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Service Commission

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Sponsoring Party:

Case No.:

Depreciation of Plant

Guy C. Gilbert, P.E., P.G.

Direct Testimony

MO PSC Staff

GR-2000-512

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

UNION ELECTRIC COMPANY

d/b/a AmerenUE

CASE NO. GR-2000-512

DIRECT TESTIMONY

OF

GUY C. GILBERT, P.E., P.G.

Jefferson City, Missouri

August 2000

1 DIRECT TESTIMONY

2 OF

3 GUY C. GILBERT, P.E., P.G.

4 UNION ELECTRIC COMPANY

5 d/b/a AmerenUE

6 CASE NO. GR-2000-512

7
8 Q. Please state your name and business address.

9 A. Guy C. Gilbert, P.O. Box 360, Jefferson City, Missouri, 65102.

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

11 A. I am employed by the Missouri Public Service Commission
12 (Commission) as an engineer in the Engineering and Management Services Department.

13 Q. What are your duties as an engineer in the Engineering and
14 Management Services Department?

15 A. I have the responsibilities of performing studies regarding
16 depreciation, reviewing plant property records and utility property sales, and conducting
17 technical engineering analysis of issues that may come before the Commission.

18 Q. Would you please state briefly your qualifications, educational
19 background and experience.

20 A. I have earned degrees in Economics and Engineering from the
21 University of Missouri. I was a National Science Foundation Research Grant participant
22 and a student research assistant at Cloud Physics Space Sciences Research Center. After
23 graduation, I was employed by General Dynamics' Freeman United Coal Mining

1 Company as Assistant to the Superintendent, at Crown Complex. I have received
2 certifications and qualifications from the United States Department of Labor in Noise
3 Level Testing, Dust Sampling/Calibration, Electricity Low/Medium/High Voltage, Dam
4 and Refuse Impoundment Inspector/Instructor. I have received certifications and
5 qualifications from the State of Illinois as Mine Manager, No. 6634; Mine Examiner,
6 No. 10324; Electrical Hoisting Engineer, No. 2427; Sewage Treatment Plant Operator,
7 Class K; Industrial Wastewater Treatment Works Operator, Class K; State of Illinois
8 Mine Rescue Team, No. 2; Certified Benchman for Mine Rescue Equipment; and
9 Emergency Medical Technician-Ambulance. I am a Registered Professional Engineer
10 and a Registered Professional Geologist in the State of Missouri.

11 In 1988, I was hired by the Illinois Commerce Commission. My duties
12 consisted of preparing management studies of publicly held utilities operating within the
13 State of Illinois. In this position, I successfully completed Management Analyst
14 Training, Telecommunications Auditing and EDP (Electronic Data Processing) Auditing.

15 In 1991, I accepted a position with the Illinois Department of Energy and
16 Natural Resources, Office of Coal Development and Marketing. While in this position, I
17 worked with various regulatory agencies, the United States Department of Energy, and
18 trade personnel, both nationally and internationally. I also provided engineering and
19 economic oversight to the state-funded implementation of clean coal technologies.

20 In 1994, I joined the Commission as an Engineer IV - Depreciation. In
21 this position, I have successfully completed training programs in Basic Depreciation
22 Concepts, Models Used In Life and Salvage Studies, Forecasting Life and Salvage, and
23 Advanced Topics in Analysis and Forecasting.

1 Q. Please state the purpose of your testimony in this case.

2 A. The purpose of my testimony is to make recommendations to the
3 Commission for AmerenUE Corporation (UE or Company) concerning depreciation. I
4 will be recommending new depreciation rates and a transfer of accrued reserve between
5 two distribution accounts.

6 Q. When were depreciation rates for UE last ordered by the
7 Commission?

8 A. Depreciation rates were last ordered for UE in Case No.
9 GR-97-393 and became effective December 23, 1997.

10 Q. Has Staff conducted a depreciation study of the gas utility property
11 of UE in this case?

12 A. Yes, I conducted a Broad Group - Average Service Life
13 depreciation study of the gas utility property of UE including site visit and operations
14 reviews.

15 Q. What were the results of the study?

16 A. The attached Schedule 1 delineates by account: plant balance,
17 current depreciation rates, and a recommended set of depreciation rates.

18 Q. Are there any differences in the methods and assumptions used in
19 your depreciation study from those used previously by Staff for this Company?

20 A. Yes. I have used actuarially derived mortality rates to set the
21 average service life (ASL) for all plant in service by account. In this instance, the
22 account is depreciated over the average service life of the assets in the account to
23 determine an appropriate depreciation rate.

