Exhibit No.: _____

Issue(s): Meters and Services Allocators
Witness/Type of Exhibit: Busch/Direct
Sponsoring Party: Public Counsel
Case No.: GR-2000-512



# DIRECT TESTIMONY
## (Rate Design)

## OF

## JAMES A. BUSCH

Submitted on Behalf of the Office of the Public Counsel

**UNION ELECTRIC COMPANY**
**D/B/A AMERENUE**

**Case No.: GR-2000-512**

**NP**

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

| | | |
|---|---|---|
| In the matter of Union Electric Company d/b/a AmerenUE for authority to file tariffs increasing rates for gas service provided to customers in the company's Missouri service area. | ) ) ) ) ) | Case No. GR-2000-512 |



## AFFIDAVIT OF JAMES A. BUSCH

**STATE OF MISSOURI** )
) ss
**COUNTY OF COLE** )

James A. Busch, of lawful age and being first duly sworn, deposes and states:

1. My name is James A. Busch. I am the Public Utility Economist for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my direct testimony consisting of pages 1 through 4 and Schedules JAB RD-1 through JAB RD-4.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

James A. Busch

Subscribed and sworn to me this 15th day of August, 2000.

Bonnie S. Howard, Notary Public

My Commission expires May 3, 2001.

**DIRECT TESTIMONY**

**OF**

**JAMES A. BUSCH**

**CASE NO. GR-2000-512**

**UNION ELECTRIC COMPANY**

**d/b/a AmerenUE**

Q. Please state your name and business address.

A. My name is James A. Busch and my business address is P. O. Box 7800, Jefferson City, MO 65102.

Q. Are you the same James A. Busch who filed testimony previously in Case No. GR-2000-512?

A. Yes I am.

Q. What is the purpose of your testimony in the rate design portion of Case No. GR-2000-512?

A. The purpose of my testimony is to explain the allocators Public Counsel utilized to allocate services and meters.

Q. Have you obtained a copy of the Company's Distribution Inventory (DI) Study that the Company used in preparing its supplemental cost study?

A. Yes, I have.

Q. Did you utilize the DI study in preparing your cost allocators for services and meters?

A. I used a portion of the information in the study. The study provides the Company's estimate of the actual costs of transportation and interruptible customers services and meters. The Company deducted those estimated costs from the total cost of each FERC account (services and meters) to determine the amount of those two accounts that the Company allocates to the residential and general service customers.

Q. Has Public Counsel adopted the Company's methodology?

A. No. Public Counsel has not adopted the Company's methodology. Public Counsel has used the Company's estimated costs attributable to the transportation and interruptible customers and modified the way in which the rest of the costs were allocated to the other two classes, residential and general service.

**SERVICES**

Q. What is a service?

A. A service is a pipe that connects gas to a customer's house or business from the mains of a gas company's distribution system. There are different sizes of services used by different customers depending on their demand for gas. The most commonly used sizes of services include ½", 1", and 2".

Q. What costs are allocated with the services allocator?

A. In the class cost of service study, the costs recorded in FERC account 380 are allocated using the services allocator. These costs include the material costs of the service pipes, the labor costs of installations such as trenching and backfilling, tapping into the main, running the services to the customers, and pressure testing the line.

Q. Please describe Public Counsel's method for deriving the services allocator.

A. Public Counsel's method adjusts the Company's estimated allocated cost of services for the transportation and interruptible by including an allocation of the inventory costs. This adjustment was necessary because the Company omitted inventory levels from its estimated costs. I based this adjustment on information obtained from the response to Public Counsel Data Request No. 3521, attached as schedule JAB RD-3. The inventory balances for the services greater than 2" were allocated to the transportation and interruptible customer classes based on number of meters between these two classes. The adjusted estimated proportion of costs for the transportation and interruptible classes were subtracted from the total costs for services based on Public Counsel's cost study. The remaining estimated costs were then allocated between residential and general service customer classes based on the relative number of meters used by each class. Attached to my testimony is schedule JAB RD-1 that illustrates this methodology.

**METERS**

Q. What is a meter?

A. A meter is a device designed to measure the volume of gas that a customer uses. The range of meter sizes is from 150 cubic foot hour to about 100,000 cubic foot hour. The choice of meter is dependent on the distribution pressure at a particular customer location and individual customer peak demands. Generally, larger customers use larger meters.

