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MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDICES

FILED[2]
MAR 2 2 2010
Missouri Public
Service Commission

UNION ELECTRIC COMPANY

d/b/a AmerenUE

CASE NO. ER-2010-0036

Jefferson City, Missouri
December 2009

Staff Exhibit No. 200
Date 3-15-10 Reporter KT
File No. ER-2010-0036

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 1
Staff Credentials

UNION ELECTRIC COMPANY

d/b/a AmerenUE

CASE NO. ER-2010-0036

APPENDIX 1

STAFF CREDENTIALS
TABLE OF CONTENTS

ALAN BAX

I graduated from the University of Missouri - Columbia with a Bachelor of Science degree in Electrical Engineering in December 1995. Concurrent with my studies, I was employed as an Engineering Assistant in the Energy Management Department of the University of Missouri – Columbia from the Fall of 1992 through the Fall of 1995. Prior to this, I completed a tour of duty in the United States Navy, completing a course of study at the Navy Nuclear Power School and a Navy Nuclear Propulsion Plant. Following my graduation from the University of Missouri - Columbia, I was employed by The Empire District Electric Company (Empire or Company) as a Staff Engineer until August 1999, at which time I began my employment with the Staff of the Missouri Public Service Commission (Staff). I am a member of the Institute of Electrical/Electronic Engineers (IEEE).

TESTIMONY AND REPORTS
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

BY ALAN J. BAX

COMPANY	CASE NUMBER
Aquila Networks – MPS	ER-2004-0034
Union Electric Company d/b/a AmerenUE	EO-2004-0108
The Empire District Electric Company	ER-2002-0424
Kansas City Power & Light Company	EA-2003-0135
Union Electric Company d/b/a AmerenUE	EO-2003-0271
Aquila Networks – MPS	EO-2004-0603
Union Electric Company d/b/a AmerenUE	EC-2002-0117
Three Rivers and Gascosage Electric Coops	EO-2005-0122
Union Electric Company d/b/a AmerenUE	EC-2002-1
The Empire District Electric Company	ER-2001-299
Aquila Networks – MPS	EA-2003-0370
Union Electric Company d/b/a AmerenUE	EW-2004-0583
Union Electric Company d/b/a AmerenUE	EO-2005-0369
Trigen-Kansas City Energy Corporation	HA-2006-0294
Union Electric Company d/b/a AmerenUE	EC-2005-0352
Missouri Public Service	ER-2001-672
Aquila Networks – MPS	EO-2003-0543
Kansas City Power & Light Company	ER-2006-0314
Macon Electric Coop	EO-2005-0076
Aquila Networks – MPS	EO-2006-0244
Union Electric Company d/b/a AmerenUE	EO-2003-0271
Union Electric Company d/b/a AmerenUE	EC-2004-0556
Union Electric Company d/b/a AmerenUE	EC-2004-0598
The Empire District Electric Company	ER-2004-0570
Union Electric Company d/b/a AmerenUE	EC-2005-0110
Union Electric Company d/b/a AmerenUE	EC-2005-0177
Union Electric Company d/b/a AmerenUE	EC-2005-0313
The Empire District Electric Company	EO-2005-0275
Aquila Networks – MPS	EO-2005-0270
Union Electric Company d/b/a AmerenUE	EO-2006-0145
The Empire District Electric Company	ER-2006-0315
Aquila Networks – MPS	ER-2005-0436
Union Electric Company d/b/a AmerenUE	EO-2006-0096
Union Electric Company d/b/a AmerenUE	EO-2008-0031
The Empire District Electric Company	ER-2008-0093
Missouri Rural Electric Cooperative	EO-2008-0332
Grundy Electric Cooperative	EO-2008-0414
Osage Valley Electric Cooperative	EO-2009-0315
Union Electric Company d/b/a AmerenUE	EO-2008-0310
Aquila Networks – MPS	EA-2008-0279

TESTIMONY AND REPORTS
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

BY ALAN J. BAX

COMPANY	CASE NUMBER
West Central Electric Cooperative	EO-2008-0339
The Empire District Electric Company	EO-2009-0233
Union Electric Company d/b/a/ AmerenUE	EO-2009-0272
The Empire District Electric Company	EO-2009-0181
Union Electric Company d/b/a AmerenUE	ER-2008-0318
Kansas City Power & Light Company	ER-2009-0089
KCP&L Greater Missouri Operations Company – GMO	ER-2009-0090

KOFI AGYENIM BOATENG, CPA, CIA

EDUCATIONAL BACKGROUND AND EXPERIENCE

I graduated from Ho Polytechnic, Ghana in September 2000, and received a Higher National Diploma (HND) in Accountancy. In May 2004, I received a Master's of Business Administration (MBA) degree with emphasis in Accounting from Lincoln University in Jefferson City, Missouri. In September of 2004, I commenced employment with the Missouri Public Service Commission Staff (Staff) in my current position of Utility Regulatory Auditor. Prior to employment with the Commission, I held the position of Accountant with the Controller & Accountant General's Dept., Ghana; Accountant with ACS-BPS (Ghana) Limited; Payroll Account Technician with Scholastic Book Club, Inc., Jefferson City; and Account Officer II with the Missouri Department of Revenue, Jefferson City. In 2006, I passed the Certified Public Accountant (CPA) examination and, in January 2007, received a license to practice as a professional accountant in the state of Missouri. On August 4, 2008, I completed all of the requirements for the Certified Internal Auditor program and earned the Certified Internal Auditor (CIA) designation. I hold professional membership with the American Institute of Certified Public Accountants (AICPA), Missouri Society of Certified Public Accountants (MSCPA), The Institute of Internal Auditors-Central Missouri Chapter, and the Association of Certified Fraud Examiners.

I have actively participated and assisted with audits and examinations of the books and records of utility companies operating under the Commission's jurisdiction within the state of Missouri in both formal and informal rate cases. I have also filed and given testimony before the Missouri Public Service Commission.

CASE PROCEEDING PARTICIPATION

"KOFI" AGYENIM BOATENG, CPA, CIA

PARTICIPATION		
COMPANY	**CASE NO.**	**FILING TYPE/ISSUES**
Kansas City Power & Light Company	ER-2009-0089	Direct Report: Electric Revenues (growth), Other Revenues, Bad Debit Expense, Forfeited Discount, Gross Receipt Taxes, Electronic Card Acceptance Program, Fly Ash Sales
KCP&L Greater Missouri Operation Company – MPS & L&P	ER-2009-0090	Direct Report: Electric Revenues (growth), Other Revenues, Bad Debit Expense, Forfeited Discount, Gross Receipt Taxes, Electronic Card Acceptance Program, Inter-Company Off-System Sales Revenue and Off-System Fuel & Purchased Power
Missouri-American Water Company	WR-2008-0311	Testimony: Revenues, Gross Receipt Taxes, Bad Debt Expense, Chemical Expense, Uncountable-For-Water
Gladlo Water & Sewer Company	WR-2009-0418 SR-2009-0419	Staff Memorandum
Missouri Gas Utility	GR-2008-0060	Testimony: Materials & Supplies, Gas Inventory, Prepayments, Customer Deposits, Payroll, Advertising, Property Taxes, Rate Case Expense.
Roy-L Utilities, Inc.	QS-2008-0001 QW-2008-0002	Staff Memorandum
Laclede Gas Company	GR-2007-0208	Testimony: Customer Deposits, Payroll & Payroll Taxes, Incentive Compensation, Dues & Donations, Miscellaneous Expenses, Lobbying, Equity Plan, Directors' Fees, and Customer Deposit Interest
Bilyeu Water Co. LLC	WA-2007-0270	Certificate Case: No Staff Memorandum
Aquila, Inc., d/b/a Aquila Networks-MPS and Aquila Networks-L&P	ER-2007-0004	Testimony: Materials and Supplies, Prepayments, Customer Deposits, Advertising, Dues & Donations, Postage, PSC Assessment, Rate Case Expense, Customer Deposit Interest Expense
Gladlo Water & Sewer Company	QS-2007-0001 QW-2007-0002	Staff Memorandum (Case Still Pending)

CASE PROCEEDING PARTICIPATION

"KOFI" AGYENIM BOATENG, CPA, CIA

PARTICIPATION		
COMPANY	**CASE NO.**	**FILING TYPE/ISSUES**
Algonquin Water Resources of Missouri, LLC	WR-2006-0425	Testimony: Revenues, Electric Expense, Office Rents, Postage, Telephone Expense, Rate Case Expense
The Empire District Electric Company	ER-2006-0315	Testimony: Plant and Depreciation, Reserve, Cash Working Capital, Property Taxes, Advertising, Dues and Donations, Outside Services, Banking Fees, Promotional Giveaways, Transmission Billing Adjustment, Maintenance
New Florence Telephone Company	TC-2006-184	Stipulation and Agreement
Suburban Water and Sewer Company	WR-2005-0455	Staff Memorandum
Noel Water Company, Inc.	WR-2005-0452	Staff Memorandum
Aquila, Inc., d/b/a Aquila Networks-L&P	HR-2005-0450	Testimony: Materials and Supplies, Prepayments, Customer Deposits, Customer Deposits Interests, Customer Advances, PSC Assessments, Rate Case Expense
Aquila, Inc., d/b/a Aquila Networks-MPS and Aquila Networks-L&P	ER-2005-0436	Testimony: Materials and Supplies, Prepayments, PSC Assessments, Rate Case Expense
Public Service Commission of the State of Missouri v. Cass County Telephone Company Limited Partnership	TC-2005-0357	Stipulation and Agreement
Southtown Utilities, Inc.	WA-2005-0268	Staff Memorandum
Aqua Missouri Company, Inc. (Water and Sewer)	QS-2005-0008 QW-2005-0009 QS-2005-0010 QW-2005-0011	Staff Memorandum

JOHN P. CASSIDY

Present Position

I am a Utility Regulatory Auditor V in the Auditing Department, Utility Services Division. My business address is Wainright State Office Building, 111 North Seventh Street, Suite 105, St. Louis, Missouri 63101. Since joining the Missouri Public Service Commission's Staff in 1990, I have assisted with and directed audits and examinations of the books and records of utility companies operating within the State of Missouri. I have also conducted numerous audits of small water and sewer companies in conjunction with the Commission's informal rate proceedings. Please refer to the attached Schedule JPC 1 for a list of rate case proceedings in which I have previously filed testimony.

