DIRECT TESTIMONY

OF

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

UtiliCorp United

d/b/a Missouri Public Service

CASE NO. ER-97-394

FILED

DEC 2 8 2004

Missouri Public
Service Commission

Q. Please state your name and business address.

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

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

A. I am employed by the Missouri Public Service Commission (Commission) as an engineer in the Depreciation Department.

Q. What are your duties as an engineer in the Depreciation Department?

A. I have the responsibility for performing studies regarding depreciation and for reviewing plant property records, utility property sales and other similar issues that may come before the Commission.

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

A. I have received degrees in Economics and Engineering from the University of Missouri. I was a National Science Foundation Research Grant participant (NSF GY 9841) and a student research assistant at Cloud Physics Space Sciences Research Center. After graduation, I was employed by General Dynamics' Freeman United Coal Mining Company as Assistant to the

Exhibit No. 135
Case No(s). ER 2004 0570
Date 12/16/04 Rptr KF

Superintendent, at Crown Complex. I have received certifications and qualifications from the United States Department of Labor in Noise Level Testing, Dust Sampling, Dust Sampling Equipment Calibration, Electricity Low/Medium/High Voltage, Dam and Refuse Impoundment Inspector, and Dam and Refuse Impoundment Inspection Instructor. I have received certifications and qualifications from the State of Illinois as Mine Manager, Mine Examiner, Electrical Hoisting Engineer, First Class Miner Certification, Sewage Treatment Plant Operator, Class K; Industrial Wastewater Treatment Works Operator, Class K; State of Illinois Mine Rescue Team, Certified Benchman for Mine Rescue Equipment, and Emergency Medical Technician-Ambulance I am a Licensed Professional Engineer and a Licensed Registered Professional Geologist in the State of Missouri.

In 1988, I began my employment with the Illinois Commerce Commission. My duties consisted of preparing management and operational studies of publicly held utilities operating within the State of Illinois.

In 1991, I accepted a position with the Illinois Department of Energy and Natural Resources, Office of Coal Development and Marketing. While in this position, I worked with regulatory agencies, the United States Department of Energy, and trade personnel, both nationally and internationally. In this position I provided State oversight to the state funded implementation of clean coal technologies.

In 1994, I joined the Commission as an Engineer IV - Depreciation. In this position I have successfully completed four weeks of training in Basic Depreciation Concepts, Models Used In Life and Salvage Studies, Forecasting Life and Salvage, and Advanced Topics in Analysis and Forecasting from Depreciation Programs, Inc. My duties include preparing depreciation studies for

regulated electric, gas, water, sewer and telephone utilities operating in the State of Missouri

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

A. The purpose of my testimony is to make recommendations for Missouri Public Service (MPS or Company) concerning depreciation rates.

Q. When were depreciation rates for MPS last revised by a Commission order?

A. Depreciation rates were last revised for MPS electric plant accounts by a Stipulation and Agreement signed on March 19, 1993 and approved by the Commission in Case No ER-93-37. Common general plant account rates were last ordered in Case Nos. GR-88-171 and -GR-88-194.

Q. Has Staff conducted a depreciation study of the electric utility and common property of MPS in this case?

A. Yes, I performed a broad group - average service life depreciation study. Under the broad group (BG) procedure, all units of plant within a particular depreciation category, usually a plant account or subaccount, are considered to be one group. The average service life (ASL), in years, is the average expected life of all units of the group regardless of the placement date. The ASL is determined by actuarial analysis of records of annual additions, retirements by vintage and balances. The net salvage dollars used in the following calculation are the average net salvage (NS), in percent, for each dollar of plant investment retired. These factors are then incorporated into the formula where:

$$\text{Depreciation Rate} = (1\text{-NS\%})/\text{ASL}$$

Q. What were the results of your depreciation study?

A. The attached Schedule 1 delineates depreciation rates which were previously approved by the Commission in prior rate cases and depreciation rates which are recommended as a result of my study of the Company's depreciation database in this proceeding. Staff used the recommended depreciation rate schedule to derive its revenue requirement in this case.

Q. Are there any overriding differences in the methods and assumptions used in your depreciation study from those used in previous Staff studies for this Company?

A. Yes. The single largest difference is that interim net salvage has a greater cost of removal component than was previously recognized. This results from the method and assumptions used in determining the net salvage estimates.

Q. Explain how you arrived at your net salvage estimates.

A. Net salvage used in determining a depreciation rate comprises two components as follows: (1) gross salvage, which is received through sale of scrap material, equipment, parts returned to stock, or other sources, and (2) cost of removal required to retire, dismantle, and remove from service and dispose of retired plant. Net salvage equals gross salvage less cost of removal and most generally is negative for most accounts, i.e., cost of removal is greater than gross salvage.