Q. What costs are being allocated with the meters allocator?

A. In the class cost of service study, the costs recorded in FERC account 381 are allocated using the meter allocator. These costs include both the material cost and installation cost of meters.

Q. Please describe the methodology used to develop the meters allocator.

A. Upon review of the Company's estimates of inventory levels, it appeared that there was additional information provided that could be used to refine the allocators for residential and general services. Using the information provided in the Company's response to Public Counsel Data Request No. 45 attached as schedule JAB RD-4, I was able to reallocate the inventory levels for specific customer classes. These new estimates were then used to determine the residential and general services portion of the allocator. Attached to my testimony is schedule JAB RD-2 illustrating this methodology.

Q. Has Public Counsel finished its review of the Company's DI Study?

A. Not at this time. The study was filed with supplemental direct testimony on August 1, 2000. Public Counsel is still reviewing the results of the study and acquiring information from the Company regarding the results. As Public Counsel completes its review of the study and any additional information, it will determine whether or not its cost study needs to be updated in the future. It is my understanding that Public Counsel has filed a motion to allow supplemental direct testimony regarding the changes in the Company's class cost of service study occasioned by the DI study.

Q. Does this conclude your direct testimony?

A. Yes it does.

# SERVICES ALLOCATORS

Union Electric Company d/b/a AmerenUE
Case No. GR-2000-512

(000's)

| Residential | General Service | Transportation | Interruptible | |
|---|---|---|---|---|
| | | $ 526 | $ 109 | Company's estimated costs |
| | | $ 167 | $ 45 | Inventory levels added |
| | | $ 693 | $ 154 | Estimated + Inventory |
| | | | $ 847 | Combined Total |

| | | |
|---|---|---|
| $ | 64,722 | Account Total |
| $ | 847 | Trans. & Interr. |
| $ | 63,875 | Total for Res & GS |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total | $ 56,700 | $ 7,175 | $ 693 | $ 154 | $ 64,722 | Allocation Levels |

Total Meters in Each Class

| Residential | General Service | Total | Transportation | Interruptible | Total |
|---|---|---|---|---|---|
| 99,343 | 12,572 | 111,915 | 88 | 24 | 112 |

| Percent Meters Res & GS | | Percent Meters Trans & Interr. | |
|---|---|---|---|
| 88.77% | 11.23% | 78.57% | 21.43% |

# METERS ALLOCATORS

Union Electric Company d/b/a AmerenUE
Case No. GR-2000-512

(000's)

| | Residential | General Service | Transportation | Interruptible | |
|---|---|---|---|---|---|
| | $ 7,851 | $ 3,333 | $ 258 | $ 45 | Pre-inventory levels |
| | $ 198 | $ 193 | $ 7 | $ 1 | Allocated Inventory |
| $ 11,886 | $ 8,049 | $ 3,526 | $ 265 | $ 46 | Modified Company Totals |
| | 67.72% | 29.67% | 2.23% | 0.39% | Allocation Percents |

# This page is

# Proprietary in its

# Entirety

AmerenUE's Response to
Office of the Public Counsel Data Request
Case No. GR-2000-512

FILE COPY

**No. 45:**

Regarding the meter cost study which is shown on the last two pages in the hard copy of Mr. Difani's workpapers, please provide an electronic copy. Please also explain the process of the meter cost study. For example, is a random sample used? If so, how was the random sample selected? How is "Ave. $ per meter" decided? Please provide the workpapers for "Bob Kenny's average cost/gas meter" that is mentioned in the footnote. Are any rotary meters included in the study? Please provide a list of meter type descriptions corresponding to each meter code that is shown in the study.

**Response:**

The electronic file is provided in response to DR 44. A random sample was not used. Every attempt was made to identify, based on 100% sample of customer records, the meter type installed for each customer – by class. Average cost per meter code is based upon property records for meters, attached. Rotary meters are included as identified by customer records. <*Listing of meters.xls*>

Signed By: Phil Difani
Prepared By: Phil Difani
Title: Senior Rate Engineer

JUL 18 2000

Schedule JAB RD-4-1

GAS METER CODES

INDEX IN MANUFACTURER ORDER

| Manufacturer | Type | Size | Code | Set Type |
|---|---|---|---|---|
| American | Tin Case *Residential | 5M | 00100 | |
| American | Tin Case *Residential | 10B | 00110 | |
| American | Tin Case *Residential | 10M | 00120 | |
| American | Tin Case *Commercial | 20A | 00130 | |
| American | Tin Case *Commercial | 30B | 00180 | |
| American | Tin Case *Commercial | 30M | 00140 | |
| American | Tin Case *Commercial | 60B | 00190 | |
| American Rotary | Tin Case | 60M | 00160 | *Small |
| American Rotary | Tin Case | 100B | 00170 | *Small |