Education

Southeast Missouri State University
Cape Girardeau, Missouri
Bachelor of Science Degree in Business Administration
Double Major: Marketing 1989 and Accounting 1990

RATE CASE PROCEEDING PARTICIPATION

JOHN P. CASSIDY

COMPANY	CASE NO.
Missouri Cities Water Company	**WR-91-172**
Payroll and Related Pensions OPEBS General Insurance Expense Advertising Expense Miscellaneous Expenses	
Type of Testimony Filed: Direct and Surrebuttal	
St. Louis County Water Company	**WR-91-361**
Tank Painting Main Failures Residue Removal General Insurance Expense PSC Assessment Miscellaneous Expenses	
Type of Testimony Filed: Direct	
Southwestern Bell Telephone Company	**TC-93-224**
Advertising Expenses Promotional Giveaways Miscellaneous Expenses	
Type of Testimony Filed: Direct and Surrebuttal	
Laclede Gas Company	**GR-94-220**
Payroll and Payroll Taxes Incentive Compensation 401 (K) Dental and Vision Insurance Data Processing	
Type of Testimony Filed: Direct	

RATE CASE PROCEEDING PARTICIPATION

JOHN P. CASSIDY

COMPANY	CASE NO.
The Empire District Electric Company	**ER-95-279**
Revenues Uncollectibles Expense Municipal Franchise Taxes Postage Expense Emission Credits	
Type of Testimony Filed: Direct	
Imperial Utility Corporation	**SC-96-247**
Rate Base Depreciation Reserve Depreciation Expense CIAC Property Taxes Property Insurance Lab Testing Expense Sludge Removal Expense	
Type of Testimony Filed: Rebuttal	
St. Louis County Water Company	**WR-97-382**
Payroll and Payroll Taxes Employee Benefits Employee Savings Shared Employees	
Type of Testimony Filed: Direct	

RATE CASE PROCEEDING PARTICIPATION

JOHN P. CASSIDY

COMPANY	CASE NO.
Laclede Gas Company	**GR-98-374**
Payroll and Payroll Taxes 401 (K) Health Care Costs Pension Plan Director's Pension Plan Trustee Fees SERP Outside Consulting Incentive Compensation Advertising Expense	
Type of Testimony Filed: Direct	
United Water Missouri, Inc.	**WR-99-326**
Payroll and Payroll Taxes 401 (K) Health Care Costs Employee Relocation Corporation Franchise Tax Advertising Expense Dues and Donations Miscellaneous Expenses	
Type of Testimony Filed: Direct	
Union Electric Company	**EC-2000-795**
Injuries and Damages Legal Expense Environmental Expense	
Type of Testimony Filed: Direct	
Union Electric Company	**GR-2000-512**
Revenues Uncollectibles Expense Customer Deposits	
Type of Testimony Filed: Direct	

RATE CASE PROCEEDING PARTICIPATION

JOHN P. CASSIDY

COMPANY	CASE NO.
Laclede Gas Company	**GR-2001-629**
Revenues Gross Receipts Tax Gas Supply Incentive Plan Gas Costs Uncollectibles Expense Non-Utility Operations	
Type of Testimony Filed: Direct	
Union Electric Company, d/b/a AmerenUE	**EC-2002-01**
Fuel Expense Callaway Refueling Legal Expense Environmental Expense Capacity Purchases Midwest ISO Payroll and Related Incremental Overtime	
Type of Testimony Filed: Direct and Surrebuttal	
Union Electric Company, d/b/a AmerenUE	**EC-2002-1025**
Legal Expense Environmental Expense Midwest ISO	
Type of Testimony Filed: Direct	
Laclede Gas Company	**GR-2002-356**
Revenues Gross Receipts Tax Gas Supply Incentive Plan Gas Costs Uncollectibles Expense Income Taxes	
Type of Testimony Filed: Direct	

RATE CASE PROCEEDING PARTICIPATION

JOHN P. CASSIDY

COMPANY	CASE NO.
Laclede Gas Company	**GT-2003-0117**

Financial Aspects

Type of Testimony Filed: Direct

Missouri-American Water Company	**WR-2003-0500 & WC-2004-0168**

Allocation of Belleville Labs Cost to MAWC
National Call Center
Compensation for Services Provided from MAWC to AWR
Information Technology Services
Capitalization of Shared Services
Transition Costs
Cost Allocation Manual
Affiliate Transactions
Severance Costs
National Call Center Transition Costs
National Shared Services Transition Costs

Type of Testimony Filed: Direct & Surrebuttal

Missouri-American Water Company	**SM-2004-0275**

Acquisition Adjustment

Type of Testimony Filed: Direct

The Empire District Electric Company	**ER-2004-0572**

Interim Energy Charge
Fuel Expense
Purchased Power
Off System Sales
KCPL Transmission Expense
Income Taxes

Type of Testimony Filed: Direct & Surrebuttal

RATE CASE PROCEEDING PARTICIPATION

JOHN P. CASSIDY

COMPANY	CASE NO.
Union Electric Company d/b/a AmerenUE	**GR-2007-0003**
Environmental Expense	
Type of Testimony Filed: Direct	
Union Electric Company d/b/a AmerenUE	**ER-2007-0002**
Fuel Expense Fuel Inventories Callaway Refueling Costs Combustion Turbine Maintenance Expense Environmental Expense Gains on the Sale of Sulfur Dioxide Emission Allowances	
Type of Testimony Filed: Direct, Rebuttal and Surrebuttal	
Missouri-American Water Company	**WR-2007-0216**
Belleville Labs Allocation Compensation for Services MAWC Provided to AWR Income Taxes	
Type of Testimony Filed: Direct	
Union Electric Company d/b/a AmerenUE	**ER-2008-0318**
Fuel and Purchased Power Expense Off System Sales Fuel Inventories Callaway Refueling Costs Generating Plant Outages Capacity Charges Entergy Refunds Non-Labor Storm Costs – Test Year Non-Labor Storm Cost AAO Non-Labor Storm Cost Amortization SO2 Emission Allowance Sales and Tracker Deferred Income Taxes for Rate Base Income Taxes Production Cost Model Issues	
Type of Testimony Filed: Cost of Service Report and Surrebuttal	

WALT CECIL

PRESENT POSITION:

I am a Regulatory Economist III in the Economic Analysis Section of the Energy Department, Utility Operations Division.

EDUCATIONAL BACKGROUND AND WORK EXPERIENCE:

I hold a B.A. in Business Administration from Baylor University and a M.A. in Economics from the University of Kansas. I joined the Commission's Telecommunications Department Staff in 1999 and was assigned to the Energy Department in June 2008.

Cases in which Testimony was Filed and/or Cross Examination was Stood

Case No.	Issues
ER-2009-0090	Weather Normalization and Rate Design
ER-2009-0089	Weather Normalization
TX-2008-0090	In the Matter of a Proposed Rulemaking to Amend 4 CSR 240-33.0160, Customer Proprietary Network Information
CO-2006-0464	Eligible Telecommunications Carrier Designation
IO-2006-0551	In the Matter of Embarq Missouri, Inc., for Competitive Classification under Section 392.245.5, RSMo 2005
TO-2005-0308	Recommendation Concerning the Surcharge for Deaf Relay Service and Equipment Distribution Program Fund
TO-2005-0035	Directory Assistance
TO-2004-0207	Geographic Market Definition
TO-2002-227	Term Discounts

Schedule WC-1

WALT CECIL

Case No.	Issues
TO-2002-222	Arbitration Issues 9, 13, 15, 16, 17, 19, 20, 21, 23, 24, 26, 29, 30, 33, 48, 49, 50
TT-2002-108 and TT-2002-130	Tariff Winback Provisions; Multi-Year Contracts—Consolidated Cases
TO-2001-455	Physical Network Interconnection Issues; Inter-Carrier Compensation; Operations Support Services
TO-2001-347	Geographic Deaveraging
TO-2000-374	NPA Relief Plan for the 314 and 816 Area Codes

Schedule WC-1

David W. Elliott

Educational Background and work Experience:

I am employed by the Missouri Public Service Commission (Commission) as a Utility Engineering Specialist III in the Energy Department of the Utility Operations Division.

I graduated from Iowa State University with a Bachelor of Science degree in Mechanical Engineering in May 1975. I was employed by Iowa-Illinois Gas and Electric Company (IIGE) as an engineer from July 1975 to May 1993. While at IIGE, I worked at Riverside Generating Station, first as an assistant to the maintenance engineer, and then as an engineer responsible for monitoring station performance. In 1982, I transferred to the Mechanical Design Division of the Engineering Department where I was an engineer responsible for various projects at IIGE's power plants. In September 1993, I began my employment with the Commission. While employed by The Commission I have been responsible for running a production cost model to determine variable fuel costs for generating units, and conducting engineering construction audits for construction of new generating units and power plant equipment.

