

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1 Schedule 9-4, line 112). The greater reliance on natural gas with the high cost of that fuel  
2 places Aquila in a difficult situation.

3 Q. What is Staff's recommendation regarding the IEC?

4 A. The Staff believes that some type of forecasted mechanism is necessary to  
5 protect both the customers and the Company during this extraordinary period of high natural  
6 gas cost. If a base can be determined and a forecast, then an interim amount can be computed  
7 that would be subject to a true-up process to actual costs, with a refund provision that will  
8 accrue interest.

9 Q. How will the Interim Energy Charge work?

10 A. The Interim Energy Charge requires the establishment of a base amount for  
11 fuel and purchased power cost that would be set as part of permanent rates. The Interim  
12 Energy Charge then identifies an amount of fuel and purchased power cost above the base  
13 cost and up to a "forecasted" price that would be subject to refund. This interim charge would  
14 be in effect for a period of up to 24 months from the effective date of the rates determined in  
15 this case. At the conclusion of this period, a true-up audit would be performed to identify  
16 actual cost for fuel and purchased power in order to determine if Aquila over- or under-  
17 collected amounts during this period. If the Company over-collected its actual cost for fuel  
18 and purchased power up to the interim amount, then it would refund to its customers with  
19 interest. Of course, if Aquila under-collected costs associated with fuel and purchased power,  
20 the Company would not have to refund any amounts. Staff witness James C. Watkins'  
21 surrebuttal testimony also provides support for how the Interim Energy Charge is intended to  
22 work.

23 Q. How could a base be determined?

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1           A.     Staff's historical costs based on actual prices paid for natural gas and  
2 purchased power could form the base, or floor. To provide an additional incentive to the  
3 Company to seek out low cost energy, for both natural gas and purchased power, a base below  
4 Staff's amount being recommended by Staff witness Vesely could be used.

5           Q.     How could the forecast or ceiling be determined?

6           A.     As long as a refund mechanism with interest is in place, the Company's  
7 forecasted levels could be used as a ceiling.

8           Q.     What is the amount of base that could be used in the IEC?

9           A.     The Staff is recommending an amount for natural gas of approximately \$4.00  
10 per mmBtu. If an incentive is built into the IEC to allow the Company to keep any amounts  
11 below the base (floor), then a base of \$3.50 per mmBtu would be appropriate with Staff's  
12 level of purchased power of around \$30 per MWh.

13          Q.     What would be the ceiling of the projected, (or forecast) amount for the IEC?

14          A.     Using the Company's natural gas price of \$5.64 per mmBtu (\$5.14 per mmBtu  
15 is supported by Mr. Browning plus 50 cent per mmBtu amount for cap) for natural gas and  
16 almost \$38 per MWh for purchased power, the interim forecasted amount could be calculated.

17               For more information regarding base and forecast amounts, see Staff witness Watkins'  
18 surrebuttal testimony.

19          Q.     Is there an advantage to adopting the Interim Energy Charge?

20          A.     Yes. The Interim Energy Charge alleviates the need to pinpoint fuel prices  
21 used in the development of fuel and purchased power cost. Because any amounts over-  
22 collected are subject to refund with interest, the pressure to predict price increases for the fuel  
23 components Aquila is significantly reduced. A good deal of the risk of missing the forecast is

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1 neither on the Company nor on its customers. Staff believes that it is a distinct advantage to  
2 be able to have a mechanism that allows recovery of any over-collection of costs back to  
3 Aquila's customers. In essence, this approach provides a "safety net" for both Aquila and its  
4 customers if the cost levels are missed. Staff does not believe this mechanism is appropriate  
5 for normal economic circumstances and still supports the use of actual historical information.  
6 But when we see dramatic cost volatility, such as those seen recently in the natural gas  
7 industry, and the potential impact is so great on a particular company, this type of approach  
8 can be used effectively.

9 Q. Have forecasted fuel mechanisms been used in past cases?

10 A. Yes. Forecasted fuel with a true-up provision was used in several electric  
11 cases in the early 1980s. This process was developed as a result of high fuel prices, which  
12 came about from the two oil embargoes in the 1970s. The forecasted fuel mechanism was  
13 developed and used as a means of addressing the rising fuel prices that the electric utility  
14 industry was experiencing. There were two significant features that enabled the forecasted  
15 fuel mechanism to work: 1) the forecasted fuel prices and resulting fuel burns were  
16 developed in the context of a rate case; and 2) there was a true-up audit of the forecasted fuel  
17 prices with a refund provision.

18 Several forecasted fuel true-up cases were used in the 1980s. Kansas City Power and  
19 Light Company (KCPL) was the first utility to use this process. In each of KCPL's rate cases  
20 in 1981, 1982 and 1983, the forecasted fuel process was used. The following table identifies  
21 the rate cases where forecasted fuel was used along with the associated forecasted fuel true-up  
22 case number:

23  
24

<u>Rate Case</u>	<u>Forecasted Fuel True-up Case</u>
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1 Kansas City Power and Light

ER-81-42

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2 ER-82-66

EO-83-9

3 ER-83-49

EO-84-4

4 In fact, Empire used this process in one of its rate cases in the early 1980s. Several other  
5 utilities used this process during the high inflationary period of the early part that decade, as  
6 well.

7 Q. How did the forecasted fuel process work?

8 A. A forecasted level of fuel prices for coal and natural gas was determined in the  
9 rate case. The period of the forecast fuel prices was six months after the operation of law date  
10 of the rate case. When actual fuel prices became known, the Staff did a true-up audit to  
11 determine if the utility over- or under-collected in the forecasted fuel mechanism. The  
12 forecasted fuel cost was subject to refund with an interest provision for any amounts over-  
13 collected by the company. The tariffs filed by the Company in the rate case were identified  
14 with a "subject to refund" provision. If the company over-collected any dollar amount of the  
15 forecasted fuel price, the customers received a credit to their bills. The company was allowed  
16 to keep any amounts that were under-collected up to the forecast amount. Any amount that  
17 the company under-collected over the forecast level was absorbed by them. The forecasted  
18 fuel price set a maximum and minimum fuel price in rates. The base or permanent rates  
19 contained the base fuel price and the amount that was subject to refund was set at the  
20 forecasted fuel price. Fuel prices were set at the base level and the true-up could not go below  
21 that level once these fuel prices were set in the rate case.