* WE NO LONGER USE TIN METERS.

| | | | | |
|---|---|---|---|---|
| American | Hard Case | AL175 | 01180 | Residential |
| American | Hard Case | 5B-225 & AL250 & 10B | 01100 | Residential |
| American | Hard Case | 25B & AL425 | 01190 | Residential |
| American | Hard Case | 30B & AC630 | 01150 | Commercial |
| American | Hard Case | AL800 | 01160 | Commercial |
| American | Hard Case | 60B & AL1000 | 01140 | Commercial |
| American | Hard Case | 80B | 01110 | Small Rotary |
| American | Hard Case | AL1400 & 3000METRIC | 01170 | Small Rotary |
| American | Hard Case | 250B & AL2300 & 5000METRIC | 01120 | Small Rotary |
| American | Hard Case | 500B & AL5000 | 01130 | Large Rotary |
| American | Orifice | 10 FS | 03100 | Large Industrial |
| American | Turbine | 3" GT | 03150 | Large Rotary |
| American | Turbine | 4"GT | 03170 | Large Rotary |
| American | Turbine | 6"GT | 03180 | Large Industrial |
| American | Turbine | 8"GT | 03190 | Large Industrial |
| American | Turbine | 12"GT | 03160 | Large Industrial |
| American | Rotary | 3.5M | 04100 | Small Rotary |
| American | Rotary | 5.3M | 04110 | Small Rotary |
| American | Rotary | 11M | 04120 | Large Rotary |
| American | Rotary | 16M | 04130 | Large Rotary |
| American | Rotary | 25M | 04140 | Large Industrial |
| American | Rotary | 38M | 04150 | Large Industrial |
| American | Rotary | 2M | 04160 | Small Rotary |

GAS METER CODES

INDEX IN MANUFACTURER ORDER

| Manufacturer | Type | Size | Code | |
|---|---|---|---|---|
| Sprague | Hard Case | 175 & 1A | 01200 | Residential |
| Sprague | Hard Case | 240 | 01210 | Residential |
| Sprague | Hard Case | 250 | 01260 | Residential |
| Sprague | Hard Case | 305 | 01220 | Residential |
| Sprague | Hard Case | 400 | 01230 | Residential |
| Sprague | Hard Case | 675 | 01240 | Commercial |
| Sprague | Hard Case | 1000 | 01250 | Commercial |
| Sprague | Hard Case-Combination | 175 & 1A | 02200 | Residential |
| Sprague | Hard Case-Combination | 240 | 02210 | Residential |
| Sprague | Hard Case-Combination | 305 | 02220 | Residential |
| Sprague | Hard Case-Combination | 250 | 02230 | Residential |
| Sprague | Hard Case-Curb Type | 175 | 05200 | Residential |
| Sprague | Hard Case-Curb Type | 240 | 05210 | Residential |
| Sprague | Hard Case-Curb Type | 250 | 05260 | Residential |
| Sprague | Hard Case-Curb Type | 305 | 05220 | Residential |
| Sprague | Hard Case-Curb Type | 400 | 05230 | Residential |
| Sprague | Hard Case-Curb Type | 675 | 05240 | Commercial |
| EMCO | Hard Case | #0 & 175 | 01300 | Residential |
| EMCO | Hard Case | #1 | 01310 | Residential |
| EMCO | Hard Case | #2 | 01320 | Residential |
| EMCO | Hard Case | #2-1/2 | 01330 | Commercial |
| EMCO | Hard Case | #3 | 01340 | Small Rotary |
| EMCO | Hard Case | #4 | 01350 | Small Rotary |
| EMCO | Hard Case | #4-1/2 | 01360 | Large Rotary |
| EMCO | Hard Case | #5 | 01370 | Large Rotary |
| Rockwell | Tin Case *Residential | 5-150 | 00500 | |
| Rockwell | Tin Case *Residential | 5-200 | 00510 | |
| Rockwell | Tin Case *Residential | 5-250 | 00520 | |
| Rockwell | Tin Case *Residential | 5-300 | 00530 | |
| Rockwell | Tin Case *Residential | 10-300 | 00540 | |
| Rockwell | Tin Case *Residential | 10-425 | 00550 | |
| Rockwell | Tin Case *Commercial | 10-500 | 00560 | |