List of Previous Testimony Filed of David W. Elliott:

1) ER-94-163, St. Joseph Light & Power Company
2) HR-94-177, St. Joseph Light & Power Company
3) ER-94-174, The Empire District Electric Company
4) ER-95-279, The Empire District Electric Company
5) EM-96-149, Union Electric Company
6) ER-99-247, St. Joseph Light & Power Company
7) EM-2000-369, UtiliCorp United, Inc. and The Empire District Electric Company
8) ER-2001-299, The Empire District Electric Company
9) ER-2001-672, Utilicorp United, Inc.
10) ER-2002-424, The Empire District Electric Company
11) ER-2004-0034, Aquila, Inc.
12) ER-2004-0570, The Empire District Electric Company

13) HM-2004-0618, Trigen-Kansas City Energy Corporation and Thermal North America, Inc.
14) ER-2005-0436, Aquila, Inc.
15) HR-2005-0450, Aquila, Inc.
16) ER-2006-0314, Kansas City Power & Light Company
17) ER-2006-0315, The Empire District Electric Company
18) ER-2007-0004, Aquila, Inc.
19) ER-2007-0291, Kansas City Power & Light Company
20) ER-2008-0093, The Empire District Electric Company
21) ER-2009-0090, KCPL Greater Missouri Operations Company
22) HR-2009-0092, KCPL Greater Missouri Operations Company

Michael J. Ensrud

My educational and professional experience is as follows:

I have a Bachelor of Science from Drake University. I attended the NARUC Annual Regulatory Studies Program at Michigan State University. In the regulatory field, I've worked for CompTel Missouri, and CommuniGroup, Inc., Teleconnect, TeleCom* USA, and General Telephone Company of the Midwest in the private sector. In addition, I have four-years of experience with the Iowa Public Utility Board – Iowa's equivalent to the Missouri Commission.

I have filed written testimony and have testified in several cases before Missouri Public Service Commission. Schedule 1 lists the cases where I have filed testimony (or otherwise materially participated) as a Staff witness before this Commission. (There are numerous cases going back to the mid-1980s where I filed testimony on behalf of Teleconnect (TeleCom*USA), CompTel of Missouri & CommuniGroup, Inc. - various private entities or trade associations - that are not listed). I have also testified in other jurisdictions.

Michael J. Ensrud

Schedule 1

Cases that I have testified (or otherwise materially participated) in as a Staff witness:

Atmos Energy Corporation - GR-2006-0387 - Miscellaneous Rate Issues & Seasonal Reconnection Charge.

Missouri Gas Energy (a Division of Southern Union Company) - GR-2006-0422 - Miscellaneous Rate Issues & Seasonal Reconnection Charge.

AmerenUE (Union Electric Company) - GR- 2007-0003 - Miscellaneous Rate Issues & Seasonal Reconnection Charge.

Laclede Gas Company - GR-2005-0284 - Miscellaneous Rate Issues & Credit Scoring / **GR - 2007-0208** - Miscellaneous Rate Issues & Credit Scoring & Rate Switching Customers

Southern Missouri Natural Gas Company (Southern Missouri Natural Gas Company) - GE-2005-0189 - Promotional Practices

Empire District Electric Company of Joplin - ER-2006-0315 - Street Lighting

Missouri Gas Utilities, Inc. (MGU) - GR-2008-0060 - Miscellaneous Rate Issues

Trigen Kansas City Energy Corporation - HR-2008-0300 - Miscellaneous Rate Issues

Union Electric Company d/b/a AmerenUE - ER-2008-0318 – Renewable Energy Certificates

Kansas City Power & Light – KCP&L Greater Missouri Operations Company ("GMO") – HR-2009-0092 – Contract Adjustment & Imputation – AG Processing (AGP)

Michael J. Ensrud

Missouri Gas Energy (a Division of Southern Union Company) - GR-2008-0355 - Miscellaneous Rate Issues & Rewrite of Transportation Tariff.

Empire District Gas Company (Empire) – GR-2008-0434 - Miscellaneous Rate Issues & Rewrite of Transportation Tariff & Large Company Adjustments.

Lisa M. Ferguson

Present Position:

I am a Utility Regulatory Auditor II, Auditing Department, Utility Services Division of the Missouri Public Service Commission. As a Utility Regulatory Auditor, I review all exhibits and testimony on assigned issues, develop accounting adjustments and issue positions that are supported by workpapers and written testimony. This is my first formal rate case proceeding.

Educational Credentials and Work Experience:

I have an Associate of Science degree from Moberly Area Community College, a Bachelor's of Science degree in Accounting from Truman State University, and a Master's degree in Accounting from Truman State University. I have been employed by the Missouri Public Service Commission since June, 2008. Prior to joining the Commission, I worked in several departments, primarily Customer Service and as an accounting assistant, for Hy-Vee Food and Drug from July 1998 to May 2002. I was also employed by Kelly L. Lovekamp as a legal office assistant during 2001. From June 2002 to May 2008, I was employed as a support staff for Chariton Valley Association. My duties included support of daily living activities for people with disabilities.

Background and Credentials

Roberta A. Grissum

I am currently employed as a Utility Regulatory Auditor III in the Commission's Auditing Department. From August 1, 2002 through February 2003, I was employed as a Utility Regulatory Auditor III in the Financial Analysis Department. From May 1998 to July 2002, I was employed as a Public Utility Financial Analyst in the Financial Analysis Department where I was responsible for rate of return analyses. Prior to my appointment to the Financial Analysis Department, I served in an administrative support position within the Utility Services Division, Accounting Department. In total, I have been with the Commission over thirteen (13) years. Schedule 1 attached to this report lists the cases in which I have filed testimony. Schedule 1 also lists the issues I was responsible for in each of those cases. In addition, I have attached a schedule of all cases to which I have been assigned that did not require the filing of testimony. It is attached as Schedule 2.

I earned a Masters of Business Administration degree from William Woods University on June 8, 2000. I earned a Bachelor of Science degree in Business Administration with an emphasis in Finance from Columbia College in July 1997 and acquired an emphasis in Accounting in October 2002. In addition, I have been an adjunct faculty member with William Woods University in the Adult Evening Business Program for the past eight years. I am certified to facilitate Fundamentals of Financial Management (undergraduate) and Financial Decisions (graduate).

Prior to employment with the Commission, I was employed by the State Emergency Management Agency for the state of Missouri. I also have previous experience in the areas of accounting, insurance, consumer protection and mortgage banking.

ROBERTA GRISSUM
SUMMARY OF TESTIMONY/STAFF RECOMMENDATION
SCHEDULE 1

Issue	Case Number	Witness	Case Name
Revenue Requirement, Rate Design/Surcharge (ISRS Filing) Staff Rec Filed and Approved	GO-2008-0351	Grissum, Roberta	Laclede Gas Company
Normalization of Overtime Costs Surrebuttal Testimony	ER-2008-0318	Grissum, Roberta A.	Union Electric Company d/b/a AmerenUE
Revenue Requirement, Rate Design/Surcharge (ISRS Filing) Staff Rec Filed and Approved	GO-2008-0155	Grissum, Roberta	Laclede Gas Company
Actual Cost Adjustment Review Staff Recommendation	GR-2008-0136	Grissum, Roberta A.	Missouri Gas Utility, Inc.
Revenue Requirement, Rate Design/Surcharge (ISRS Filing) Staff Rec Filed and Approved	WO-2007-0272	Grissum, Roberta	Missouri-American Water Company
Bad Debt Expense, Chemical Expense, Fuel & Power Expense, Postage Expense, Purchased Water Expense, Revenues and Staff Accounting Schedules	WR-2007-0216 and WR-2007-0217	Grissum, Roberta A.	Missouri-American Water Company
Revenue Requirement, Rate Design/Surcharge (ISRS Filing) Staff Rec Filed and Approved	GO-2007-0177	Grissum, Roberta	Laclede Gas Company
Revenue Requirement, Rate Design/Surcharge (ISRS Filing) Staff Rec Filed and Approved	WO-2007-0043	Grissum, Roberta	Missouri-American Water Company
Review of Company testimony related to rate case filings of AmerenCIPS, AmerenIP, and AmerenCILCO before the Illinois Commerce Commission	ER-2007-0002	Grissum, Roberta A.	Union Electric Company d/b/a AmerenUE
Revenue Requirement/Surcharge Rate Design (ISRS Filing) Staff Rec Filed and Approved	WO-2006-0284	Grissum, Roberta A.	Missouri-American Water Company, et al
Cash Working Capital, Rate Base and Related Issues, Depreciation and Amortization Expense, Revenues: Case Settled before testimony was Filed	GR-2005-0284	McKiddy, Roberta A.	Laclede Gas Company
Rate Base and Related Issues, Retired Plant, Depreciation and Amortization Expense, Property and Liability Insurance Expense, Property Tax, Banking Fees, Flotation Costs, PSC Assessment, and Rate Case Expense: Direct Testimony: All Issues Surrebuttal Testimony: Rate Case Expense & Energy Center 3&4 Issues Settled at Prehearing	ER-2004-0570	McKiddy, Roberta A.	The Empire District Electric Company