22 Q. Previous forecasted fuel true-ups appear to only have included forecasts for  
23 coal and natural gas costs. How do the signatory parties propose that the mechanism be used  
24 in this case?

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1           A.     While forecasted fuel was previously developed to include only coal and  
2 natural gas, the Stipulation reached between the signatory parties in the Empire rate case  
3 include all components of fuel cost and purchased power costs. Just as the forecasted fuel  
4 mechanism in the 1980s relied on inputs and assumptions developed during the course of the  
5 respective rate cases, the fuel components in the interim energy provision have been  
6 established during the course of the audit in current Aquila rate case. Even though the  
7 Company and Staff have developed two different fuel models with two different sets of  
8 assumptions, the resulting overall outputs of the fuel runs were very close to one another.  
9 These models formed the basis of the amount determined as the base rate and the forecast  
10 rate.

11           Q.     Are there other costs added to the amounts developed in the fuel run?

12           A.     Yes. In addition to the fuel and purchased power costs determined by the fuel  
13 run, demand charge costs for the Aquila's capacity agreements have to be included. Costs  
14 relating to the non-variable component of fuel has to be included in the total fuel and  
15 purchased power costs included in this case. These amounts include rail car maintenance, rail  
16 maintenance, fuel handling and a variety of other costs. These amounts would be included in  
17 the base, or permanent part to the IEC. Also, line losses have to be factored-up for the  
18 Missouri jurisdictional retail loads to determine the total IEC amount.

19           Q.     How will the true-up process work?

20           A.     The forecasted fuel mechanism in this case will have a true-up provision to  
21 actual fuel cost incurred by the Company and identified through a true-up process. The true-  
22 up process will begin after the expiration of the Interim Energy Charge, which will occur no  
23 later than 24 months from the original effective dates of the appropriate tariff sheets. All the

Surrebuttal Testimony of  
Cary G. Featherstone

1 variable components of fuel cost and purchased energy will be examined during this true-up.  
2 The price of fuel and the operations of the generating units will be reviewed, along with  
3 purchased power cost, to identify an actual level of prudently incurred fuel cost to be used to  
4 compare to the forecasted level to determine any over- or under-collection. To the extent that  
5 the Company over-collects in any amount above the base level up to the forecasted interim  
6 level, those dollars will be returned to Aquila's customers. No over-collection below the base  
7 amount would be refunded. If the true-up results in an under-collection, then Aquila would  
8 not obligated to return any amount of money to its customers.

9 Any amount of money that is over-collected in rates, down to the base level, will be  
10 returned to Aquila's customers with interest. The interest rate will be the prime interest rate  
11 identified in the Wall Street Journal as of the last month of the forecasted fuel process.

12 Q. Should the Commission adopt the Interim Energy Charge?

13 A. Yes. Staff recommends the Commission adopt the Interim Energy Charge to  
14 use to determine the fuel and purchase power expense levels in this rate case. This  
15 mechanism should be used for the purposes of this case only. Any future use of this type of  
16 process will be considered by the Staff on a case-by-case basis.

17 Q. Does this conclude your surrebuttal testimony?

18 A. Yes it does.



included in the Company's cost of service, and to class cost of service and rate design.

4. The Parties agree that resolution of the fuel and purchased power expense issues in this case has been achieved as among themselves by the inclusion of a specific amount in the cost of service on a permanent (i.e., not subject to refund) basis and by the inclusion of another additional amount on an interim and subject to true-up and refund basis. The specific amount to be included in the Missouri jurisdictional cost of service on a permanent basis is \$91,599,932. This figure is meant to encompass all retail Missouri jurisdictional charges accumulated in the FERC account numbers 501, 547 and 555 and will be updated in the August 2001 true-up portion of this case. The other portion, referred to herein as an "Interim Energy Charge," is explained in more detail herein and generally is designed to attempt to address the potential volatility in natural gas and wholesale electricity prices. This Interim Energy Charge ("IEC") will be reflected separately on all Empire Missouri rate schedules on an equal-cents-per-kilowatt-hour basis. The revenue from the IEC will be collected on an interim and subject to true-up and refund basis under the terms of this Agreement.

5. The Parties agree that the difference between any increase in the Company's revenue requirement that is approved by the Commission and the revenues collected by the IEC will be allocated to each customer class on an equal-percent-of-current-revenues basis and reflected on all Empire Missouri rate schedules as an equal percentage increase (or decrease) to each rate component on each tariff.

6. In addition to the rate changes described above, Praxair's current monthly credit for interruptible demand will be increased by an amount equivalent to \$100,000.00 per year. This will be reflected on P.S.C. Mo. No. 5, Sec. 2, Sheet No. 9b of Empire's Missouri rate schedules by striking the words "and beyond" in the line for 5 year contracts beginning in 1998 and by adding the following provisions:

For 5 year contracts beginning in 2001.....\$4.86

For 5 year contracts beginning in 2002 and beyond.....\$3.76

For the purposes of calculating the Company's revenue requirement during the pendency of the

5-year interruptible contract entered into between Empire and Praxair beginning in 2001, Empire agrees that it will calculate Praxair's revenue as if the interruptible credit were \$3.76. The effect of this increase in Praxair's interruptible credit and Empire's agreement will be to reduce the revenues collected by Empire by \$100,000.00 per year, which \$100,000.00 will not affect the rates of Empire's other Missouri retail customers or be recovered from Empire's other Missouri retail ratepayers.

7. The Parties agree that the IEC, to be effective October 1, 2001, will appear on each Empire rate schedule and will indicate that a separate charge of 0.54 ¢ for each kWh will be made, but the amount collected by Empire pursuant to the 0.54 ¢ charge is subject to true-up and refund pursuant to the applicable stipulation and agreement approved by the Commission in Case No. ER-2001-299. The Parties agree that the amount is based on the difference between a stipulated Base amount of 2.52 ¢ / kWh and a stipulated Forecast amount of 3.06 ¢ / kWh. The derivation of the Base and Forecast figures is shown in the attached Exhibit A. Empire shall bill the IEC for all usage occurring during the period it is effective.