I analyzed past retirements and net salvage dollars recorded on the books of the utility and computed the percentage of net salvage by calculating the ratio of the net salvage dollars to dollars retired. I used these percentages in the calculation of depreciation rates which are applied to the surviving plant investment contained on the Company's books.

For all of the electric and common plant accounts, I used five-year rolling band averages of actual net salvage experience that was booked to the reserve for depreciation. This data was

furnished by MPS on computer diskettes. Analysis of these results then yielded the most appropriate salvage rate. The attached Schedule 2 is a comparison of the net salvage percents underlying currently approved depreciation rates and those resulting from my salvage study.

Q. How had Staff previously determined the net salvage percent?

A. Previously, in Case No. ER-93-37, Staff had calculated the ratio of net salvage dollars to total plant-in-service dollars, by account, to derive a percentage of net salvage for inclusion in a depreciation rate calculation. This did not reflect net salvage properly as the ratio of net salvage to the book value of plant retired.

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

A. Yes. For accounts 311 to 316 Sibley Station steam production plant, I have increased the depreciable lives 10 years, from the year 2010 to the year 2020 for all steam production plant. For accounts 311 to 316 Jeffrey Energy Center steam production plant, I have increased the depreciable lives 2 to 7 years, depending on the unit, from the year 2013 to 2018 to the year 2020 for all steam production plant.

Q. How did you determine this increase in life span?

A. MPS submitted a depreciation study, data base and property unit catalog to Staff in compliance with Commission Rule 4 CSR 240-20.030 (5)(B) and the Commission's order in Case No. EO-95-70, which revised the due dates of these items. After working with the Company, Staff received these three items in final form on May 16, 1996.

The study indicates the estimated retirement dates for all three units at Sibley Station as

2010 and at Jeffrey as 2013, 2015 and 2018 for Units 1, 2 and 3 respectively. MPS's Integrated Resource Plan (IRP) filed with the Commission on March 9, 1995 indicates "the Sibley Station was upgraded through a life-extension program to provide reliable and efficient operation through at least the year 2010, or beyond." From a consistency standpoint, it is not at all unlikely that Jeffrey Energy Center will also undergo a plant life extension at some future date. Further, it is not apparent from a review of MPS's IRP that future power needs include replacement power associated with the short-term retirement of the Sibley Station in 2010. Consequently, I added 10 years to MPS's estimated retirement date for each of the Sibley Station steam production units and 2 to 7 years, depending on the unit, to MPS's estimated retirement date for each of the Jeffrey Energy Center steam production units. This is a more reasonable approach to calculating average service lives for these units.

Furthermore, the coal contract for Jeffrey Energy Center indicates coal deliveries through the year 2020. This is two years past the date by which MPS states Jeffrey Energy Center's last of three units will be completely retired and further supports my selection of 2020 as a reasonable retirement date.

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

A. In comparison to Staff's 1993 study of MPS's electric plant accounts where Sibley and Jeffrey data and depreciation rates were merged, I have separated Sibley Station and Jeffrey Energy Center into separate sub-accounts to parallel MPS's depreciation study. However, due to the lack of sufficient actuarial data for Jeffrey, I used the same life and net salvage parameters for Jeffrey Energy Center accounts 311.11, 315.11 and 316.11 as I did for Sibley Station accounts

311.12, 315.12 and 316.12.

Q. What depreciation rate did your study indicate from historical life and net salvage data for account 391.01 Computer Equipment - Common indicate?

A. My study indicates that the experienced life and net salvage parameters would yield a depreciation rate of 5.77%.

Q. Referring to Schedule 1, why do you recommend changing the depreciation rate from 22.5% to 0% for account 391.01 Computer Equipment - Common?

A. This account is grossly over accrued. It appears account 391.01 will be nearly 125% accrued by the effective date of the final Report and Order in this case and the Company historically should expect to sell retired assets from this account for approximately 25% of purchase price. Therefore, it will be several years before the accrued reserve will diminish due to plant retirements and approach a level requiring a rate to accrue additional reserves.

Q. Would you care to point out any other aspects of your analysis?

A. I have made some minor adjustments to the average service lives and Iowa curve types as indicated in the attached Schedule 3. I used full experience bands, that is, I conducted my life analysis using all of the available mortality data to arrive at the recommended average service lives supporting the recommended depreciation rates.