Prepared By: R. Grissum
Last Updated: 12/18/2009

ROBERTA GRISSUM
SUMMARY OF TESTIMONY/STAFF RECOMMENDATION
SCHEDULE 1

Issue	Case Number	Witness	Case Name
Cash Working Capital, Tank Painting Expense, Main Incident Expense, Facility Locates Expense and Advertising Expense: Direct Testimony Surrebuttal Testimony Most Issues Settled at Prehearing Cross-examined at Hearing re: Cash Working Capital	WR-2003-500	McKiddy, Roberta A.	Missouri-American Water Company
Cost of Capital: Direct Testimony Case Settled by S&A	GR-2002-356	McKiddy, Roberta A.	Laclede Gas Company
Surveillance Data Reporting	TM-2002-232	McKiddy, Roberta A.	Verizon Midwest /CenturyTel of Missouri, LLC
Cost of Capital Direct Testimony	ER-2002-217	McKiddy, Roberta A.	Citizens Electric Corporation
Cost of Capital: Direct Testimony Case Settled by S&A	GR-2001-629	McKiddy, Roberta A.	Laclede Gas Company
Evaluation of Transaction and Standard of Public Detriment Rebuttal Testimony Cross-examined at Hearing	GM-2001-585	McKiddy, Roberta A.	Gateway Pipeline Company Inc., et al
Surveillance Data Reporting	WM-2001-309	McKiddy, Roberta A.	Missouri-American Water Company, et al
Cost of Capital: Direct Testimony Rebuttal Testimony Surrebuttal Testimony True-up Direct Testimony True-up Rebuttal Testimony Cross-examined at Hearing	ER-2001-299	McKiddy, Roberta A.	The Empire District Electric Company
Capital Structure, Cost of Capital, Embedded Cost, Return on Equity: Direct Testimony: All Issues Rebuttal Testimony: All Issues Surrebuttal Testimony: Return on Common Equity and Response to Depreciation Testimony of Company Witness Cross-Examined at Hearing	WR-2000-844	McKiddy, Roberta A.	St. Louis County Water Company
Rate of Return	GR-2000-512	McKiddy, Roberta A.	Union Electric Co d/b/a AmerenUE

ROBERTA GRISSUM
SUMMARY OF TESTIMONY/STAFF RECOMMENDATION
SCHEDULE 1

Issue	Case Number	Witness	Case Name
Surveillance Data Reporting: Rebuttal Testimony Cross-examined at Hearing	EM-2000-369	McKiddy, Roberta A.	UtiliCorp United Inc. / The Empire District Electric Company
Merger Overview: Rebuttal Testimony	EM-2000-369	McKiddy, Roberta A.	UtiliCorp United Inc. / The Empire District Electric Company
History of the UtiliCorp United Inc. / Empire Electric Company Merger: Rebuttal Testimony	EM-2000-369	McKiddy, Roberta A.	UtiliCorp United Inc. / The Empire District Electric Company
Financial Theory of Utility Merger: Rebuttal Testimony	EM-2000-369	McKiddy, Roberta A.	UtiliCorp United Inc. / The Empire District Electric Company
Electric Utility Industry Merger History: Rebuttal Testimony	EM-2000-369	McKiddy, Roberta A.	UtiliCorp United Inc. / The Empire District Electric Company
Surveillance Data Reporting Rebuttal Testimony Cross-examined at Hearing	EM-2000-292	McKiddy, Roberta A.	UtiliCorp United Inc. / St. Joseph Light and Power
Merger Rationale: Rebuttal Testimony	EM-2000-292	McKiddy, Roberta A.	UtiliCorp United Inc. / St. Joseph Light and Power
Merger Overview: Rebuttal Testimony	EM-2000-292	McKiddy, Roberta A.	UtiliCorp United Inc. / St. Joseph Light and Power
History of the UtiliCorp United / St. Joseph Light and Power Merger: Rebuttal Testimony	EM-2000-292	McKiddy, Roberta A.	UtiliCorp United Inc. / St. Joseph Light and Power
Financial Theory of Utility Mergers: Rebuttal Testimony	EM-2000-292	McKiddy, Roberta A.	UtiliCorp United Inc. / St. Joseph Light and Power
Electric Utility Industry Merger History: Rebuttal Testimony	EM-2000-292	McKiddy, Roberta A.	UtiliCorp United Inc. / St. Joseph Light and Power
Capital Structure, Cost of Capital, Embedded Cost, Return on Equity: Direct Testimony Rebuttal Testimony Surrebuttal Testimony True-up Direct Cross-examined at Hearing	SR-2000-282	McKiddy, Roberta	Missouri-American Water Company
Capital Structure, Cost of Capital, Embedded Cost, Return on Equity: Direct Testimony Rebuttal Testimony Surrebuttal Testimony True-up Direct Cross-Examined at Hearing	WR-2000-281	McKiddy, Roberta	Missouri-American Water Company

Roberta (McKiddy) Grissum

Case Participation - Financial Analysis Department

Case No.	Utility Type	Company Name	Case Type
EA-2000-153	Electric	Westar Generating Inc.	Certificate
EA-2000-27	Electric	Union Electric Company dba AmerenUE	Asset Transfer
EA-2000-37	Electric	Union Electric Company dba AmerenUE	Certificate
EF-2001-282	Electric	Kansas City Power & Light Company	Finance Application
EM-2000-145	Electric	The Empire District Electric Co.	Asset Transfer
EM-2000-369	Electric	UtiliCorp United / Empire District	Merger
EM-2001-464	Electric	Kansas City Power & Light Company	Reorg-Holding Co.
EO-2003-0081	Electric	Kansas City Power & Light Company	Decommissioning Study
EO-2003-0083	Electric	Union Electric Company dba AmerenUE	Decommissioning Study
ER-2001-299	Electric	The Empire District Electric Company	Rate Case
ER-2002-217	Electric	Citizens Electric Company	Rate Case
GM-2000-312	Gas	Atmos Energy/Arkansas Western	Merger
GM-2001-585	Gas	Gateway Pipeline Company	Merger
GM-2002-295	Gas	Atmos Energy Corporation	Merger
GN-2003-0016	Gas	Missouri Gas Company	Renaming to LLC
GN-2003-0017	Gas	Missouri Pipeline Company	Renaming to LLC
GO-2002-1099	Gas	Laclede Gas Company	Transfer of Gas Supply Function
GR-2000-512	Gas	Union Electric Company dba AmerenUE	Rate Case
GR-2001-629	Gas	Laclede Gas Company	Rate Case
GR-2002-356	Gas	Laclede Gas Company	Rate Case
GR-97-302	Gas	Laclede Gas Company	Finance Application
RP99-485-000	Gas	Kansas Pipeline	FERC Rate Case
9900334	Sewer	Terre Du Lac Utilities Corp. (Sewer)	Small Rate Case (ROR)
QS-2002-0006	Sewer	Savannah Heights Industrial Treatment Inc.	Small Rate Case
QS-2003-0010	Sewer	KMB Utility	Small Company Rate Increase
QS-2003-0019	Sewer	North Oak Sewer District Inc.	Small Company Rate Increase
SA-2000-295	Sewer	Lake Region W&S	Certificate
SA-2000-417	Sewer	North Oak Sewer District Inc.	Certificate
SA-2003-0189	Sewer	TBJ Sewer Systems, Inc.	Certificate Case
SA-97-441	Sewer	TBJ Sewer Systems, Inc.	Certificate
SM-2000-214	Sewer	AquaSource Utility, Inc.	Stock Acquisition
SO-2002-1039	Sewer	Silverleaf Resorts, Inc.	Over-earnings Review
SR-2000-282	Sewer	Missouri-American Water Company	Rate Case
SR-2002-350	Sewer	So. Jefferson Co. Utility Co.	Small Rate Case
CA-2003-00109	Telephone	Integrated Telecommunications Services, LLC	CLEC Application
TA-2000-217	Telephone	HJN Telecom Inc.	CLEC Application
TA-2000-243	Telephone	Navigator Telecom LLC	Certificate (Request to Amend)
TA-2000-304	Telephone	BroadStream Corp	CLEC Application
TA-2000-32	Telephone	Computer Business Sciences	CLEC Application

Roberta (McKiddy) Grissum

Case Participation - Financial Analysis Department

Case No.	Utility Type	Company Name	Case Type
TA-2000-372	Telephone	Snappy Phone of Texas, Inc.	CLEC Application
TA-2000-484	Telephone	Essential.com, Inc.	CLEC Application
TA-2000-496	Telephone	01 Communications of MO, LLC	CLEC Application
TA-2000-514	Telephone	Fair Point Communications	CLEC Application
TA-2000-521	Telephone	@LinkNetworks	CLEC Application
TA-2000-665	Telephone	Pathnet Inc.	CLEC Application
TA-2001-193	Telephone	Ntegrity Telecontent Inc.	CLEC Application
TA-2001-205	Telephone	Telegry Network Services	CLEC Application
TA-2001-285	Telephone	Southern Telcom Network	CLEC Application
TA-2001-289	Telephone	Arrival Communications Inc	CLEC Application
TA-2001-336	Telephone	eVulkan Inc.	CLEC Application
TA-2001-350	Telephone	Everest Midwest Licensee	CLEC Application
TA-2001-433	Telephone	PNG Telecommunications, Inc.	CLEC Application
TA-2001-596	Telephone	Tri-State Telecommunicaitons, Inc. dba The Phone Company	CLEC Application
TA-2002-139	Telephone	Local Line America, Inc.	CLEC Application
TA-2002-183	Telephone	Universal Telecom, Inc.	CLEC Application
TA2002-238	Telephone	Chariton Valley Telecom Corporation	CLEC Application
TA-2002-287	Telephone	Lockheed Martin Global	CLEC Application
TA-2002-42	Telephone	NTERA, Inc.	CLEC Application
TA-2002-453	Telephone	CD Telecommunications, LLC	CLEC Application
TA-99-171	Telephone	Level 3 Communications, LLC	Certificate
TA-99-173	Telephone	Gabriel Communications of Missouri, Inc.	Certificate
TA-99-298	Telephone	AllTel Communications, Inc.	Certificate
TA-99-405	Telephone	Payroll Advance Inc.	Certificate
TA-99-577	Telephone	KMC Telecom III, Inc.	Certificate
TF-98-549	Telephone	Ozark Telephone Company	Finance Application
TF-99-200	Telephone	Mark Twain Rural Telephone Co	Finance Application
TF-99-318	Telephone	Steelville Telephone Exchange, Inc.	Finance Application
TM-2001-239	Telephone	Everest Connections Corp.	Merger
TM-2002-232	Telephone	Verizon Midwest /CenturyTel of Missouri, LLC	Sale of Assets
TM-2002-299	Telephone	Alma Telephone Company	Merger
TM-95-134 et al	Telephone	Ozark Telephone Company	Merger Case
9900156	W&S	Hickory Hills Water & Sewer (Water)	Small Rate Case (ROR)
200001187/1188	W&S	Silverleaf Resorts, Inc.	Small Rate Case (ROR)
200101207&01208	W&S	So. Jefferson Co. Utility Co.	Small Rate Case (ROR)
9900157	W&S	Hickory Hills Water & Sewer (Sewer)	Small Rate Case (ROR)
9900333	Water	Terre Du Lac Utilities Corp. (Water)	Small Rate Case (ROR)
9900946	Water	RDE Water Company	Small Rate Case (ROR)
20000777	Water	Raytown Water Company	Small Rate Case (ROR)