1 Q. How is this different from the methods and assumptions used in
2 your depreciation study from those used previously by Staff for this Company?

3 A. The adjustment for net salvage has been removed from the
4 calculation and will be addressed in Mr. Paul Adam's direct testimony.

5 Q. What plant accounts did your depreciation study encompass?

6 A. The plant accounts that were reviewed in my depreciation study
7 are detailed in my attached Schedule 1. These plant accounts are divided into four
8 functional groupings. The functional areas are Production Plant, Transmission Plant,
9 Distribution Plant and General Plant.

10 Q. Please describe the purpose of these functional groupings.

11 A. Production Plant consists of structures and equipment to provide
12 the Company's gas system with peaking capacity during periods of shortage or excess
13 demand. These components comprise a propane air plant at which air and stored
14 liquefied propane are mixed and injected into the gas distribution system.

15 Transmission plant consists of major gas mains and measuring equipment.
16 These systems are used to supply large quantities of natural gas to an area. In the case of
17 a town or city, they are called city gate.

18 Distribution Plant consists of those components that are used to distribute
19 and provide gas service to customers within a given area (for example a city). Some of
20 the common components of this functional area are structures, mains, measuring
21 equipment, regulating equipment, meters, connections to customers, known as services,
22 and any other items that would be necessary to provide safe and adequate service.

1 The last functional area into which the plant equipment is divided is called
2 General Plant. General plant consists of all the items necessary to run a modern business
3 operation. Some of the items are buildings, furniture, office equipment, computer
4 equipment, tools, vehicles, scientific and communications devices.

5 Q. Are there any other overriding differences in the methods and
6 assumptions used in your depreciation study from those used in previous studies and
7 resultant depreciation rates adopted by the Commission for this Company?

8 A. No, other than to note that there have been some adjustments made
9 to the average service lives and Iowa curve types as indicated in my attached Schedule 2.
10 Typically, I used full experience bands in my study which utilizes all of the historical
11 retirement data available, to arrive at the recommended average service lives and Iowa
12 curve types supporting the depreciation rates.

13 Q. Were you able to determine if the Company's depreciation reserve
14 accrual balances are higher or lower than they should be?

15 A. Yes, I calculated a theoretical reserve to determine this. The
16 theoretical reserve gives the dollar amount that is expected to be in each account's
17 reserve. This is detailed in my attached Schedule 3.

18 Q. What did you determine from this theoretical reserve value for
19 each account?

20 A. I compared the theoretical reserve to the actual accrued reserve for
21 depreciation. The result of these differences is an over-accrual of \$6,099,248 for the total
22 Company gas accounts. My Schedule 3 shows the differences by account.

1 Q. Is this over accrual in the depreciation reserve of consequence and,
2 if so, how should it be addressed?

3 A. I recommend that no action be taken concerning a theoretical
4 reserve true up at this time. However, adopting the depreciation rates as prescribed in
5 Schedule 1 the theoretical reserve imbalance may increase. Future depreciation studies
6 will allow an opportunity to address this imbalance.

7 Q. What is a possible method to address this area in the future?

8 A. One method for recovery of the theoretical reserve imbalance is to
9 establish an amortization of the excess over a specified period of time. For example, a
10 theoretical reserve excess of \$6,099,248 could be amortized over a ten year period, in ten
11 equal annual credits to the depreciation reserve of \$609,924.80. These credits would then
12 be used to offset depreciation expense and reduce customer rates.

13 Q. Please address the issue of a transfer of accrued reserve between
14 two distributions accounts as you noted in your opening testimony.

15 A. As I stated earlier in my testimony the Company's gas accounts
16 can be divided into four functional areas. In the functional area of Distribution, Account
17 376 Mains and Account 380 Services, there exists imbalance in the theoretical reserves
18 for depreciation. Account 376 is under accrued by \$9,650,807. Account 380 is over
19 accrued by \$15,994,877. This imbalance has developed over a period of time and may be
20 the result of changes in record keeping or to methods of handling these assets. However,
21 under generally accepted gas accounting practices, it is acceptable to transfer accrued
22 reserves for depreciation between accounts for purposes of balancing the theoretical
23 reserve. Consequently, I am recommending that the Company transfer \$10,000,000 from

Direct Testimony of
Guy C. Gilbert, P.E., P.G.

1 Account 380 Services, depreciation reserve accrual to Account 376 Mains, depreciation
2 reserve accrual. This will eliminate the imbalances of the theoretical reserves for
3 depreciation.