* WE NO LONGER USE TIN METERS

| | | | | |
|---|---|---|---|---|
| Rockwell | Hard Case | 150 | 01500 | Residential |
| Rockwell | Hard Case | R175 | 01510 | Residential |
| Rockwell | Hard Case | R200 | 01520 | Residential |

GAS METER CODES

INDEX IN MANUFACTURER ORDER

| Manufacturer | Type | Size | Code | |
|---|---|---|---|---|
| Rockwell | Hard Case | 250 | 01530 | Residential |
| Rockwell | Hard Case | 310 | 01540 | Residential |
| Rockwell | Hard Case | 415 | 01550 | Residential |
| Rockwell | Hard Case | 750 | 01560 | Commercial |
| Rockwell | Hard Case | #3-1200 | 01570 | Small Rotary |
| Rockwell | Hard Case | 1600 | 01580 | Small Rotary |
| Rockwell | Hard Case | #4-2500 | 01590 | Small Rotary |
| Rockwell | Hard Case | 3000 | 01600 | Small Rotary |
| Rockwell | Hard Case | #5-5000 | 01610 | Small Rotary |
| Rockwell | Hard Case | 10000 | 01620 | Large Rotary |
| Rockwell | Hard Case | R275 | 01630 | Residential |
| Rockwell | Turbine | 2"TP9 | 03510 | Small Rotary |
| Rockwell | Turbine | 3"TP9 | 03520 | Large Rotary |
| Rockwell | Turbine | 4"TI8 | 03530 | Large Rotary |
| Rockwell | Turbine | 6"T30 | 03500 | Large Industrial |
| Rockwell | Turbine | 8"T60 | 03540 | Large Industrial |
| Rockwell | Turbine | 10"T140 | 03550 | Large Industrial |
| Rockwell | Rotary | 2"-3000 | 04500 | Small Rotary |
| Rockwell | Rotary | 3"-10000 | 04510 | Large Rotary |
| Rockwell | Hard Case-Curb Type | 175 | 05500 | Residential |
| Rockwell | Hard Case-Curb Type | #2-415 | 05510 | Residential |
| Superior | Hard Case | 175-175A | 01700 | Residential |
| Superior | Hard Case | 250 | 01710 | Residential |
| Superior | Hard Case | 340 | 01720 | Residential |
| Arkla | Hard Case | 250 | 01800 | Residential |
| Roots | Rotary | 11C175 | 04370 | Small Rotary |
| Roots | Rotary | 2M175 | 04380 | Small Rotary |
| Roots | Rotary | 102M125 | 04390 | Large Industrial |
| Roots | Rotary | 8C125 | 04400 | Small Rotary |
| Roots | Rotary | 1.5M125 | 04410 | Small Rotary |
| Roots | Rotary | 3M125 2-1/2 x 7 | 04420 | Small Rotary |
| Roots | Rotary | 5M125 | 04430 | Small Rotary |
| Roots | Rotary | 7M125 | 04440 | Large Rotary |
| Roots | Rotary | 11M125 3-1/2 x 10 | 04450 | Large Rotary |
| Roots | Rotary | 16M125 & 5 x 10 | 04460 | Large Rotary |

GAS METER CODES

INDEX IN MANUFACTURER ORDER

| Manufacturer | Type | Size | Code | |
|---|---|---|---|---|
| Roots | Rotary | 23M125 & 5 x 15 | 04470 | Large Industrial |
| Roots | Rotary | 38M125 & 6 x 18 | 04480 | Large Industrial |
| Roots | Rotary | 56M125 & 8 x 24 | 04490 | Large Industrial |
| Roots | Rotary | 2M900 | 06380 | Small Rotary |
| Romet | Rotary | 2M175 (1 1/2") | 04910 | Small Rotary |
| Romet | Rotary | 3M175 (2") | 04920 | Small Rotary |
| Romet | Rotary | 5M175 (3") | 04930 | Small Rotary |
| Romet | Rotary | 7M175 (3") | 04940 | Large Rotary |
| Romet | Rotary | 11M175 (4") | 04950 | Large Rotary |
| Romet | Rotary | 16M175 (4") | 04960 | Large Rotary |