Roberta (McKiddy) Grissum

Case Participation - Financial Analysis Department

Case No.	Utility Type	Company Name	Case Type
200100966/00967	Water	The Meadows Water Company	Small Rate Case (ROR)
QW-2003-0007	Water	Cedar Hills Estates Water Company Inc.	Small Company Rate Increase
QW-2003-0009	Water	KMB Utility Corporation	Small Company Rate Increase
WA-2000-321	Water	Bear Creek Water & Sewer	Certificate
WA-2000-405	Water	Missouri-American Water Company	Certificate
WA-99-256	Water	Osage Water Company	Certificate
WF-2000-383	Water	Missouri-American Water Company	Finance Application
WF-2002-1096	Water	Missouri-American Water Company	Finance Application
WF-2002-359	Water	Missouri-American Water Company	Finance Application
WF-99-300	Water	St Louis County Water Company	Finance Application
WM-2000-318	Water	United Water Missouri, Inc.	Sale of Stock
WM-2001-309	Water	MAWC/SLCWC/JC Waterworks	Merger
WM-2003-0133	Water	Philadelphia Suburban Corporation	Merger
WM-99-119	Water	Woodland Manor Water Co.	Merger
WM-99-238	Water	AquaSource, Inc./CU/RU/FU	Merger
WO-00-406	Water	Raytown Water Company	Informal Rate Case
WO-2002-1040	Water	Silverleaf Resorts, Inc.	Over-earnings Review
WR-2000-281	Water	Missouri-American Water Company	Rate Case
WR-2000-416	Water	RDE Water Company	Rate Case
WR-2000-68	Water	Terre Du Lac Utilities	Informal Rate Case
WR-2000-69	Water	Terre Du Lac Utilities	Informal Rate Case
WR-2000-844	Water	St. Louis County Water Co.	Rate Case
WR-2001-291	Water	Raytown Water Company	Rate Case
WR-2001-452	Water	The Empire District Electric Company	Interim Rate Case
WR-2001-457	Water	RDE Water Company	Small Rate Case Review (Con't)
WR-99-361	Water	Hickory Hills Water & Sewer	Rate Case

Manisha Lakhanpal

Present Position: Regulatory Economist III

I joined Missouri Public Service Commission in August 2007 as a Regulatory Economist II in the Economic Analysis Section of the Energy Department, Operations Division.

Educational Background:

In December 2005, I graduated with a Masters of Science in Applied Economics, specializing in Electricity, Natural Gas and Telecommunication, from Illinois State University, Normal, Illinois. I have a Post Graduate Diploma in Business Management from Chetana's Institute of Management and Research, Mumbai, India and an undergraduate degree in Political Science and History from University of Delhi, New Delhi, India.

Work Experience:

I first joined Missouri Public Service Commission as an intern in 2006 (May 2006 - August 2006). Prior to returning to PSC I was employed by the Indiana Utility Regulatory Commission, Indianapolis, as a Utility Analyst (September 2006- August 2007). During my time in Indiana I worked on a variety of cases and projects, including a major rate case, wholesale power cost trackers for municipal utilities, environmental cost recovery cases, a certificate of need for the first wind power project in Indiana as well as a related case involving the purchase of output from the facility, and annual report to the legislature on the state of the industry in Indiana.

In the summer of 2005 (May 2005-July 2005), I worked as an Intern at CommonWealth Edison (ComEd), Chicago, on projects related to deregulation of electric markets in Illinois.

In India I have worked as an Operations Executive for an insurance company (June 2001 - December 2003).

Manisha Lakhanpal

Case Proceeding Participation

Company	Case Number	Issue
Missouri Gas Utility	GR-2008-0060	Weather normal variables for weather normalization
The Empire District Electric Company	ER-2008-0093	Weather normal variables for weather normalization, Large Customer Analysis
Trigen-Kansas City Energy Corporation-(Steam/Heat)	HR-2008-0300	Weather normal variables and weather normalization factors
Union Electric Company d/b/a Ameren UE	ER-2008-0318	Weather normal variables for weather normalization, Revenue for Large Power and Large Transmission rate class
Kansas City Power & Light Company	ER-2009-0089	Weather normal variables for weather normalization, Retail Rate Revenue
KCP&L Greater Missouri Operations Company (GMO)	ER-2009-0090	Weather normal variables for weather normalization
Missouri Gas Energy (filed rebuttal & surrebuttal testimony)	GR-2009-0355	Weather normal variables for weather normalization
Union Electric Company d/b/a Ameren UE	ER-2010-0036	Weather normal variables for weather normalization, Revenue for Large Power and Large Transmission rate class
The Empire District Gas Company	GR-2009-0434	Weather normal variables for weather normalization

Publications: "Educational Attainment and AIDS Incidence: A Cross-Country Study", coauthored with Dr. Rati Ram, Department of Economics, Illinois State University, Economics of Education Review, 2008, vol. 27, issue 1, pages 14-21.

SHAWN E. LANGE

PRESENT POSITION:

I am a Utility Engineering Specialist III in the Engineering Analysis Section, Energy Department, Utility Operations Division.

EDUCATIONAL BACKGROUND AND WORK EXPERIENCE:

In December 2002, I received a Bachelor of Science Degree in Mechanical Engineering from the University of Missouri, at Rolla now known as the Missouri University of Science and Technology. I joined the Commission Staff in January 2005. I am a registered Engineer-in-Training in the State of Missouri.

TESTIMONY FILED:

Case Number	Utility	Testimony	Issue
ER-2005-0436	Aquila Inc.	Direct	Weather Normalization
		Rebuttal	Weather Normalization
		Surrebuttal	Weather Normalization
ER-2006-0314	Kansas City Power & Light Company	Direct	Weather Normalization
		Rebuttal	Weather Normalization
ER-2006-0315	The Empire District Electric Company	Direct	Weather Normalization
		Surrebuttal	Weather Normalization
ER-2007-0002	Union Electric Company d/b/a AmerenUE	Direct	Weather Normalization
ER-2007-0004	Aquila Inc.	Direct	Weather Normalization
ER-2007-0291	Kansas City Power & Light Company	Staff Report	Weather Normalization
		Rebuttal	Weather Normalization
ER-2008-0093	The Empire District Electric Company	Staff Report	Weather Normalization
ER-2008-0318	Union Electric Company d/b/a AmerenUE	Staff Report	Weather Normalization
ER-2009-0089	Kansas City Power & Light Company	Staff Report	Net System Input
ER-2009-0090	KCP&L Greater Missouri Operations Company	Staff Report	Net System Input

Erin Maloney

Education

Bachelor of Science Mechanical Engineering
University of Las Vegas Nevada, May 1992

Professional Experience

Missouri Public Service Commission, Jefferson City, MO
January 2005 – Present
Utility Engineering Specialist II

Electronic Data Systems, Kansas City, Missouri
August 1995 – November 2002
System Engineer

Previous Testimony Filed Before the Commission

Case Number	Type of Testimony	Issue
ER-2005-0436	Direct	Reliability
ER-2006-0315	Direct	System Losses and Jurisdictional Demand and Energy Allocation
ER-2006-0314	Direct, Rebuttal, Surrebuttal, True-up Direct	System Losses and Jurisdictional Demand and Energy Allocation
ER-2007-0002	Direct	System Losses and Jurisdictional Demand and Energy Allocation
ER-2007-0004	Direct	System Losses and Jurisdictional Demand and Energy Allocation
ER-2007-0291	Staff Report	System Losses and Jurisdictional Demand and Energy Allocation
ER-2008-0093	Staff Report	System Losses and Jurisdictional Demand and Energy Allocation
ER-2008-0318	Staff Report, Rebuttal, Surrebuttal	Fuel and Purchased Power Prices
ER-2009-0090	Staff Report	Purchased Power Prices
ER-2009-0089	Staff Report	Allocation Factor for Fuel & Purchased Power

Education and Work Experience Background for Lena M. Mantle, P.E.

Energy Department Manager
Utility Operations Division

I received a Bachelor of Science Degree in Industrial Engineering from the University of Missouri, at Columbia, in May 1983. I joined the Research and Planning Department of the Missouri Public Service Commission in August 1983. I became the Supervisor of the Engineering Analysis Section of the Energy Department in August, 2001. In July 2005, I was named the Manager of the Energy Department. I am a registered Professional Engineer in the State of Missouri.