Q. Please summarize your recommendation regarding the depreciation rates for MPS.

A. Staff used the recommended depreciation rate schedule to derive its revenue requirement in this case. It is my recommendation that the Commission approve the Staff

recommended depreciation rates contained in Schedule 1, effective with the effective date of the final Report and Order in this case.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of Missouri Public Service, a Division of UtiliCorp United Inc.'s Tariff Designed to Increase Rates for Electric Service to Customers in the Missouri Service Area of the Company.	)))))	Case No. ER-97-394

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

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Guy 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 8 pages and 3 schedules to be presented in this case; that the answers in the foregoing testimony 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.

Guy C. Gilbert

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

Subscribed and sworn to before me this 15th day of September, 1997.

Beverly S. Lehmen

Notary Public

My commission expires _____

BEVERLY S LEHMEN
NOTARY PUBLIC STATE OF MISSOURI
CALLAWAY COUNTY
MY COMMISSION EXP. MAR. 9,1998

Missouri Public Service
BROAD GROUP - AVERAGE SERVICE LIFE
DEPRECIATION RATES
CASE NO. ER-97-394

Account Number	Description	*Currently Ordered* Depreciation Rates %	*Staff Recommended* Depreciation Rates %
	JEFFREY PLANT		
311.11	Structures & Improvements	3.26	3.99
312.11	Boiler Plant Equipment	3.85	4.19
314.11	Turbogenerator Units	3.78	4.00
315.11	Accessory Electric Equipment	3.75	4.19
316.11	Misc. Power Plant Equipment	3.13	3.72
	SIBLEY PLANT		
311.12	Structures & Improvements	3.26	4.29
312.12	Boiler Plant Equipment	3.85	3.69
314.12	Turbogenerator Units	3.78	3.40
315.12	Accessory Electric Equipment	3.75	4.41
316.12	Misc. Power Plant Equipment	3.13	3.58
	OTHER PRODUCTION PLANT		
341.00	Structures & Improvements	5.61	3.50
342.00	Fuel Holders, Producers & Access.	4.59	3.59
343.00	Prime Movers	4.61	4.45
344.00	Generators	5.00	3.89
345.00	Accessory Electric Equipment	4.76	4.15
346.00	Misc. Power Plant Equipment	4.76	3.99
	TRANSMISSION PLANT		
352.00	Structures & Improvements	1.92	2.33
353.00	Station Equipment	2.04	2.24
354.00	Towers & Fixtures	2.17	2.13
355.00	Poles & Fixtures	2.72	3.24
356.00	Overhead Conductors & Devices	2.19	2.45
358.00	Underground Conductors & Devices	2.70	3.13

SCHEDULE 1-1

Missouri Public Service
BROAD GROUP - AVERAGE SERVICE LIFE
DEPRECIATION RATES
CASE NO. ER-97-394

Account Number	Description	Currently Ordered Depreciation Rates %	Staff Recommended Depreciation Rates %
	DISTRIBUTION PLANT		
361.00	Structures & Improvements	2.17	2.24
362.00	Station Equipment	2.15	1.74
364.00	Poles, Towers & Fixtures	3.05	4.39
365.00	Overhead Conductors & Devices	2.36	2.72
366.00	Underground Conduit	2.53	1.97
367.00	Underground Conductors & Devices	2.68	3.36
368.00	Line Transformers	3.79	4.45
369.10	Overhead Services	2.91	7.99
369.20	Underground Services	4.04	3.61
370.10	Meters	2.35	2.50
370.50	Load Research Meters	2.35	8.70
371.00	Installations on Customers' Premises	7.12	7.29
373.00	Street Lighting & Signal Systems	4.68	4.27
	GENERAL PLANT		
390.01	Structures & Improvements - Common	2.04	2.24
390.10	Structures & Improvements - Electric	2.47	2.19
391.00	Office Furniture & Equipment - Common	7.00	5.50
391.01	Computer Equipment - Common	22.50	0.00
391.12	Computer Equipment- Electric	8.33	7.69
392.10	Transportation Equipment - Cars	10.44	10.17
392.20	Transportation Equipment - Light Trucks	9.80	10.30
392.30	Transportation Equipment - Heavy Trucks	8.00	6.06
392.40	Transportation Equipment - Trailers	5.26	5.38
392.50	Transportation Equipment	n/a	5.78
393.00	Stores Equipment- Common	8.33	24.35
393.10	Stores Equipment - Electric	7.69	4.22
394.00	Tools, Shop & Garage Equipment	5.61	4.37
395.10	Laboratory Equipment	5.00	2.92
396.10	Power Operated Equipment - Short Life	13.00	12.22
396.20	Power Operated Equipment - Long Life	5.56	5.42
397.00	Communication Equipment - Common	3.41	5.85
397.10	Communication Equipment - Electric	9.90	4.66
398.00	Miscellaneous Equipment - Common	8.25	6.71
398.10	Miscellaneous Equipment - Electric	7.62	4.72