8. Empire rate schedules PL and SPL will contain a flat charge which will be interim and subject to refund under the terms of this Agreement based on the assumed kWh usage underlying the charge. The amount of the assumed usage is attached as Exhibit B.

9. The rate schedules to be filed by Empire pursuant to this Agreement will indicate that the IEC itself (as opposed to the terms and conditions applying to the IEC true-up and potential refund contained in this Agreement) will expire at 12:01 a.m. on October 1, 2003. If conditions warrant, Empire may file a general rate case in the Fall of 2002 with the timing of the implementation of replacement rate schedules from that case designed to coincide with the expiration of the IEC.

10. Subsequent to the expiration of the IEC, a true-up audit will commence ("the IEC true-up audit") in which the Staff and the Public Counsel will have the opportunity to audit Empire's actual fuel costs for the period during which the IEC was in effect under the same terms and conditions that apply to audits in general rate cases before the Commission. If the IEC

true-up audit determines that all or a portion of the revenue collected by Empire pursuant to the IEC exceeds Empire's actual and prudently incurred costs for fuel and purchased power (as recorded in the FERC accounts 501, 547 and 555) on a retail Missouri jurisdictional basis during the IEC period, Empire will refund the excess above the greater of the actual or the Base, plus interest, pursuant to the terms of this Agreement. No refund will be made if Empire's actual and prudently incurred costs for fuel and purchased power during the IEC period equal or exceed the Forecast amount. If a dispute arises in the IEC true-up audit as to the prudence of Empire's fuel or purchased power costs subject to this Agreement, the Parties agree to present the dispute to the Commission in a timely fashion consistent with the due process rights of the Parties to adequately prepare their case. No refund shall be made as to the amount in dispute until there is a final determination of that dispute, but interest shall continue to accrue during the litigation of the dispute and will be payable by Empire to the extent it is finally determined that Empire is required to make a refund of all or a portion of the amount in dispute.

A. The amount of the IEC to be refunded will be calculated by subtracting the greater of 1) Empire's actual retail Missouri jurisdictional fuel and purchase power expense or 2) the Base fuel and purchase power expense ( $2.52 \text{ ¢} / \text{kWh}$  times actual retail Missouri jurisdictional kWh sales) from the Forecast fuel and purchase power expense ( $3.06 \text{ ¢} / \text{kWh}$  times actual retail Missouri jurisdictional kWh sales). This amount, if positive, is the amount of the IEC to be refunded.

B. Each customer's refund (if there is to be a refund) will be calculated by multiplying the amount of the IEC to be refunded, expressed as a percentage of the total IEC charged to customers, by the total IEC charged to that customer. Examples can be found in the attached Exhibit C.

C. The interest rate to be used for purposes of this Agreement will be the same as the prime rate of interest (as found in the Money Rates section of the Wall Street Journal) in effect on the day the IEC expires and will be applied to the amount to be refunded. Interest (if there is a refund) will be applied for the period from the end of the first twelve

months the IEC is in effect through the end of the calendar month prior to the billing month in which bill credits for the refund appear on customers' bills. (For the purposes of this calculation, it is assumed that the total amount of any refund accrues during the first year and interest applies thereafter.)

D. All Empire Missouri retail customers with electric usage during the period in which the IEC is in effect are potentially eligible to receive a refund, including interest and all applicable taxes and fees, if the terms and conditions of this Agreement require such. Generally, any such refund will appear as a one-time credit on the customer's bill, except in cases where a customer is no longer a customer in the billing month in which bill credits appear on the bills of remaining customers. In that instance, Empire will mail to the last known address of such former customer a check for the amount of the refund owed that former customer. No checks will be issued to customers for refund amounts of less than \$3.00. Empire may set off the amount of any refund owed a particular former customer under this Agreement against any amounts owed Empire by that former customer. After the bill credits have been made and checks issued, any amount of the total refund plus interest which may remain in Empire's possession six months after the end of the application of the bill credits, for example, due to the inability to locate a former customer, shall be donated by Empire promptly to the Joplin, Missouri chapter of the American Red Cross to help fund its Project Help.

E. During the period in which the IEC is in effect, Empire shall provide the Staff and the Public Counsel with Empire's routine monthly revenue and sales reports which include the following data : (1) actual kWh sales for each Missouri retail rate code by billing month and by calendar month, and (2) the revenues from kWh sales, exclusive of taxes, for each Missouri retail rate code by billing month and by calendar month. The routine reports shall also specifically identify the revenues associated with the IEC. Empire shall submit this data in electronic format to the Commission's Electric Department on a quarterly basis by no later than one month after the end of each calendar quarter. Empire also agrees for the purposes of the IEC and this Agreement, to submit the following information for the duration of the IEC to the



Commission's Accounting Department and to Public Counsel:

1. monthly operating reports
2. monthly fuel reports
3. monthly purchase power and interchange sales report
4. monthly outage reports including Iatan outages
5. monthly fuel prices for a). coal and freight, b). natural gas (commodity and transportation separately) and c). oil
6. monthly statement identifying significant changes in fuel/rail contracts, capacity agreements and unusual operating conditions such as significant power plant outages, unusually high purchase power prices and natural gas prices, etc.

F. Commencing with the calendar quarter beginning October 1, 2001, and continuing during the course of the expected twenty-four month duration of the IEC, Empire shall provide quarterly reports to the Staff and the Public Counsel relating to Empire's analysis and record keeping for any and all natural gas capacity release and off-system natural gas sales opportunities and transactions. In this report, Empire will provide information showing the amount of natural gas capacity that was available for its own use, the amount used, the amount available for capacity release, the amount released, the party to whom the capacity was released, the price of the release, and its duration, along with any other relevant information related to the transaction. This quarterly report shall also provide information showing the amount of off-system natural gas sales, the party to whom the off-system natural gas sale was made, the price of the sale, and its duration, along with any other relevant information related to the transaction. This report will also include Empire's analysis as to the natural gas market conditions during the time period covered, with explanations as to why Empire did or did not make any natural gas capacity releases or off-system natural gas sales. Any revenues collected by Empire due to the release of unused natural gas capacity or net revenues from off-system sales of natural gas during the duration of the IEC will be used to offset the calculation of the cost of fuel and purchased

power supplied to Empire's ratepayers on a dollar-for-dollar basis.