In my work at the Commission from May 1983 through August 2001 I worked in many areas of electric utility regulation. Initially I worked on electric utility class cost-of-service analysis. As a member of the Research and Planning Department, I participated in the development of a leading edge methodology for weather normalizing hourly class energy for rate design cases. I applied this methodology to weather normalize energy in numerous rate increase cases. I was actively involved in the writing of the Commission's Chapter 22, Electric Resource Planning rules in the early 1990's and have been a part of the review of every electric resource plan submitted or filed.

My responsibilities as the Supervisor of the Engineering Analysis section considerably broadened my work scope. This section of the Commission Staff is responsible for a wide variety of engineering analysis including electric utility fuel and purchased power expense estimation for rate cases, generation plant construction audits, review of territorial agreements, and resolution of customer complaints. As the Manager of the Energy Department I oversee the activities of the Engineering Analysis section, the activities of the electric and natural gas utility tariff filings, the Commission's natural gas safety staff, and the class cost-of-service and rate design for natural gas and electric utilities.

Education and Work Experience Background for Lena M. Mantle, P.E.

Energy Department Manager
Utility Operations Division

In my work at the Commission I have participated in the development or revision of the following Commission rules:

4 CSR 240-3.130	Filing Requirements and Schedule of Fees for Applications for Approval of Electric Service Territorial Agreements and Petitions for Designation of Electric Service Areas
4 CSR 240-3.135	Filing Requirements and Schedule of Fees Applicable to Applications for Post-Annexation Assignment of Exclusive Service Territories and Determination of Compensation
4 CSR 240-3.161	Electric Utility Fuel and Purchased Power Cost Recovery Mechanisms Filing and Submission Requirements
4 CSR 240-3.162	Electric Utility Environmental Cost Recovery Mechanisms Filing and Submission Requirements
4 CSR 240-3.190	Reporting Requirements for Electric Utilities and Rural Electric Cooperatives
4 CSR 240-14	Utility Promotional Practices
4 CSR 240-18	Safety Standards
4 CSR 240-20.015	Affiliate Transactions
4 CSR 240-20.090	Electric Utility Fuel and Purchased Power Cost Recovery Mechanisms
4 CSR 240-20.091	Electric Utility Environmental Cost Recovery Mechanisms
4 CSR 240-22	Electric Utility Resource Planning

I have testified before the Commission in the following cases:

CASE NUMBER	TYPE OF FILING	ISSUE
ER-84-105	Direct	Demand-Side Update
ER-85-128, et. al	Direct	Demand-Side Update
EO-90-101	Direct, Rebuttal & Surrebuttal	Weather Normalization of Sales; Normalization of Net System

Education and Work Experience Background for Lena M. Mantle, P.E.

Energy Department Manager
Utility Operations Division

CASE NUMBER	TYPE OF FILING	ISSUE
ER-90-138	Direct	Normalization of Net System
EO-90-251	Rebuttal	Promotional Practice Variance
EO-91-74, et. al.	Direct	Weather Normalization of Class Sales; Normalization of Net System
ER-93-37	Direct	Weather Normalization of Class Sales; Normalization of Net System
ER-94-163	Direct	Normalization of Net System
ER-94-174	Direct	Weather Normalization of Class Sales; Normalization of Net System
EO-94-199	Direct	Normalization of Net System
ET-95-209	Rebuttal & Surrebuttal	New Construction Pilot Program
ER-95-279	Direct	Normalization of Net System
ER-97-81	Direct	Weather Normalization of Class Sales; Normalization of Net System; TES Tariff
EO-97-144	Direct	Weather Normalization of Class Sales; Normalization of Net System;
ER-97-394, et. al.	Direct, Rebuttal & Surrebuttal	Weather Normalization of Class Sales; Normalization of Net System; Energy Audit Tariff
EM-97-575	Direct	Normalization of Net System
EM-2000-292	Direct	Normalization of Net System; Load Research;
ER-2001-299	Direct	Weather Normalization of Class Sales; Normalization of Net System;
EM-2000-369	Direct	Load Research

Education and Work Experience Background for Lena M. Mantle, P.E.

Energy Department Manager
Utility Operations Division

CASE NUMBER	TYPE OF FILING	ISSUE
ER-2001-672	Direct & Rebuttal	Weather Normalization of Class Sales; Normalization of Net System;
ER-2002-1	Direct & Rebuttal	Weather Normalization of Class Sales; Normalization of Net System;
ER-2002-424	Direct	Derivation of Normal Weather
EF-2003-465	Rebuttal	Resource Planning
ER-2004-0570	Direct	Reliability Indices
ER-2004-0570	Rebuttal & Surrebuttal	Energy Efficiency Programs and Wind Research Program
EO-2005-0263	Spontaneous	DSM Programs and Integrated Resource Planning
EO-2005-0329	Spontaneous	DSM Programs and Integrated Resource Planning
ER-2005-0436	Direct	Resource Planning
ER-2005-0436	Rebuttal	Low-Income Weatherization and Energy Efficiency Programs
ER-2005-0436	Surrebuttal	Low-Income Weatherization and Energy Efficiency Programs; Resource Planning
EA-2006-0309	Rebuttal & Surrebuttal	Resource Planning
EA-2006-0314	Rebuttal	Jurisdictional Allocation Factor
ER-2006-0315	Supplemental Direct	Energy Forecast
ER-2006-0315	Rebuttal	DSM and Low-Income Programs
ER-2007-0002	Direct	DSM Cost Recovery
GR-2007-0003	Direct	DSM Cost Recovery

Education and Work Experience Background for Lena M. Mantle, P.E.

Energy Department Manager
Utility Operations Division

CASE NUMBER	TYPE OF FILING	ISSUE
ER-2007-0004	Direct	Resource Planning
ER-2008-0093	Rebuttal	Fuel Adjustment Clause, Low-Income Program
ER-2008-0318	Surrebuttal	Fuel Adjustment Clause

Contributed to Staff Direct Testimony Report

ER-2007-0291	DSM Cost recovery
ER-2008-0093	Fuel Adjustment Clause, Experimental Low-Income Program
ER-2008-0318	Fuel Adjustment Clause
ER-2010-0036	Environmental Cost Recovery Mechanism

WILLIAM L. MCDUFFEY

EDUCATIONAL BACKGROUND AND EXPERIENCE

In 1971, I received a Bachelor of Science degree in Business Administration from Southwestern State College of Weatherford, Oklahoma. Upon graduation, I worked one year for Caddo Electric Cooperative of Binger, Oklahoma, in the Engineering Department. I assumed an Engineering Technician position with Oklahoma Gas and Electric Company of Oklahoma City for five years prior to my employment with the Missouri Public Service Commission.

I am employed by the Missouri Public Service Commission (Commission) as a Rate & Tariff Examiner in the Energy Department of the Utility Operations Division. I have been employed by the Commission since October, 1978.

I have over 31 years of experience at the Commission working with electric, gas, and steam utility tariff issues. I review filed tariffs for technical and clerical changes, work with regulated electric and steam utilities on the revision of rules and regulations, address customer complaints, compile statistical data, respond to document requests, prepare records for permanent storage, update various internal Commission records and maps, and verify service area descriptions in territorial agreements cases and present testimony in formal proceedings before the Commission.

I have filed expert testimony in nineteen cases as shown on Schedule 1. In addition, I have been responsible for preparing Staff recommendations in memorandum form in numerous tariff filings and tariff cases.

PREVIOUS TESTIMONY OF

William L. McDuffey

CASE NUMBER	TYPE OF FILING	COMPANY
ER-80-120	Direct	The Empire District Electric Company
ER-80-313	Direct	Missouri Edison Company
ER-82-180 HR-82-179	Direct	Missouri Power & Light Company
ER-83-20	Direct	Sho-Me Power Corporation
ER-83-80	Direct	Sho-Me Power Corporation
EA-86-144	Territory	The Empire District Electric Company
EA-87-85 EA-87-123	Direct	Consolidated Electric Service Company Union Electric Company
EC-87-148	Direct	Howard Electric Cooperative vs. Union Electric Company
EC-96-38	Rebuttal	Union Electric Company
ET-98-110	Direct, Rebuttal	Union Electric Company
ET-99-126	Surrebuttal	Missouri Public Service
ER-99-247 EC-98-573	Direct, Surrebuttal	St. Joseph Light & Power Company
ER-2001-299	Direct	The Empire District Electric Company
ER-2001-672	Direct	UtiliCorp United, Inc. d/b/a Missouri Public Service
ER-2004-0034 HR-2004-0024	Direct, Rebuttal, Surrebuttal	Aquila, Inc. d/b/a Aquila Networks L&P and Aquila Networks MPS
ER-2004-0570	Direct, Surrebuttal	The Empire District Electric Company
ER-2006-0315	Direct	The Empire District Electric Company
ER-2006-0314	Direct, Rebuttal	Kansas City Power & Light Company
ER-2007-0002	Rebuttal	Union Electric Company d/b/a AmerenUE

Adam C. McKinnie

Present Position: Regulatory Economist III, Resource Analysis Section, Energy Department

Work Experience:

I joined Missouri Public Service Commission in April 2002 as a Regulatory Economist in the Economic Analysis Section of the Telecommunications Department. I began working on demand side energy issues in October 2007 as a half-time member of the Economic Analysis Section of the Energy Department. In June 2008 I began full-time work in the new Resource Analysis Section of the Energy Department, specializing in demand side and transmission issues.

I have worked in the construction of the demand-side portion of the Staff deficiency report for the last four Resource Plans filed by the four investor owned utilities.

I have participated in discussions with investor owned utilities regarding tariff filings to begin their demand side programs, as well as in the staff recommendations regarding those tariff filings.