SCHEDULE 1-2

Missouri Public Service
DEPRECIATION NET SALVAGE RATES
CASE NO. ER-97-394

Account Number	Description	*Current* Net Salvage Rates %	*Staff Recommended* Net Salvage Rates %
	STEAM PRODUCTION PLANT		
	JEFFREY PLANT		
311.11	Structures & Improvements	1	-13
312.11	Boiler Plant Equipment	-4	-9
314.11	Turbogenerator Units	-2	-7
315.11	Accessory Electric Equipment	-5	-20
316.11	Misc. Power Plant Equipment	0	-1
	SIBLEY PLANT		
311.12	Structures & Improvements	1	-13
312.12	Boiler Plant Equipment	-4	-9
314.12	Turbogenerator Units	-2	-15
315.12	Accessory Electric Equipment	-5	-20
316.12	Misc. Power Plant Equipment	0	-1
	OTHER PRODUCTION PLANT		
341.00	Structures & Improvements	-1	-6
342.00	Fuel Holders, Producers & Access.	-1	0
343.00	Prime Movers	-1	-1
344.00	Generators	0	-5
345.00	Accessory Electric Equipment	0	-5
346.00	Misc. Power Plant Equipment	0	-5
	TRANSMISSION PLANT		
352.00	Structures & Improvements	0	-5
353.00	Station Equipment	2	-5
354.00	Towers & Fixtures	0	0
355.00	Poles & Fixtures	-28	-50
356.00	Overhead Conductors & Devices	-18	-31
358.00	Underground Conductors & Devices	0	0

SCHEDULE 2-1

Missouri Public Service
DEPRECIATION NET SALVAGE RATES
CASE NO. ER-97-394

Account Number	Description	*Current* Net Salvage Rates %	*Staff Recommended* Net Salvage Rates %
	DISTRIBUTION PLANT		
361.00	Structures & Improvements	-2	-5
362.00	Station Equipment	-1	0
364.00	Poles, Towers & Fixtures	-19	-73
365.00	Overhead Conductors & Devices	-18	-40
366.00	Underground Conduit	-1	-10
367.00	Underground Conductors & Devices	-2	-20
368.00	Line Transformers	-6	-25
369.10	Overhead Services	-25	-286
369.20	Underground Services	-1	-1
370.10	Meters	-1	-1
370.50	Load Research Meters	0	0
371.00	Installations on Customers' Premises	-21	-45
373.00	Street Lighting & Signal Systems	-17	-30
	GENERAL PLANT		
390.01	Structures & Improvements - Common	n/a	-7
390.10	Structures & Improvements - Electric	-11	-10
391.00	Office Furniture & Equipment - Common	n/a	6
391.01	Computer Equipment - Common	n/a	25
391.12	Computer Equipment- Electric	0	0
392.10	Transportation Equipment - Cars	n/a	5
392.20	Transportation Equipment - Light Trucks	n/a	4
392.30	Transportation Equipment - Heavy Trucks	n/a	6
392.40	Transportation Equipment - Trailers	n/a	7
392.50	Transportation Equipment	n/a	0
393.00	Stores Equipment- Common	n/a	0
393.10	Stores Equipment - Electric	0	0
394.00	Tools, Shop & Garage Equipment	-1	-3
395.10	Laboratory Equipment	0	0
396.10	Power Operated Equipment - Short Life	n/a	3
396.20	Power Operated Equipment - Long Life	n/a	3
397.00	Communication Equipment - Common	n/a	-10
397.10	Communication Equipment - Electric	-1	12
398.00	Miscellaneous Equipment - Common	n/a	0
398.10	Miscellaneous Equipment - Electric	-1	4

SCHEDULE 2-2

Missouri Public Service
AVERAGE SERVICE LIFE YEARS
IOWA CURVE TYPE
CASE NO. ER-97-394