11. In consideration of the implementation of the IEC in this proceeding, and coextensive with the duration of the IEC, Empire agrees to voluntarily forego any right it may have to request the use of or to use any other procedure or remedy, available under current Missouri statute or subsequently enacted Missouri statute, in the form of a fuel adjustment clause, a natural gas cost recovery mechanism, or other energy related adjustment mechanism to which Empire would otherwise be entitled. This temporary and limited waiver by Empire shall not be construed to prevent Empire from filing a general rate case during the period the IEC is in use, or from seeking what is commonly referred to as "interim" or "emergency" relief to increase its Missouri rates, if in the judgment of Empire's management, such a remedy is appropriate due to extraordinary or unanticipated circumstances, such as, but not limited to, the failure of a major power plant. By approving this Agreement, the Commission is not waiving the right to determine whether Empire qualifies for "interim" or "emergency" rate relief and no party shall be deemed to have waived the right to contest whether Empire should receive such relief.

12. The agreements set forth herein are the result of extensive negotiations among the Parties and are interdependent; however, the agreements expressed herein are limited solely to the issues described herein.

13. In the event that the Commission accepts the specific terms of this Agreement, the Parties agree that the direct, rebuttal and surrebuttal testimony of the following witnesses (or other witnesses), to the extent they address the issues settled herein, may be received into evidence without the necessity of said witnesses taking the stand:

Company witnesses: Sweet, Brill, Beecher, Kaplan, Gibson

Staff witnesses: Featherstone, Harris, Bender, Choe, Watkins, Pyatte, Ross

Public Counsel witness: Busch, Hu

Praxair: Brubaker

14. Nothing in this Agreement is designed to prevent any party from presenting oral testimony at the evidentiary hearing in support of the Agreement. The Parties agree to cooperate

with each other in presenting for approval to the Commission this Agreement, and will take no action, direct or indirect, in opposition to the request for approval of this Agreement.

15. The Staff shall file suggestions in support of this Agreement, and the other parties shall have the right to file responsive suggestions or prepared testimony.

16. The Staff shall have the right to provide, at any agenda meeting at which this Agreement is noticed to be considered by the Commission, whatever oral explanation the Commission requests, provided that the Staff shall, to the extent reasonably practicable, provide the other parties and participants with advance notice of when the Staff shall respond to the Commission's request for such explanation once such explanation is requested from Staff. Staff's oral explanation shall be subject to public disclosure, except to the extent it refers to matters that are privileged or protected from disclosure pursuant to any protective order issued in this case.

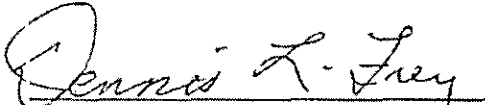
17. By entering into this Agreement, none of the Parties shall be deemed to have approved or acquiesced in any ratemaking or procedural principle, or any method of cost determination or cost allocation, and none of the Parties shall be prejudiced or bound in any manner by the terms of this Agreement in this or any other proceeding, except as expressly specified herein. If the Commission does not approve this Agreement, this Agreement shall immediately become null and void and none of the Parties shall be bound by the terms hereof.

18. The Parties respectfully note that this Agreement is being presented to the Commission with the intent of disposing of several issues that might otherwise consume considerable evidentiary hearing time. The Parties respectfully request that the Commission indicate as quickly as possible whether it intends to accept or reject this Agreement. Depending upon when and how the Commission rules on the acceptance of this Agreement, additional hearing dates may be required.

**WHEREFORE**, the Parties respectfully request that the Commission issue an order approving this Agreement.

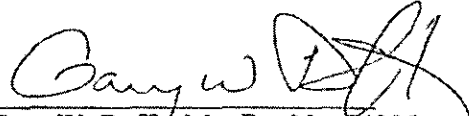
Respectfully submitted,

DANA K. JOYCE  
General Counsel



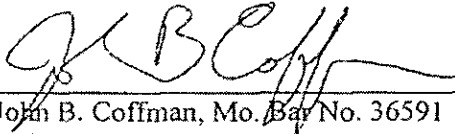
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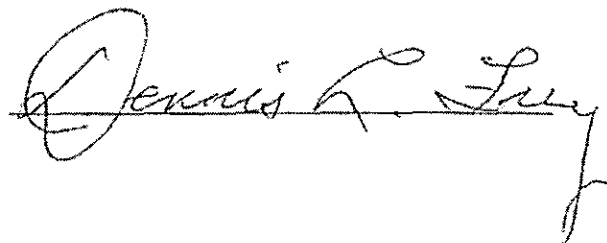


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Attorney for Praxair, Inc.

**Certificate of Service**

I hereby certify that copies of the foregoing have been mailed or hand-delivered to all counsel of record as shown on the attached service list this 4th day of June 2001.

A handwritten signature in cursive script, reading "Dennis A. Lee". The signature is written over a horizontal line.

