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Via: Federal Express - AM Delivery

October 15, 2002

Mr. Dale Hardy Roberts
Secretary/Chief Regulatory Law Judge
Missouri Public Service Commission
200 Madison Street, Suite 100
Jefferson City, MO 65101

FILED³

OCT 16 2002

**Re: The Empire District Electric Company,
Missouri PSC Case No. ER-2002-424**

Missouri Public
Service Commission

Dear Mr. Roberts:

Enclosed please find an original and fourteen (14) copies of the surrebuttal testimony and affidavit of Maurice Brubaker in the above matter for filing on behalf of Praxair, Inc.

Copies of this surrebuttal testimony have been served on all parties on the attached service list by expedited delivery.

Very truly yours,

BRUBAKER & ASSOCIATES, INC.

Maurice Brubaker

MEB:cs
#7787/32649
Enclosures

CC: All Parties on Service List

**Before the Public Service Commission
of the State of Missouri**

In the Matter of The Empire District Electric)	
Company of Joplin, Missouri, for Authority)	
to File Tariffs Increasing Rates for Electric)	Case No. ER-2002-424
Service to Customers in the Missouri)	
Service Areas of the Company.)	

SERVICE LIST

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the surrebuttal testimony of Maurice Brubaker is being forwarded by expedited delivery for receipt on the 16th day of October, 2002, to all parties on the above service list.

Henrietta Bosancane

Exhibit No.	
Witness:	Maurice Brubaker
Type of Exhibit:	Surrebuttal Testimony
Sponsoring Party:	Praxair, Inc.
Issue:	Cost of Service and Revenue Allocation
Case No.	ER-2002-424

**Before the
Missouri Public Service Commission**

In the Matter of The Empire District)	
Electric Company of Joplin, Missouri, for)	
Authority to File Tariffs Increasing Rates)	Case No. ER-2002-424
for Electric Service to Customers in the)	
Missouri Service Areas of the Company.)	

FILED³

OCT 16 2002

Surrebuttal Testimony of

Maurice Brubaker

**Missouri Public
Service Commission**

On Behalf of

Praxair, Inc.

October 15, 2002
Project 7787



BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

**Before the Public Service Commission
of the State of Missouri**

In the Matter of The Empire District Electric)
Company of Joplin, Missouri, for Authority)
to File Tariffs Increasing Rates for Electric)
Service to Customers in the Missouri)
Service Areas of the Company.)

Case No. ER-2002-424

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

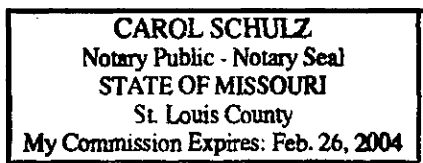
Affidavit of Maurice Brubaker

Maurice Brubaker, being first duly sworn, on his oath states:

1. My name is Maurice Brubaker. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000. We have been retained by Praxair, Inc. in this proceeding on its behalf.
2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony which was prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2002-424.
3. I hereby swear and affirm that the surrebuttal testimony is true and correct and shows the matters and things it purports to show.


Maurice Brubaker

Subscribed and sworn to before me this 15th day of October 2002.




Notary Public

My Commission Expires February 26, 2004..

**Before the
Missouri Public Service Commission**

In the Matter of The Empire District Electric Company of Joplin, Missouri, for Authority to File Tariffs Increasing Rates for Electric Service to Customers in the Missouri Service Areas of the Company.)))))	Case No. ER-2002-424
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Surrebuttal Testimony of Maurice Brubaker

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 **A Maurice Brubaker. My business address is 1215 Fern Ridge Parkway, Suite 208,**
3 **St. Louis, Missouri 63141-2000.**

4 **Q ARE YOU THE SAME MAURICE BRUBAKER WHO FILED DIRECT TESTIMONY**
5 **IN THE REVENUE REQUIREMENT, COST OF SERVICE AND RATE DESIGN**
6 **PHASES OF THIS PROCEEDING, AND REBUTTAL TESTIMONY ON COST OF**
7 **SERVICE AND RATE DESIGN?**