4 Q. Please summarize your recommendations regarding this case.

5 A. It is my recommendation that the Commission include in its final
6 Report and Order:

7 1. Adoption the depreciation rates for the gas plant accounts as
8 detailed in my attached Schedule 1.

9 2. Transfer of \$10,000,000 from Account 380 Services depreciation
10 reserve accrual to Account 376 Mains depreciation reserve accrual.

11 Q. Does this conclude your prepared direct testimony?

12 A. Yes, it does.

AmerenUE Gas
BROAD GROUP - AVERAGE SERVICE LIFE
DEPRECIATION RATES
CASE NO. GR-2000-512

Account Number	Account Name	Plant in Service Balance 12/31/98	Currently Ordered Depreciation Rates %	Commission Staff Recommended Depreciation Rates %
<u>PRODUCTION PLANT</u>				
305	PROPANE STRUCTURES	\$267,109	2.38%	1.47%
311	LPG EQUIPMENT	\$2,127,094	2.81%	2.24%
<u>TRANSMISSION PLANT</u>				
367	MAINS	\$1,171,879	2.11%	2.11%
369	MEASURING EQUIPMENT	\$31,014	2.65%	2.65%
<u>DISTRIBUTION</u>				
375	STRUCTURES	\$39,040	2.04%	1.98%
376	MAINS	\$92,160,093	2.50%	2.22%
378	MEASURING AND REGULATING EQUIPMENT- GENERAL	\$2,767,987	2.61%	2.25%
379	MEASURING AND REGULATING EQUIPMENT - CITY GATE	\$223,411	2.61%	2.25%
380	SERVICES	\$59,365,187	4.06%	2.38%
381	METERS	\$10,845,214	2.20%	1.93%
383	HOUSE REGULATORS	\$6,526,959	1.52%	2.25%
385	INDUSTRIAL MEASURING AND REGULATING STATION EQU	\$850,122	3.05%	2.58%
<u>GENERAL</u>				
390	GENERAL PLANT STRUCTURES AND IMPROVEMENTS	\$631,654	2.13%	1.27%
391	OFFICE FURNITURE AND EQUIPMENT	\$61,288	4.01%	7.75%
391.1	MAINFRAME COMPUTERS	\$56,396	10.33%	11.12%
391.2	PERSONAL COMPUTERS	\$231,280	10.33%	11.11%
392	TRANSPORTATION EQUIPMENT	\$2,948,137	7.04%	7.99%
393	STORES EQUIPMENT	\$50,103	1.97%	6.67%
394	TOOLS, SHOP, AND GARAGE EQUIPMENT	\$1,530,773	5.13%	5.18%
395	LABORATORY EQUIPMENT	\$67,342	2.22%	4.90%
396	POWER OPERATED EQUIPMENT	\$1,988,592	6.14%	5.56%
397	COMMUNICATIONS	\$571,814	5.28%	6.06%

AmerenUE Gas
BROAD GROUP - AVERAGE SERVICE LIFE
DEPRECIATION RATE PARAMETERS
CASE NO. GR-2000-512

Account Number	Account Name	Current Average Service Life	Commission Staff Recommended Average Service Life	Current Iowa Curve Type	Commission Staff Recommended Iowa Curve Type
<u>PRODUCTION PLANT</u>					
305	PROPANE STRUCTURES	N/A	68.2	N/A	R1
311	LPG EQUIPMENT	37.0	44.6	S3	L2
<u>TRANSMISSION PLANT</u>					
367	MAINS	N/A	N/A	N/A	NF
369	MEASURING EQUIPMENT	N/A	N/A	N/A	NF
<u>DISTRIBUTION</u>					
375	STRUCTURES	N/A	50.5	N/A	R4
376	MAINS	44.0	45	R3	R3
378	MEASURING AND REGULATING EQUIPMENT- GENERAL	N/A	44.4	N/A	S1.5
379	MEASURING AND REGULATING EQUIPMENT - CITY GATE	N/A	44	N/A	N/A
380	SERVICES	44.0	42	R1	R2.5
381	METERS	45.4	51.8	R2	R3
383	HOUSE REGULATORS	65.8	44.4	L2	S2
385	INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT	N/A	38.7	N/A	S1
<u>GENERAL</u>					
390	GENERAL PLANT STRUCTURES AND IMPROVEMENTS	N/A	79	N/A	R2.5
391	OFFICE FURNITURE AND EQUIPMENT	23.9	12.9	O2	L0
391	MAINFRAME COMPUTERS	9.0	9.0	R4	NF
391	PERSONAL COMPUTERS	9.0	9.0	R4	NF
392	TRANSPORTATION EQUIPMENT	12.5	12.5	L3	L3
393	STORES EQUIPMENT	50.4	15.0	R3	R5
394	TOOLS, SHOP, AND GARAGE EQUIPMENT	19.5	19.3	L0	L2
395	LABORATORY EQUIPMENT	45.0	20.4	L1	L0.5
396	POWER OPERATED EQUIPMENT	14.5	18.0	L3	S1.5
397	COMMUNICATIONS	18.8	16.5	R3	L1