## EXHIBIT A

### Calculation of Rate for Interim Energy Charge Provision

<u>Total Company</u>	<u>Base</u>	<u>Forecast</u>	<u>Increment</u>
Price \$/MWH	\$20.00	\$25.00	\$5.00 / MWH
MWH	4,803,523.00	4,803,523.00	
Fuel & Purchased Power	\$96,070,460	\$120,088,075	
Capacity Charge on Purchase	\$16,193,520	\$16,193,520	
Fuel & Purchased Power			
Expense	\$112,263,980	\$136,281,595	
MWH	4,803,523.00	4,803,523.00	
Price \$/MWH	\$23.37	\$28.37	\$5.00 / MWH
 <u>Allocation Factor Missouri Retail</u>			
0.8184 Fuel & Purchased Power	\$78,624,064	\$98,280,081	
0.8013 Capacity Charge on Purchase	\$12,975,868	\$12,975,868	
Fuel & Purchased Power Expense	\$91,599,932	\$111,255,948	
Retail kWh Sales	3,636,036,241	3,636,036,241	
Price \$/kWh	\$0.0252	\$0.0306	
	Interim Energy Charge:		\$0.0054 / kWh



**EXHIBIT B**

<b>SPL-Municipal Street Lighting</b>						
<b>Light Size/Type</b>	<b>Annual</b>		<b>Usage</b>	<b>Monthly</b>	<b>X \$0.0054</b>	<b>Increase</b>
	<b>kWh</b>	<b>Month</b>	<b>Factor</b>	<b>kWhs</b>		<b>Amount</b>
4,000 Lumen Incandescent	1088	Jan	0.103	112.064	0.0054	\$ 0.61
	1088	Feb	0.089	98.832	0.0054	\$ 0.52
	1088	Mar	0.087	94.656	0.0054	\$ 0.51
	1088	Apr	0.075	81.6	0.0054	\$ 0.44
	1088	May	0.07	76.16	0.0054	\$ 0.41
	1088	Jun	0.064	69.632	0.0054	\$ 0.38
	1088	Jul	0.067	72.896	0.0054	\$ 0.39
	1088	Aug	0.073	79.424	0.0054	\$ 0.43
	1088	Sep	0.079	85.952	0.0054	\$ 0.46
	1088	Oct	0.091	99.008	0.0054	\$ 0.53
	1088	Nov	0.098	106.624	0.0054	\$ 0.58
	1088	Dec	0.104	113.152	0.0054	\$ 0.61
<b>Total</b>				<b>1088</b>		<b>\$ 5.88</b>
<b>Light Size/Type</b>	<b>Annual</b>		<b>Usage</b>	<b>Monthly</b>	<b>X \$0.0054</b>	<b>Increase</b>
	<b>kWh</b>	<b>Month</b>	<b>Factor</b>	<b>kWhs</b>		<b>Amount</b>
10,000 Lumen Incandescent	2331	Jan	0.103	240.093	0.0054	\$ 1.30
	2331	Feb	0.089	207.459	0.0054	\$ 1.12
	2331	Mar	0.087	202.797	0.0054	\$ 1.10
	2331	Apr	0.075	174.825	0.0054	\$ 0.94
	2331	May	0.07	163.17	0.0054	\$ 0.88
	2331	Jun	0.064	149.184	0.0054	\$ 0.81
	2331	Jul	0.067	156.177	0.0054	\$ 0.84
	2331	Aug	0.073	170.163	0.0054	\$ 0.92
	2331	Sep	0.079	184.149	0.0054	\$ 0.99
	2331	Oct	0.091	212.121	0.0054	\$ 1.15
	2331	Nov	0.098	228.438	0.0054	\$ 1.23
	2331	Dec	0.104	242.424	0.0054	\$ 1.31
<b>Total</b>				<b>2331</b>		<b>\$ 12.59</b>
<b>Light Size/Type</b>	<b>Annual</b>		<b>Usage</b>	<b>Monthly</b>	<b>X \$0.0054</b>	<b>Increase</b>
	<b>kWh</b>	<b>Month</b>	<b>Factor</b>	<b>kWhs</b>		<b>Amount</b>
7,000 Lumen Mercury Vapor	784	Jan	0.103	80.752	0.0054	\$ 0.44
	784	Feb	0.089	69.776	0.0054	\$ 0.38
	784	Mar	0.087	68.208	0.0054	\$ 0.37
	784	Apr	0.075	58.8	0.0054	\$ 0.32
	784	May	0.07	54.88	0.0054	\$ 0.30
	784	Jun	0.064	50.176	0.0054	\$ 0.27
	784	Jul	0.067	52.528	0.0054	\$ 0.28
	784	Aug	0.073	57.232	0.0054	\$ 0.31
	784	Sep	0.079	61.936	0.0054	\$ 0.33
	784	Oct	0.091	71.344	0.0054	\$ 0.39
	784	Nov	0.098	76.832	0.0054	\$ 0.41
	784	Dec	0.104	81.536	0.0054	\$ 0.44
<b>Total</b>				<b>784</b>		<b>\$ 4.23</b>



## EXHIBIT B

SPL-Municipal Street Lighting						
Light Size/Type	Annual		Usage	Monthly	X \$0.0054	Increase
	kWh	Month	Factor	kWhs		Amount
11,000 Lumen Mercury Vapor	1186	Jan	0.103	122.158	0.0054	\$ 0.66
	1186	Feb	0.089	105.554	0.0054	\$ 0.57
	1186	Mar	0.087	103.182	0.0054	\$ 0.56
	1186	Apr	0.075	88.95	0.0054	\$ 0.48
	1186	May	0.07	83.02	0.0054	\$ 0.45
	1186	Jun	0.064	75.904	0.0054	\$ 0.41
	1186	Jul	0.067	79.462	0.0054	\$ 0.43
	1186	Aug	0.073	86.578	0.0054	\$ 0.47
	1186	Sep	0.079	93.694	0.0054	\$ 0.51
	1186	Oct	0.091	107.926	0.0054	\$ 0.58
	1186	Nov	0.098	116.228	0.0054	\$ 0.63
	1186	Dec	0.104	123.344	0.0054	\$ 0.67
<b>Total</b>				<b>1186</b>		<b>\$ 6.40</b>
Light Size/Type	Annual		Usage	Monthly	X \$0.0054	Increase
	kWh	Month	Factor	kWhs		Amount
20,000 Lumen Mercury Vapor	1868	Jan	0.103	192.404	0.0054	\$ 1.04
	1868	Feb	0.089	166.252	0.0054	\$ 0.90
	1868	Mar	0.087	162.516	0.0054	\$ 0.88
	1868	Apr	0.075	140.1	0.0054	\$ 0.76
	1868	May	0.07	130.76	0.0054	\$ 0.71
	1868	Jun	0.064	119.552	0.0054	\$ 0.65
	1868	Jul	0.067	125.156	0.0054	\$ 0.68
	1868	Aug	0.073	136.364	0.0054	\$ 0.74
	1868	Sep	0.079	147.572	0.0054	\$ 0.80
	1868	Oct	0.091	169.988	0.0054	\$ 0.92
	1868	Nov	0.098	183.064	0.0054	\$ 0.99
	1868	Dec	0.104	194.272	0.0054	\$ 1.05
<b>Total</b>				<b>1868</b>		<b>\$ 10.09</b>
Light Size/Type	Annual		Usage	Monthly	X \$0.0054	Increase
	kWh	Month	Factor	kWhs		Amount
53,000 Lumen Mercury Vapor	4475	Jan	0.103	460.925	0.0054	\$ 2.49
	4475	Feb	0.089	398.275	0.0054	\$ 2.15
	4475	Mar	0.087	389.325	0.0054	\$ 2.10
	4475	Apr	0.075	335.625	0.0054	\$ 1.81
	4475	May	0.07	313.25	0.0054	\$ 1.69
	4475	Jun	0.064	286.4	0.0054	\$ 1.55
	4475	Jul	0.067	299.825	0.0054	\$ 1.62
	4475	Aug	0.073	326.675	0.0054	\$ 1.76
	4475	Sep	0.079	353.525	0.0054	\$ 1.91
	4475	Oct	0.091	407.225	0.0054	\$ 2.20
	4475	Nov	0.098	438.55	0.0054	\$ 2.37
	4475	Dec	0.104	465.4	0.0054	\$ 2.51
<b>Total</b>				<b>4475</b>		<b>\$ 24.17</b>