8 **A Yes, I am.**

9 **Q WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

10 **A In this surrebuttal testimony, I will address a few of the issues raised in the rebuttal**
11 **testimony of Office of Public Counsel (OPC) witness Hong Hu, and the Missouri**
12 **Public Service Commission (MPSC) Staff witnesses Janice Pyatte and James**
13 **Watkins. These points relate to cost of service and revenue allocation issues.**

**Maurice Brubaker
Page 1**

1 In addition, I will provide an update of my alternate recommendation for
2 allocating a revenue increase based on identifying the fuel/purchased power
3 elements of the revenue requirement change and the balance of the change, i.e., that
4 which relates to costs other than fuel and purchased power. This will be an update of
5 Schedule 7 attached to my direct testimony. I will provide information based on the
6 most recent filed positions of both MPSC Staff and The Empire District Electric
7 Company (Empire) concerning the levels of fuel and purchased power.

8 **Clarifications and Corrections of Mis-Statements**

9 **Q AT PAGE 11 OF HER TESTIMONY, LINES 5-7, MPSC STAFF WITNESS JANICE**
10 **PYATTE, IN COMMENTING ON THE RESULTS OF THE VARIOUS COST OF**
11 **SERVICE STUDIES, STATES THAT EMPIRE'S COST OF SERVICE STUDY**
12 **RESULTS INDICATE THAT THE COSTS ATTRIBUTED TO PRAXAIR ARE**
13 **SIGNIFICANTLY HIGHER THAN THE REVENUES BEING RECOVERED FROM**
14 **PRAXAIR. IS THIS AN ACCURATE STATEMENT?**

15 **A** No, it is not. Empire's cost of service study shows, as does my cost of service study,
16 that Praxair is paying revenues in excess of the costs allocated to it – just the
17 opposite of what Ms. Pyatte says at Page 11 of her testimony.

18 **Q DO THE SCHEDULES ATTACHED TO MS. PYATTE'S TESTIMONY SHOW A**
19 **DIFFERENT RESULT?**

20 **A** Yes. Schedule 1-1 attached to her testimony shows the results of Empire's cost of
21 service study before any revenue increase is considered. She correctly shows that
22 Praxair (designated as "SC," special contract) is paying rates that exceed cost by
23 \$218,923. This is a correct statement of the results of Empire's cost of service study.

Maurice Brubaker
Page 2

1 The reason for the mis-statement in Ms. Pyatte's testimony is not clear – but it is
2 clearly a mis-statement.

3 **Q AT THE BOTTOM OF PAGE 2 OF HER TESTIMONY, MS. PYATTE INDICATES**
4 **THAT YOU HAVE INCORPORATED A "CORRECTION" TO THE COMPANY'S**
5 **COST OF SERVICE STUDY, BUT THAT EMPIRE HAS NOT ADOPTED THIS**
6 **CORRECTION OR YOUR RESULTS. IS THIS TRUE?**

7 **A** It is true that I have made a correction to Empire's cost of service study and that
8 Empire has not commented on this correction. As discussed at Page 6 of my
9 testimony, it is important to understand that the correction that I made to the
10 Company's cost of service study actually allocates more costs to Praxair than did
11 Empire's study. The dollar difference is minor, but the direction of the correction is
12 important. To be perfectly clear, Empire's study produces a more favorable result for
13 Praxair than does my corrected cost of service study.

14 **Q WITH RESPECT TO THE TREATMENT OF INTERRUPTIBLE LOAD, MS. PYATTE**
15 **STATES (AT PAGES 6 AND 9 OF HER TESTIMONY) THAT YOUR TREATMENT**
16 **OF INTERRUPTIBLE LOADS IN YOUR COST OF SERVICE STUDY IS**
17 **UNREASONABLE. MR. WATKINS MAKES A SIMILAR STATEMENT AT PAGE 3,**
18 **AND OPC WITNESS HONG HU COMMENTS IN A SIMILAR MANNER AT PAGE 6**
19 **OF HER TESTIMONY. HAVE THESE WITNESSES ACCURATELY SUMMARIZED**
20 **YOUR COST OF SERVICE RECOMMENDATIONS IN THIS CASE?**

21 **A** No, they have not.

1 **Q PLEASE EXPLAIN.**

2 A In Empire's cost of service study, Praxair's revenues were stated at the level they
3 would be if Praxair were firm. In other words, the interruptible credit received by
4 Praxair was not subtracted to determine Praxair's revenue used in the cost of service
5 study. Similarly, the kilowatt demands used to allocate costs to Praxair were
6 Praxair's total demands, firm plus interruptible. This method implicitly assumes that
7 the existing interruptible credit is reasonable.