NF = no curve fit
N/A = not applicable
or not available

AmerenUE Gas
COMPARISON OF BOOK RESERVE
TO THEORETICAL RESERVE
CASE NO. GR-2000-512

Account Number	Account Name	Book Reserve Balance 12/31/98	Theoretical Reserve Balance 12/31/98	Difference	(Under) or Over Accrual
<u>PRODUCTION PLANT</u>					
305	PROPANE STRUCTURES	\$49,534	\$56,478	(\$6,944)	(under)
311	LPG EQUIPMENT	\$735,883	\$784,782	(\$48,899)	(under)
<u>TRANSMISSION PLANT</u>					
367	MAINS	\$632,640	\$429,962	\$202,678	over
369	MEASURING EQUIPMENT	\$9,079	\$12,523	(\$3,444)	(under)
<u>DISTRIBUTION</u>					
375	STRUCTURES	\$10,076	\$10,154	(\$78)	(under)
376	MAINS	\$15,979,937	\$25,630,744	(\$9,650,807)	(under)
378	MEASURING AND REGULATING EQUIPMENT- GENERAL	\$1,228,141	\$764,470	\$463,671	over
379	MEASURING AND REGULATING EQUIPMENT - CITY GATE	\$67,555	\$50,253	\$17,302	over
380	SERVICES	\$28,027,390	\$12,032,513	\$15,994,877	over
381	METERS	\$2,227,516	\$2,766,127	(\$538,611)	(under)
383	HOUSE REGULATORS	\$1,228,853	\$1,146,642	\$82,211	over
385	INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMEN	\$88,555	\$69,853	\$18,702	over
<u>GENERAL</u>					
390	GENERAL PLANT STRUCTURES AND IMPROVEMENTS	\$195,165	\$105,098	\$90,067	over
391	OFFICE FURNITURE AND EQUIPMENT	\$29,616	\$10,941	\$18,675	over
391	MAINFRAME COMPUTERS	\$23,122	\$19,999	\$3,123	over
391	PERSONAL COMPUTERS	\$34,413	\$93,555	(\$59,142)	(under)
392	TRANSPORTATION EQUIPMENT	\$1,240,686	\$1,489,519	(\$248,833)	(under)
393	STORES EQUIPMENT	\$6,225	\$30,463	(\$24,238)	(under)
394	TOOLS, SHOP, AND GARAGE EQUIPMENT	\$237,337	\$489,318	(\$251,981)	(under)
395	LABORATORY EQUIPMENT	\$2,014	\$24,228	(\$22,214)	(under)
396	POWER OPERATED EQUIPMENT	\$902,078	\$895,601	\$6,477	over
397	COMMUNICATIONS	\$130,997	\$74,161	\$56,836	over
TOTAL		\$53,086,812	\$46,987,384	\$6,099,428	over

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

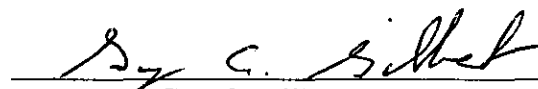
In The Matter Of Union Electric)
Company, d/b/a AmerenUE, For)
Authority To File Tariffs Increasing Rates)
For Gas Service Provided To Customers)
In The Company's Missouri Service Area)

Case No. GR-2000-512

AFFIDAVIT OF GUY C. GILBERT

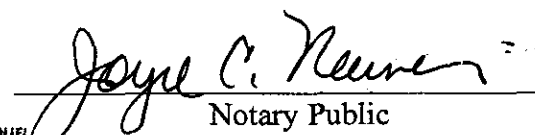
STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Guy C. Gilbert, of lawful age, on his oath states: that he has participated in the preparation of the foregoing written testimony in question and answer form, consisting of 7 pages of testimony to be presented in the above case, that the answers in the attached written testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.



Guy C. Gilbert

Subscribed and sworn to before me this 4th day of August, 2000.



Notary Public

Joyce C. Neuner
Notary Public, State of Missouri
County of Osage
My Commission Exp. 06/18/2001

My commission expires _____