**EXHIBIT B**

SPL-Municipal Street Lighting						
Light Size/Type	Annual		Usage Factor	Monthly kWhs	X \$0.0054	Increase Amount
	kWh	Month				
6,000 Lumen High Pressure Sodium	374	Jan	0.103	38.522	0.0054	\$ 0.21
	374	Feb	0.089	33.286	0.0054	\$ 0.18
	374	Mar	0.087	32.538	0.0054	\$ 0.18
	374	Apr	0.075	28.05	0.0054	\$ 0.15
	374	May	0.07	26.18	0.0054	\$ 0.14
	374	Jun	0.064	23.936	0.0054	\$ 0.13
	374	Jul	0.067	25.058	0.0054	\$ 0.14
	374	Aug	0.073	27.302	0.0054	\$ 0.15
	374	Sep	0.079	29.546	0.0054	\$ 0.16
	374	Oct	0.091	34.034	0.0054	\$ 0.18
	374	Nov	0.098	36.652	0.0054	\$ 0.20
	374	Dec	0.104	38.896	0.0054	\$ 0.21
<b>Total</b>				<b>374</b>		<b>\$ 2.02</b>
Light Size/Type	Annual		Usage Factor	Monthly kWhs	X \$0.0054	Increase Amount
	kWh	Month				
16,000 Lumen-High Pressure Sodium	694	Jan	0.103	71.482	0.0054	\$ 0.39
	694	Feb	0.089	61.766	0.0054	\$ 0.33
	694	Mar	0.087	60.378	0.0054	\$ 0.33
	694	Apr	0.075	52.05	0.0054	\$ 0.28
	694	May	0.07	48.58	0.0054	\$ 0.26
	694	Jun	0.064	44.416	0.0054	\$ 0.24
	694	Jul	0.067	46.498	0.0054	\$ 0.25
	694	Aug	0.073	50.662	0.0054	\$ 0.27
	694	Sep	0.079	54.826	0.0054	\$ 0.30
	694	Oct	0.091	63.154	0.0054	\$ 0.34
	694	Nov	0.098	68.012	0.0054	\$ 0.37
	694	Dec	0.104	72.176	0.0054	\$ 0.39
<b>Total</b>				<b>694</b>		<b>\$ 3.75</b>
Light Size/Type	Annual		Usage Factor	Monthly kWhs	X \$0.0054	Increase Amount
	kWh	Month				
27,500 Lumen High-Pressure Sodium	1271	Jan	0.103	130.913	0.0054	\$ 0.71
	1271	Feb	0.089	113.119	0.0054	\$ 0.61
	1271	Mar	0.087	110.577	0.0054	\$ 0.60
	1271	Apr	0.075	95.325	0.0054	\$ 0.51
	1271	May	0.07	88.97	0.0054	\$ 0.48
	1271	Jun	0.064	81.344	0.0054	\$ 0.44
	1271	Jul	0.067	85.157	0.0054	\$ 0.46
	1271	Aug	0.073	92.783	0.0054	\$ 0.50
	1271	Sep	0.079	100.409	0.0054	\$ 0.54
	1271	Oct	0.091	115.661	0.0054	\$ 0.62
	1271	Nov	0.098	124.558	0.0054	\$ 0.67
	1271	Dec	0.104	132.184	0.0054	\$ 0.71
<b>Total</b>				<b>1271</b>		<b>\$ 6.86</b>