8 **Q DID YOU SHOW AN ALTERNATE TREATMENT OF INTERRUPTIBLE LOAD?**

9 A Yes, I did. I presented an alternate cost of service study and included the results as
10 Schedule 3 attached to my direct testimony. In this cost of service study, Praxair's
11 revenues are the actual revenues after subtracting the actual interruptible credit, and
12 Praxair's demands used in the cost allocation for generation plant are only the firm
13 portion of the loads. This cost of service approach allows one to test whether the
14 level of the interruptible credit is excessive. The result of my study, shown on
15 Schedule 3 attached to my direct testimony, is that Praxair produces a rate of return
16 significantly above the average when it is allocated cost based on only its firm
17 demands, measured against revenues after subtracting the interruptible discount – in
18 other words, based on what it **actually** pays and the level of service it **actually**
19 receives.

20 **Q DID YOU RECOMMEND USING THIS ALTERNATE COST OF SERVICE STUDY**
21 **FOR PURPOSES OF REVENUE ALLOCATION IN THIS CASE?**

22 A No, I did not. My cost of service based revenue allocation is shown on Schedule 5
23 attached to my direct testimony. The note on Schedule 5 clearly states, "Revenues

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1 for Praxair are before subtracting the interruptible credit." In addition, I explained at
2 Pages 9 and 10 of my direct testimony that the cost of service study that I used for
3 this purpose was shown on Page 2 of Schedule 1 attached to my direct testimony.
4 Also, the revenue changes required to equalize rates of return, shown in Column 3 on
5 Schedule 5, are directly traceable to Line 30 on Page 2 of Schedule 1. The cost of
6 service study which is summarized in Schedule 1, and which forms the basis for my
7 revenue allocation recommendation, is the traditional average and excess cost of
8 service method in which costs are allocated to the entire Praxair load, firm plus
9 interruptible. Thus, all of the criticisms leveled by these witnesses with respect to the
10 treatment of interruptible load are totally irrelevant insofar as my recommended
11 revenue allocation is concerned.

12 **Allocation Methodology**

13 **Q IN THEIR REBUTTAL TESTIMONY, STAFF WITNESS JAMES WATKINS AND**
14 **OPC WITNESS HONG HU CONTINUE TO ADVOCATE THEIR OWN UNIQUE**
15 **METHODOLOGIES FOR ALLOCATION OF GENERATION INVESTMENT AND**
16 **EXPENSES. DO YOU HAVE ANY FURTHER COMMENTS WITH RESPECT TO**
17 **THEIR PROPOSALS?**

18 **A** They say nothing in their rebuttal testimony that I have not already adequately
19 addressed in my rebuttal testimony. Suffice it to say that these witnesses continue to
20 advocate methods that are unique to them, and which have not found acceptance
21 within the industry. In contrast, the average and excess demand allocation
22 methodology that both Empire and I have used is widely accepted in the industry and
23 provides reasonable and stable results that are based on cost causation, and has
24 withstood the test of time.

1 Q AT PAGE 2 OF HIS REBUTTAL TESTIMONY, STAFF WITNESS WATKINS
2 STATES AT LINE 8 THAT THE AVERAGE AND EXCESS METHOD IS A "PEAK
3 RESPONSIBILITY METHOD." IS HE CORRECT?

4 A No, he is not correct. The average and excess methodology is not the same as peak
5 responsibility. The average and excess method considers, for each class, its
6 maximum demand, as well as its annual energy consumption. In contrast, the peak
7 responsibility method does not include energy consumption at all, but bases the
8 allocation on the contribution of the individual customer classes to one or more
9 significant system peak loads – either the annual peak or one or more monthly peak
10 loads. The methods are quite different.