Account Number	Description	CURRENT Average Service Life Years	CURRENT Iowa Curve Type	STAFF RECOMMENDED Average Service Life Years	STAFF RECOMMENDED Iowa Curve Type
	STEAM PRODUCTION PLANT				
	JEFFREY PLANT				
311.11	Structures & Improvements	31.0	R1	31.0	R1
312.11	Boiler Plant Equipment	27.0	R2	38.8	L2.5
314.11	Turbogenerator Units	27.0	S6	27.0	S6
315.11	Accessory Electric Equipment	28.0	L2	28.9	R3
316.11	Misc. Power Plant Equipment	32.0	R1.5	32.0	R1.5
	SIBLEY PLANT				
311.12	Structures & Improvements	31.0	R1	31.0	R1
312.12	Boiler Plant Equipment	27.0	R2	41.2	L2
314.12	Turbogenerator Units	27.0	S6	38.5	S4
315.12	Accessory Electric Equipment	28.0	L2	28.9	R3
316.12	Misc. Power Plant Equipment	32.0	R1.5	32.0	R1.5
	OTHER PRODUCTION PLANT				
341.00	Structures & Improvements	18.0	L0	40.2	R4
342.00	Fuel Holders, Producers & Access.	22.0	S3	32.7	S3
343.00	Prime Movers	21.0	SQ	24.1	R3
344.00	Generators	20.0	SQ	32.0	R3
345.00	Accessory Electric Equipment	21.0	S3	31.3	S1
346.00	Misc. Power Plant Equipment	21.0	S3	36.4	S4
	TRANSMISSION PLANT				
352.00	Structures & Improvements	52.0	R1	45.0	R3
353.00	Station Equipment	46.0	R2	46.9	R1.5
354.00	Towers & Fixtures	46.0	S6	46.0	S6
355.00	Poles & Fixtures	47.0	L2	46.4	R2
356.00	Overhead Conductors & Devices	54.0	R1.5	53.6	R3
358.00	Underground Conductors & Devices	37.0	SQ	32.0	S4

SCHEDULE 3-1

Missouri Public Service
AVERAGE SERVICE LIFE YEARS
IOWA CURVE TYPE
CASE NO. ER-97-394

Account Number	Description	CURRENT Average Service Life Years	CURRENT Iowa Curve Type	STAFF RECOMMENDED Average Service Life Years	STAFF RECOMMENDED Iowa Curve Type
	DISTRIBUTION PLANT				
361.00	Structures & Improvements	47.0	R1	47.0	R1
362.00	Station Equipment	47.0	R0.5	57.4	R0.5
364.00	Poles, Towers & Fixtures	39.0	L5	39.4	L5
365.00	Overhead Conductors & Devices	50.0	R2	51.6	R2
366.00	Underground Conduit	40.0	R4	55.8	R2
367.00	Underground Conductors & Devices	38.0	L1	35.7	R3
368.00	Line Transformers	28.0	S1.5	28.1	R2.5
369.10	Overhead Services	43.0	S6	48.3	R4
369.20	Underground Services	25.0	L3	28.0	L5
370.10	Meters	43.0	L4.	40.3	R4
370.50	Load Research Meters	8.0	R3	11.5	S6
371.00	Installations on Customers' Premises	17.0	R2.5	19.9	R2.5
373.00	Street Lighting & Signal Systems	25.0	R2	30.3	R0.5
	GENERAL PLANT				
390.01	Structures & Improvements - Common	n/a	n/a	47.8	S0
390.10	Structures & Improvements - Electric	45.0	L3	50.3	R2.5
391.00	Office Furniture & Equipment - Common	n/a	n/a	17.1	L0
391.01	Computer Equipment - Common	n/a	n/a	13.0	S6
391.12	Computer Equipment- Electric	12.0	R2.5	13.0	S6
392.10	Transportation Equipment - Cars	n/a	n/a	9.3	R4
392.20	Transportation Equipment - Light Trucks	n/a	n/a	9.3	R2.5
392.30	Transportation Equipment - Heavy Trucks	n/a	n/a	15.5	R3
392.40	Transportation Equipment - Trailers	n/a	n/a	17.3	L1
392.50	Transportation Equipment	n/a	n/a	17.3	L1
393.00	Stores Equipment- Common	n/a	n/a	3.6	L3
393.10	Stores Equipment - Electric	13.0	L3	23.7	L0
394.00	Tools, Shop & Garage Equipment	18.0	L0	23.6	O2
395.10	Laboratory Equipment	20.0	L3	34.2	L1
396.10	Power Operated Equipment - Short Life	n/a	n/a	7.8	R3
396.20	Power Operated Equipment - Long Life	n/a	n/a	17.9	L1.5
397.00	Communication Equipment - Common	n/a	n/a	18.8	L1
397.10	Communication Equipment - Electric	10.0	R4	18.8	L1
398.00	Miscellaneous Equipment - Common	n/a	n/a	14.9	L0.5
398.10	Miscellaneous Equipment - Electric	13.0	S3	20.2	R4

SCHEDULE 3-2