**EXHIBIT B**

SPL-Municipal Street Lighting						
Light Size/Type	Annual		Usage	Monthly	X \$0.0054	Increase
	kWh	Month	Factor	kWhs		Amount
50,000 Lumen High-Pressure Sodium	1880	Jan	0.103	193.64	0.0054	\$ 1.05
	1880	Feb	0.089	167.32	0.0054	\$ 0.90
	1880	Mar	0.087	163.56	0.0054	\$ 0.88
	1880	Apr	0.075	141	0.0054	\$ 0.76
	1880	May	0.07	131.6	0.0054	\$ 0.71
	1880	Jun	0.064	120.32	0.0054	\$ 0.65
	1880	Jul	0.067	125.96	0.0054	\$ 0.68
	1880	Aug	0.073	137.24	0.0054	\$ 0.74
	1880	Sep	0.079	148.52	0.0054	\$ 0.80
	1880	Oct	0.091	171.08	0.0054	\$ 0.92
	1880	Nov	0.098	184.24	0.0054	\$ 0.99
	1880	Dec	0.104	195.52	0.0054	\$ 1.06
<b>Total</b>				<b>1880</b>		<b>\$ 10.15</b>
Light Size/Type	Annual		Usage	Monthly	X \$0.0054	Increase
	kWh	Month	Factor	kWhs		Amount
130,000 High-Pressure Sodium	4313	Jan	0.103	444.239	0.0054	\$ 2.40
	4313	Feb	0.089	383.857	0.0054	\$ 2.07
	4313	Mar	0.087	375.231	0.0054	\$ 2.03
	4313	Apr	0.075	323.475	0.0054	\$ 1.75
	4313	May	0.07	301.91	0.0054	\$ 1.63
	4313	Jun	0.064	276.032	0.0054	\$ 1.49
	4313	Jul	0.067	288.971	0.0054	\$ 1.56
	4313	Aug	0.073	314.849	0.0054	\$ 1.70
	4313	Sep	0.079	340.727	0.0054	\$ 1.84
	4313	Oct	0.091	392.483	0.0054	\$ 2.12
	4313	Nov	0.098	422.674	0.0054	\$ 2.28
	4313	Dec	0.104	448.552	0.0054	\$ 2.42
<b>Total</b>				<b>4313</b>		<b>\$ 23.29</b>
Light Size/Type	Annual		Usage	Monthly	X \$0.0054	Increase
	kWh	Month	Factor	kWhs		Amount
12,000 Lumen Metal Halide	696	Jan	0.103	71.688	0.0054	\$ 0.39
	696	Feb	0.089	61.944	0.0054	\$ 0.33
	696	Mar	0.087	60.552	0.0054	\$ 0.33
	696	Apr	0.075	52.2	0.0054	\$ 0.28
	696	May	0.07	48.72	0.0054	\$ 0.26
	696	Jun	0.064	44.544	0.0054	\$ 0.24
	696	Jul	0.067	46.632	0.0054	\$ 0.25
	696	Aug	0.073	50.808	0.0054	\$ 0.27
	696	Sep	0.079	54.984	0.0054	\$ 0.30
	696	Oct	0.091	63.336	0.0054	\$ 0.34
	696	Nov	0.098	68.208	0.0054	\$ 0.37
	696	Dec	0.104	72.384	0.0054	\$ 0.39
<b>Total</b>				<b>696</b>		<b>\$ 3.76</b>

## EXHIBIT B

SPL-Municipal Street Lighting						
Light Size/Type	Annual		Usage	Monthly		Increase
	kWh	Month	Factor	kWhs	X \$0.0054	Amount
50,000 Lumen High-Pressure Sodium	1880	Jan	0.103	193.64	0.0054	\$ 1.05
	1880	Feb	0.089	167.32	0.0054	\$ 0.90
	1880	Mar	0.087	163.56	0.0054	\$ 0.88
	1880	Apr	0.075	141	0.0054	\$ 0.76
	1880	May	0.07	131.6	0.0054	\$ 0.71
	1880	Jun	0.064	120.32	0.0054	\$ 0.65
	1880	Jul	0.067	125.96	0.0054	\$ 0.68
	1880	Aug	0.073	137.24	0.0054	\$ 0.74
	1880	Sep	0.079	148.52	0.0054	\$ 0.80
	1880	Oct	0.091	171.08	0.0054	\$ 0.92
	1880	Nov	0.098	184.24	0.0054	\$ 0.99
	1880	Dec	0.104	195.52	0.0054	\$ 1.06
<b>Total</b>				<b>1880</b>		<b>\$ 10.15</b>
Light Size/Type	Annual		Usage	Monthly		Increase
	kWh	Month	Factor	kWhs	X \$0.0054	Amount
130,000 High-Pressure Sodium	4313	Jan	0.103	444.239	0.0054	\$ 2.40
	4313	Feb	0.089	383.857	0.0054	\$ 2.07
	4313	Mar	0.087	375.231	0.0054	\$ 2.03
	4313	Apr	0.075	323.475	0.0054	\$ 1.75
	4313	May	0.07	301.91	0.0054	\$ 1.63
	4313	Jun	0.064	276.032	0.0054	\$ 1.49
	4313	Jul	0.067	288.971	0.0054	\$ 1.56
	4313	Aug	0.073	314.849	0.0054	\$ 1.70
	4313	Sep	0.079	340.727	0.0054	\$ 1.84
	4313	Oct	0.091	392.483	0.0054	\$ 2.12
	4313	Nov	0.098	422.674	0.0054	\$ 2.28
	4313	Dec	0.104	448.552	0.0054	\$ 2.42
<b>Total</b>				<b>4313</b>		<b>\$ 23.29</b>
Light Size/Type	Annual		Usage	Monthly		Increase
	kWh	Month	Factor	kWhs	X \$0.0054	Amount
12,000 Lumen Metal Halide	696	Jan	0.103	71.688	0.0054	\$ 0.39
	696	Feb	0.089	61.944	0.0054	\$ 0.33
	696	Mar	0.087	60.552	0.0054	\$ 0.33
	696	Apr	0.075	52.2	0.0054	\$ 0.28
	696	May	0.07	48.72	0.0054	\$ 0.26
	696	Jun	0.064	44.544	0.0054	\$ 0.24
	696	Jul	0.067	46.632	0.0054	\$ 0.25
	696	Aug	0.073	50.808	0.0054	\$ 0.27
	696	Sep	0.079	54.984	0.0054	\$ 0.30
	696	Oct	0.091	63.336	0.0054	\$ 0.34
	696	Nov	0.098	68.208	0.0054	\$ 0.37
	696	Dec	0.104	72.384	0.0054	\$ 0.39
<b>Total</b>				<b>696</b>		<b>\$ 3.76</b>