11 Q IS THE CONVENTIONAL A&E METHOD WHICH YOU HAVE USED DESCRIBED
12 IN INDUSTRY LITERATURE?

13 A Yes. It is described in detail in many books, articles and manuals on cost allocation.
14 For example, the most recent (January 1992) edition of the "Electric Utility Cost
15 Allocation Manual," published by the National Association of Regulatory Utility
16 Commissioners (NARUC) describes the conventional Average & Excess method at
17 Pages 49 and 50. A review of this description and an analysis of the A&E factors
18 which I have developed will show that they are identical. It will further show that there
19 is no relationship between what the NARUC manual describes as the A&E method,
20 and what Mr. Watkins would have us believe that it is. Schedule 1 attached to this
21 surrebuttal testimony is an excerpt from the NARUC Cost Allocation Manual that
22 describes the development of the conventional A&E method.

1 Q DO YOU AGREE WITH MR. WATKINS THAT THE A&E METHOD IS UNREASON-
2 ABLE AND SHOULD BE REJECTED?

3 A No. The A&E method is a widely used and well respected method. It has stood the
4 test of time and is utilized by many commissions. In fact, the A&E method and the
5 coincident peak method are the most widely used methods in the industry.

6 Q ARE YOU AWARE OF ANY STATE COMMISSIONS THAT HAVE ADOPTED THE
7 A&E METHOD BECAUSE IT RECOGNIZES BOTH THE ON-PEAK AND OFF-
8 PEAK USE OF AN ELECTRIC UTILITY'S SYSTEM BY THE VARIOUS CUSTOMER
9 CLASSES?

10 A Yes. Several have made those findings. One that may be of particular interest is the
11 Iowa Utilities Board, which has consistently adopted the A&E method for the
12 allocation of production system fixed costs. As one example, in a February 25, 1994
13 order in Docket No. RPU-93-4 (Iowa-Illinois Gas & Electric Company), the
14 Commission adopted a cost of service and rate design settlement (which was
15 supported by the utility and most intervenors) that utilized the average and excess
16 method. In so doing, the Iowa Utilities Board stated:

17 "The average and excess method allocations recognize
18 that electric utility systems are required to serve both
19 peak and off-peak demands. Fixed production costs
20 are generally classified as demand costs and allocated
21 based on a combination of average [and] maximum
22 customer class demands and variable production costs
23 are generally classified as energy costs and allocated
24 by overall customer class usage." (Iowa Utilities Board,
25 Docket RPU-93-4, In Re: Iowa-Illinois Gas & Electric
26 Company, Order dated February 25, 1994, at Page 4.)

Alternate Allocation Methodology

Q IN YOUR DIRECT TESTIMONY, DID YOU OFFER AN ALTERNATIVE ALLOCATION IF THE COMMISSION DETERMINED NOT TO FOLLOW THE RESULTS OF A PARTICULAR COST OF SERVICE STUDY?

A Yes, I did. That method was shown on Schedule 7 attached to my direct testimony. This method made a distinction between "fuel" cost recovery (actually fuel plus purchased power) and other (non-fuel) revenue and treated the two components distinctly for purposes of reflecting a change in revenue requirements. As explained beginning at Page 11 of my direct testimony, this method allows a tracking of the fuel and non-fuel elements of the revenue requirement and the changes to each. This is similar to what was done in the last case with respect to fuel costs, where the entire amount of the Incremental Energy Charge (IEC) was allocated on a kilowatthour (kWh) basis.

Q BASED ON THE REBUTTAL TESTIMONY OF BOTH STAFF AND EMPIRE, HAVE YOU DEVELOPED THE COMPONENTS OF THE CHANGE IN REVENUES ATTRIBUTABLE TO FUEL, TO BE ALLOCATED ON A kWh BASIS, AS DISTINGUISHED FROM THE BALANCE OF THE CHANGE IN THE REVENUE REQUIREMENTS, WHICH IS TO BE APPLIED AS A UNIFORM PERCENTAGE OF CURRENT NON-FUEL REVENUES?

A Yes, I have. Schedule 2 shows my analysis of what I understand to be the rebuttal positions of both Staff and Empire with respect to fuel and purchased power costs to be included in Missouri jurisdictional rates. Under Staff's analysis, there would be a decrease of 0.287¢ per kWh, and under Empire's analysis, there would be a decrease of 0.218¢ per kWh. This amount of decrease would be allocated to all

1 customer classes based on their kWh purchases. This dollar amount of fuel decrease
2 would be added to the total amount of awarded revenue increase to determine the
3 change in costs other than fuel and purchased power. These costs would then be
4 allocated on an equal percentage basis on the portion of the revenues of each
5 customer class recovering costs other than fuel and purchased power. The
6 methodology was illustrated on Schedule 7 attached to my direct testimony, and
7 simply would need to be updated for the final revenue requirement determination in
8 this proceeding.