Educational Background:

I hold a Bachelor of Arts degree in English and Economics that I received from Northeast Missouri State University (now called Truman State University) in May 1997. I also hold a Master of Science degree in Economics (with electives in Labor, Tax, and Industrial Organization) that I received from the University of Illinois in May 2000.

Cases in which I have filed testimony:

- **TO-2003-0531**, *In the Matter of the Application of Missouri RSA No. 7 Limited Partnership, d/b/a Mid-Missouri Cellular, for Designation as a Telecommunications Company Carrier Eligible for Federal Universal Service Support Pursuant to Section 254 of the Telecommunications Act of 1996*
- **TO-2005-0384**, *Application of USCOC of Greater Missouri, LLC For Designation As An Eligible Telecommunications Carrier Pursuant To The Telecommunications Act Of 1996*
- **TO-2004-0527**, *In the Matter of the Application of WWC License, LLC, d/b/a CellularOne(R), for Designation as an Eligible Telecommunications Carrier, and Petition for Redefinition of Rural Telephone Company Service Areas*
- **TO-2005-0325**, *In the Matter of the Third Application of Missouri RSA No. 7 Limited Partnership d/b/a Mid-Missouri Cellular for Designation as a Telecommunications Company Carrier Eligible for Federal Universal Service Support pursuant to § 254 of the Telecommunications Act of 1996*

Adam C. McKinnie

- **TO-2006-0172**, *In the Matter of the Application of Missouri RSA No. 5 Partnership for Designation as a Telecommunications Company Carrier Eligible for Federal Universal Service Support Pursuant to § 254 of the Telecommunications Act of 1996*
- **TO-2005-0466**, *In the Matter of the Application of Northwest Missouri Cellular Limited Partnership for Designation as a Telecommunications Company Carrier Eligible for Federal Universal Service Support Pursuant to § 254 of the Telecommunications Act of 1996*
- **IO-2003-0281** *In the Matter of the Investigation of the State of Competition in the Exchanges of Sprint Missouri, Inc.*
- **TO-2005-0035**, *In the Matter of the Second Investigation into the State of Competition in the Exchanges of Southwestern Bell Telephone, L.P., d/b/a SBC Missouri*
- **IO-2006-0316**, *In the Matter of CenturyTel of Missouri, LLC's Request for Competitive Classification Pursuant to Section 392.245.5, RSMo. (2005)*
- **IO-2006-0317**, *In the Matter of Spectra Communications Group, LLC d/b/a CenturyTel's Request for Competitive Classification Pursuant to Section 392.245.5, RSMo. (2005)*
- **TO-2005-0423**, *In the Matter of the Application of Chariton Valley Telecom Corporation for Designation as a Telecommunications Carrier Eligible for Federal Universal Service Support Pursuant to 254 of the Telecommunications Act of 1996*
- **TT-2006-0474**, *In the Matter of McLeodUSA Telecommunications Services, Inc.'s Tariff Filing to Increase its Missouri Intrastate Access Rates*
- **TO-2007-0301**, *In The Matter of Embarq Missouri, Inc. Application for Competitive Classification Under Section 392.245.5 RSMo. (2005)*
- **ER-2009-0089**, *In the Matter of the Application of Kansas City Power and Light Company for Approval to Make Certain Changes in its Charges for Electric Service To Continue the Implementation of Its Regulatory Plan.*

DAVID MURRAY

Educational and Employment Background and Credentials

I am currently the Acting Utility Regulatory Manager of the Financial Analysis Department for the Missouri Public Service Commission (Commission). I accepted the position of a Public Utility Financial Analyst in June 2000 and my position was reclassified in August 2003 to an Auditor III. I was promoted to the position of Auditor IV, effective July 1, 2006. I was employed by the Missouri Department of Insurance in a regulatory position before I began my employment at the Missouri Public Service Commission.

In May 1995, I earned a Bachelor of Science degree in Business Administration with an emphasis in Finance and Banking, and Real Estate from the University of Missouri-Columbia. I earned a Masters in Business Administration from Lincoln University in December 2003.

I have been awarded the professional designation Certified Rate of Return Analyst (CRRA) by the Society of Utility and Regulatory Financial Analysts (SURFA). This designation is awarded based upon experience and successful completion of a written examination, which I completed during my attendance at a SURFA conference in April 2007.

I am pursuing the Chartered Financial Analyst (CFA) designation. I passed the examinations for Levels I and II of the CFA Program and am currently a Level III candidate. In order to receive the CFA designation, I must pass the Level III examination and also have four years of relevant professional work experience.

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
10/14/09	GR-2009-0355	Missouri Gas Energy	Surrebuttal	Rate of Return Capital Structure
09/28/09	GR-2009-0355	Missouri Gas Energy	Rebuttal	Rate of Return Capital Structure
08/21/09	GR-2009-0355	Missouri Gas Energy	Cost of Service Report	Rate of Return Capital Structure
04/09/09	HR-2009-0092	KCP&L Greater Missouri Operations Company	Surrebuttal	Rate of Return Capital Structure
04/09/09	ER-2009-0090	KCP&L Greater Missouri Operations Company	Surrebuttal	Rate of Return Capital Structure
04/07/09	ER-2009-0089	Kansas City Power & Light Company	Surrebuttal	Rate of Return Capital Structure
03/13/09	HR-2009-0092	KCP&L Greater Missouri Operations Company	Rebuttal	Rate of Return Capital Structure
03/13/09	ER-2009-0090	KCP&L Greater Missouri Operations Company	Rebuttal	Rate of Return Capital Structure
03/11/09	ER-2009-0089	Kansas City Power & Light Company	Rebuttal	Rate of Return Capital Structure
02/13/09	HR-2009-0092	KCP&L Greater Missouri Operations Company	Cost of Service Report	Rate of Return Capital Structure
02/13/09	ER-2009-0090	KCP&L Greater Missouri Operations Company	Cost of Service Report	Rate of Return Capital Structure
02/11/09	ER-2009-0089	Kansas City Power & Light Company	Cost of Service Report	Rate of Return Capital Structure
08/01/2008	HR-2008-0300	Trigen-Kansas City Energy Corporation	Cost of Service Report	Rate of Return Capital Structure
01/18/2008	GR-2008-0060	Missouri Gas Utility, Inc.	Cost of Service Report	Rate of Return Capital Structure
07/31/2007	WR-2007-0216	Missouri-American Water Company	Surrebuttal	Rate of Return Capital Structure
07/13/2007	WR-2007-0216	Missouri-American Water Company	Rebuttal	Rate of Return Capital Structure

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
06/05/2007	WR-2007-0216	Missouri-American Water Company	Direct	Rate of Return Capital Structure
12/27/2006	GR-2006-0422	Missouri Gas Energy	True-up Direct	Rate of Return Capital Structure
12/11/2006	GR-2006-0422	Missouri Gas Energy	Surrebuttal	Rate of Return Capital Structure
11/21/2006	GR-2006-0422	Missouri Gas Energy	Rebuttal	Rate of Return Capital Structure
10/13/2006	GR-2006-0422	Missouri Gas Energy	Direct	Rate of Return Capital Structure
08/18/2006	ER-2006-0315	Empire District Electric Co.	Surrebuttal	Rate of Return Capital Structure
07/28/2006	ER-2006-0315	Empire District Electric Co.	Rebuttal	Rate of Return Capital Structure
06/23/2006	ER-2006-0315	Empire District Electric Co.	Direct	Rate of Return Capital Structure
12/13/2005	ER-2005-0436	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Surrebuttal	Rate of Return Capital Structure
11/18/2005	ER-2005-0436	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Rebuttal	Rate of Return Capital Structure
10/14/2005	ER-2005-0436	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Direct	Rate of Return Capital Structure
11/24/2004	ER-2004-0570	Empire District Electric Co.	Surrebuttal	Rate of Return Capital Structure
11/04/2004	ER-2004-0570	Empire District Electric Co.	Rebuttal	Rate of Return Capital Structure
09/20/2004	ER-2004-0570	Empire District Electric Co.	Direct	Rate of Return
07/19/2004	GR-2004-0209	Missouri Gas Energy	True-Up Direct	Rate of Return Capital Structure
06/14/2004	GR-2004-0209	Missouri Gas Energy	Surrebuttal	Rate of Return Capital Structure
05/24/2004	GR-2004-0209	Missouri Gas Energy	Rebuttal	Rate of Return Capital Structure
04/15/2004	GR-2004-0209	Missouri Gas Energy	Direct	Rate of Return Capital Structure

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
03/11/2004	IR-2004-0272	Fidelity Telephone Company	Direct	Rate of Return Capital Structure
02/13/2004	GR-2004-0072	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Rebuttal	Rate of Return Capital Structure
02/13/2004	ER-2004-0034	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Surrebuttal	Rate of Return Capital Structure
02/13/2004	HR-2004-0024	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Surrebuttal	Rate of Return Capital Structure
01/26/2004	HR-2004-0024	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks L&P	Rebuttal	Rate of Return Capital Structure
01/26/2004	ER-2004-0034	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks L&P	Rebuttal	Rate of Return Capital Structure
01/09/2004	WT-2003-0563	Osage Water Company	Rebuttal	Rate of Return Capital Structure
01/09/2004	ST-2003-0562	Osage Water Company	Rebuttal	Rate of Return Capital Structure
01/06/2004	GR-2004-0072	Aquila, Inc.	Direct	Rate of Return Capital Structure
12/19/2003	ST-2003-0562	Osage Water Company	Direct	Rate of Return Capital Structure
12/19/2003	WT-2003-0563	Osage Water Company	Direct	Rate of Return Capital Structure
12/09/2003	ER-2004-0034	Aquila, Inc.	Direct	Rate of Return Capital Structure
12/09/2003	HR-2004-0024	Aquila, Inc.	Direct	Rate of Return Capital Structure
12/05/2003	WC-2004-0168	Missouri-American Water Co	Surrebuttal	Rate of Return Capital Structure
12/05/2003	WR-2003-0500	Missouri-American Water Co	Surrebuttal	Rate of Return Capital Structure
11/10/2003	WR-2003-0500	Missouri-American Water Company	Rebuttal	Rate of Return Capital Structure
11/10/2003	WC-2004-0168	Missouri-American Water Company	Rebuttal	Rate of Return Capital Structure