**EXHIBIT B**

SP.-Municipal Street Lighting						
Light Size/Type	Annual		Usage Factor	Monthly kWhs	X \$0.0054	Increase Amount
	kWh	Month				
20,500 Lumen Metal Halide	1020	Jan	0.103	105.06	0.0054	\$ 0.57
	1020	Feb	0.089	90.78	0.0054	\$ 0.49
	1020	Mar	0.087	88.74	0.0054	\$ 0.48
	1020	Apr	0.075	76.5	0.0054	\$ 0.41
	1020	May	0.07	71.4	0.0054	\$ 0.39
	1020	Jun	0.064	65.28	0.0054	\$ 0.35
	1020	Jul	0.067	68.34	0.0054	\$ 0.37
	1020	Aug	0.073	74.46	0.0054	\$ 0.40
	1020	Sep	0.079	80.58	0.0054	\$ 0.44
	1020	Oct	0.091	92.82	0.0054	\$ 0.50
	1020	Nov	0.098	99.96	0.0054	\$ 0.54
	1020	Dec	0.104	106.08	0.0054	\$ 0.57
<b>Total</b>				1020		\$ 5.51
Light Size/Type	Annual		Usage Factor	Monthly kWhs	X \$0.0054	Increase Amount
	kWh	Month				
36,000 Lumen Metal Halide	1620	Jan	0.103	166.86	0.0054	\$ 0.90
	1620	Feb	0.089	144.18	0.0054	\$ 0.78
	1620	Mar	0.087	140.94	0.0054	\$ 0.76
	1620	Apr	0.075	121.5	0.0054	\$ 0.66
	1620	May	0.07	113.4	0.0054	\$ 0.61
	1620	Jun	0.064	103.68	0.0054	\$ 0.56
	1620	Jul	0.067	108.54	0.0054	\$ 0.59
	1620	Aug	0.073	118.26	0.0054	\$ 0.64
	1620	Sep	0.079	127.98	0.0054	\$ 0.69
	1620	Oct	0.091	147.42	0.0054	\$ 0.80
	1620	Nov	0.098	158.76	0.0054	\$ 0.86
	1620	Dec	0.104	168.48	0.0054	\$ 0.91
<b>Total</b>				1620		\$ 8.75
Light Size/Type	Annual		Usage Factor	Monthly kWhs	X \$0.0054	Increase Amount
	kWh	Month				
110,000 Lumen Metal Halide	4056	Jan	0.103	417.768	0.0054	\$ 2.26
	4056	Feb	0.089	360.984	0.0054	\$ 1.95
	4056	Mar	0.087	352.872	0.0054	\$ 1.91
	4056	Apr	0.075	304.2	0.0054	\$ 1.64
	4056	May	0.07	283.92	0.0054	\$ 1.53
	4056	Jun	0.064	259.584	0.0054	\$ 1.40
	4056	Jul	0.067	271.752	0.0054	\$ 1.47
	4056	Aug	0.073	296.088	0.0054	\$ 1.60
	4056	Sep	0.079	320.424	0.0054	\$ 1.73
	4056	Oct	0.091	369.096	0.0054	\$ 1.99
	4056	Nov	0.098	397.488	0.0054	\$ 2.15
	4056	Dec	0.104	421.824	0.0054	\$ 2.28
<b>Total</b>				4056		\$ 21.90

## EXHIBIT C

### Examples of natural termination of the IEC on October 1, 2003 and two (2) months processing time.

Assumptions:	Prime rate at October 1, 2003	9.00%
	Actual retail Missouri jurisdictional sales (MWH)	7,600,000

First example. Actual F&PP expense falls within the base and forecast, resulting in a partial refund.

Total IEC charged to customers (\$0.0054/kWh X sales)	\$ 41,040,000	"A"
Base Fuel and Purchase Power (\$25.20/MWH X sales)	191,520,000	"B"
Actual retail Missouri jurisdictional fuel and purchase power	228,000,000	"C"
Amount to be refunded prior to interest (A+B-C) *	4,560,000	"D"
Interest for the period (D X 9%)	410,400	"E"
Interest following expiration (9% / 12 X 2) X D))	68,400	"F"
Total to be refunded (D +E + F)	5,038,800	"G"
Refund expressed as a percentage (G / A)	12.28%	
Interest portion of refund expressed as a percentage ((F + E) / A)	1.17%	

Customer X paid \$100 under the IEC. His specific refund is \$12.28 (of which \$1.17 is interest) plus applicable taxes.

\* Refund amount cannot exceed "A" and must be positive.

## EXHIBIT C

Second example. Actual F&PP expense falls below the base, resulting in a full refund.

Total IEC charged to customers ( $\$0.0054/\text{kWh} \times \text{sales}$ )	\$ 41,040,000	"A"
Base Fuel and Purchase Power ( $\$25.20/\text{MWH} \times \text{sales}$ )	191,520,000	"B"
Actual retail Missouri jurisdictional fuel and purchase power	190,000,000	"C"
Amount to be refunded prior to interest (A+B-C) *	41,040,000	"D"
Interest for the period (D X 9%)	3,693,600	"E"
Interest following expiration ( $9\% / 12 \times 2 \times D$ )	615,600	"F"
Total to be refunded (D +E + F)	45,349,200	"G"
Refund expressed as a percentage (G / A)	110.50%	
Interest portion of refund expressed as a percentage ((F + E) / A)	10.50%	

Customer X paid \$100 under the IEC. His specific refund is \$110.50 (of which \$10.50 is interest) plus applicable taxes.

\* Refund amount cannot exceed "A" and must be positive.

## EXHIBIT C

**Third example. Actual F&PP expense exceeds the sum of the base and IEC, resulting in no refund.**

Total IEC charged to customers (\$0.0054/kWh X sales)	\$ 41,040,000	"A"
Base Fuel and Purchase Power (\$25.20/MWH X sales)	191,520,000	"B"
Actual retail Missouri jurisdictional fuel and purchase power	235,000,000	"C"
Amount to be refunded prior to interest (A+B-C) *	-	"D"
Interest for the period (D X 9%)	-	"E"
Interest following expiration (9% / 12 X 2) X D))	-	"F"
Total to be refunded (D +E + F)	-	"G"
Refund expressed as a percentage (G / A)	0.00%	
Interest portion of refund expressed as a percentage ((F + E) / A)	0.00%	
Customer X paid \$100 under the IEC. His specific refund is \$0.00.		

\* Refund amount cannot exceed "A" and must be positive.



Service List for  
Case No. ER-2001-299  
Verified: June 4, 2001 (ccl)

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