9 **Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

10 **A** Yes, it does.

MEB:mcl/77/87/32624

1. Average and Excess Method

Objective: The cost of service analyst may believe that average demand rather than coincident peak demand is a better allocator of production plant costs. The average and excess method is an appropriate method for the analyst to use. The method allocates production plant costs to rate classes using factors that combine the classes' average demands and non-coincident peak (NCP) demands.

Data Requirements: The required data are: the annual maximum and average demands for each customer class and the system load factor. All production plant costs are usually classified as demand-related. The allocation factor consists of two parts. The first component of each class's allocation factor is its proportion of total average demand (or energy consumption) times the system load factor. This effectively uses an average demand or total energy allocator to allocate that portion of the utility's generating capacity that would be needed if all customers used energy at a constant 100 percent load factor. The second component of each class's allocation factor is called the "excess demand factor." It is the proportion of the difference between the sum of all classes' non-coincident peaks and the system average demand. The difference may be negative for curtailable rate classes. This component is multiplied by the remaining proportion of production plant -- i.e., by 1 minus the system load factor -- and then added to the first component to obtain the "total allocator." Table 4-10A shows the derivation of the allocation factors and the resulting allocation of production plant costs using the average and excess method.

TABLE 4-10A

CLASS ALLOCATION FACTORS AND ALLOCATED PRODUCTION PLANT REVENUE REQUIREMENT USING THE AVERAGE AND EXCESS METHOD

Class Rate	Demand Allocation Factor - NCP MW	Average Demand (MW)	Excess Demand (NCP MW - Avg. MW)	Average Demand Component of Alloc. Factor	Excess Demand Component of Alloc. Factor	Total Allocation Factor (%)	Class Production Plant Revenue Requirement
DOM	5,357	2,440	2,917	17.95	18.51	36.46	386,683,685
LSMP	5,062	2,669	2,393	19.64	15.18	34.82	369,289,317
LP	3,385	2,459	926	18.09	5.88	23.97	254,184,071
AG&P	572	254	318	1.87	2.02	3.89	41,218,363
SL	126	58	68	0.43	0.43	0.86	9,101,564
TOTAL	14,502	7,880	6,622	57.98	42.02	100.00	\$1,060,476,000

Notes: The system load factor is 57.98 percent, calculated by dividing the average demand of 7,880 MW by the system coincident peak demand of 13,591 MW. This example shows production plant classified as demand-related.

Some columns may not add to indicated totals due to rounding.

If your objective is -- as it should be using this method -- to reflect the impact of average demand on production plant costs, then it is a mistake to allocate the excess demand with a coincident peak allocation factor because it produces allocation factors that are identical to those derived using a CP method. Rather, use the NCP to allocate the excess demands.

Source: *Electricity Utility Cost Allocation Manual*, National Association of Regulatory Utility Commissioners, January 1992, Pages 49-50.

The Empire District Electric Company

Analysis of Fuel and Purchased Power Costs from Rebuttal Cases of Empire District Electric and MPSC Staff (\$000)

<u>Line</u>	<u>Description</u>	<u>Staff RUN 128 (1)</u>	<u>Empire Adjusted (2)</u>
1	Total Fuel and Purchased Power Costs	\$ 108,248	\$ 111,306
2	Less Cost of Off-System Sales	\$ (7,044)	\$ (7,043)
3	Less Non-Distributed and Other	\$ (1,275)	\$ (1,275)
4	Net Fuel and Purchased Power Costs for On-System	\$ 99,929	\$ 102,988
5	Allocation to Missouri		
6	Factor	81.82%	81.82%
7	Amount Allocated	\$ 81,762	\$ 84,265
8	Missouri Retail Sales (MWh)	3,661,132	3,661,132
9	Missouri Retail, Cents per kWh	2.233¢	2.302¢
10	Amount in Current Rates	2.520¢	2.520¢
11	Change	(0.287¢)	(0.218¢)

Source of cost numbers: Rebuttal Schedule BPB-1