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
10/03/2003	WC-2004-0168	Missouri-American Water Company	Direct	Rate of Return Capital Structure
10/03/2003	WR-2003-0500	Missouri-American Water Company	Direct	Rate of Return Capital Structure
03/17/2003	GM-2003-0238	Southern Union Co. dba Missouri Gas Energy	Rebuttal	Insulation
10/16/2002	ER-2002-424	The Empire District Electric Company	Surrebuttal	Rate of Return Capital Structure
09/24/2002	ER-2002-424	The Empire District Electric Company	Rebuttal	Rate of Return Capital Structure
08/16/2002	ER-2002-424	The Empire District Electric Company	Direct	Rate of Return Capital Structure
08/06/2002	TC-2002-1076	BPS Telephone Company	Direct	Rate of Return Capital Structure
01/22/2002	ER-2001-672	UtiliCorp United Inc. dba Missouri Public Service	Surrebuttal	Rate of Return Capital Structure
01/22/2002	EC-2002-265	UtiliCorp United Inc. dba Missouri Public Service	Surrebuttal	Rate of Return Capital Structure
01/08/2002	ER-2001-672	UtiliCorp United Inc. dba Missouri Public Service	Rebuttal	Rate of Return Capital Structure
01/08/2002	EC-2002-265	UtiliCorp United Inc. dba Missouri Public Service	Rebuttal	Rate of Return Capital Structure
12/06/2001	ER-2001-672	UtiliCorp United Inc. dba Missouri Public Service	Direct	Rate of Return Capital Structure
12/06/2001	EC-2002-265	UtiliCorp United Inc. dba Missouri Public Service	Direct	Rate of Return Capital Structure
05/22/2001	GR-2001-292	Missouri Gas Energy, A Division of Southern Union Company	Rebuttal	Rate of Return Capital Structure
04/19/2001	GR-2001-292	Missouri Gas Energy, A Division of Southern Union Company	Direct	Rate of Return Capital Structure
03/01/2001	TT-2001-328	Oregon Farmers Mutual Telephone Company	Rebuttal	Rate of Return Capital Structure
02/28/2001	TR-2001-344	Northeast Missouri Rural Telephone Company	Direct	Rate of Return Capital Structure
01/31/2001	TC-2001-402	Ozark Telephone Company	Direct	Rate of Return Capital Structure

CREDENTIALS AND BACKGROUND OF

STEPHEN M. RACKERS

I attended the University of Missouri in Columbia, Missouri, and received a Bachelor of Science degree in Business Administration, with a major in Accounting, in 1978. I have been employed by the Missouri Public Service Commission (Commission) since June 1, 1978 within the Auditing Department.

I passed the Uniform Certified Public Accountant examination and, I am licensed in the state of Missouri as a CPA. The Uniform CPA examination consisted of four parts: Accounting Practice, Accounting Theory, Auditing and Business Law.

I have been employed by this Commission as a Regulatory Auditor for over 30 years, and have submitted testimony on revenue, expense, and rate base ratemaking matters numerous times before the Commission. I have also been responsible for the supervision of other Commission employees in rate cases and other regulatory proceedings many times. I also participate in proceedings that involve the enforcement, interpretation and writing of the Commission's rules. I have received continuous training at in-house and outside seminars on technical ratemaking matters since I began my employment at the Commission. My responsibilities auditing the books and records of the utilities regulated by the Commission require that I review statutes applicable to the Commission or the utilities regulated by the Commission, the Commission's rules, utility tariffs, and contracts and other documents relating to the utilities regulated by the Commission. A listing of the cases in which I have previously filed testimony before this Commission, and the issues I have addressed in testimony in cases from 1997 to current, is attached as Schedule SMR 1.

Regulatory Case Proceeding Participation

Stephen M. Rackers

Issue	Case Number	Exhibit	Case Name
Interim Rates	ER-2010-0036	Direct, Rebuttal, Surrebuttal	Union Electric Company d/b/a AmerenUE
Revenue Requirement Cost Of service Report, Taum Sauk Capacity Sales, Nuclear Plant Licensing	ER-2008-0318	Direct, Surrebuttal	Union Electric Company d/b/a AmerenUE
True-Up, Income Taxes, MGP Sites, Other Rates Base Items, Revenue Requirement and OPEB	GR-2007-0387	Direct, Rebuttal	ATMOS Energy Company
True-up, Security AAO, Joplin Surcharge	WR-2007-0216	Direct, Rebuttal, Supplemental True-up Direct	Missouri-American Water Company
Income Taxes, Accumulated Deferred Income Taxes in Rate Base, Taum Sauk Generating Plant, Pinckneyville and Kinmundy Generating Plants, Accumulated Income Deferred Income Tax Balance, Income Tax Expense	ER-2007-0002	Direct, Rebuttal, Surrebuttal	Union Electric Company d/b/a AmerenUE
Revenue-Requirement, True-up, Income Taxes, MGP Sites, Other Rate Base Items, OPEBs	GR-2006-0387	Direct, Rebuttal	Atmos Energy Corporation
Affidavit in Support of the Stipulation and Agreement on various issues.	GR-2005-0284	Stipulation and Agreement	Laclede Gas Company
ISRS Income Taxes	GO-2004-0443	Direct	Laclede Gas Company
St. Joseph Treatment Plant, AAOs, Depreciation, Transaction Costs, Old St. Joseph Treatment Plant, Security Accounting Authority Order, Acquisition Adjustments	WC-2004-0168	Direct, Surrebuttal	Missouri-American Water Company
Security AAO, Recovery Of Undepreciated Plant Balances and Acquisition Adjustments	WR-2003-0500	Direct, Surrebuttal	Missouri-American Water Company
Transaction Costs, Depreciation, AAO's, Acquisition Adjustment, Security Accounting Authority Order, Old St. Joseph Treatment Plant	WR-2003-0500	Direct, Surrebuttal	Missouri-American Water Company
Financial Aspects	GT-2003-0117	Direct	Laclede Gas Company

Regulatory Case Proceeding Participation

Stephen M. Rackers

Issue	Case Number	Exhibit	Case Name
Copper Surveys, Net Salvage Expense, Environmental Cost, Test Year & True-Up, Accounting Authority Orders, Laclede Pipeline, Safety and Copper Service Replacement Program	GR-2002-356	Direct, Rebuttal, Surrebuttal	Laclede Gas Company
Purchase Power	ER-2002-217	Direct	Citizens Electric Corporation
Income Taxes, Pension Liability	EC-2002-1025	Direct	Union Electric Company d/b/a AmerenUE
Pension Liability, Income Tax Expense, Deferred Income Taxes, Income Tax Expense, Deferred Income Taxes – Rate Base Offset, Pension Liability, Income Taxes, Territorial Agreements	EC-2002-1	Direct, Surrebuttal	Union Electric Company d/b/a AmerenUE
Incentive Compensation, Post-Retirement Benefits Other than Pensions, Prepaid Pension Assets, Pensions	GR-2001-629	Direct	Laclede Gas Company
Application Recommendation	GM-2001-342	Rebuttal	Laclede Gas Company
Merger Recommendation, Cost Allocation Manual	WM-2001-309	Rebuttal, Surrebuttal	Missouri-American Water Company, et al
Merger Cost and Savings, Infrastructure Replacement Deferrals, Income Taxes, Net Salvage Expense, Revenue Requirement, Merger Costs and Savings, Accounting Authority Orders (AAO's), Infrastructure Replacement, Depreciation	WR-2000-844	Direct, Rebuttal, Surrebuttal	St. Louis County Water Company
Pension Liability, AFUDC, Deferred OPEB Asset, Pension Expense – FAS 87, New St. Joseph Treatment Plant Phase-In, OPEBS – FAS 106, Phase-In, Accounting Authority Order, Phase-In	SR-2000-282	Direct, Rebuttal, Surrebuttal	Missouri-American Water Company
Staff's Explanation and Rationale for Supporting the Stipulation Agreement	WR-2000-281	Direct in Support of Stipulation Agreement	Missouri-American Water Company
Pension Expense-FAS 87, Pension Liability, AFUDC, Deferred OPEB Asset, New St. Joseph Treatment Plant Phase-In, OPEBS-FAS 106, Accounting Authority Order, Phase-In, St. Joseph Treatment Plant	WR-2000-281	Direct, Rebuttal, Surrebuttal	Missouri-American Water Company

Regulatory Case Proceeding Participation

Stephen M. Rackers

Issue	Case Number	Exhibit	Case Name
Staff's Explanation and Rationale for Supporting the Stipulation Agreement	SR-2000-282	Direct in Support of Stipulation Agreement	Missouri-American Water Company
Territorial Agreements	EO-99-599	Rebuttal	Union Electric Company / Ozark Border Electric Cooperative
Safety Deferral, FAS 87, FAS 88, FAS 106, Prepaid Pension Asset, Environmental Cost, Computer Cost, Supplemental Pension, Accounting Authority Orders	GR-99-315	Direct, Rebuttal, Surrebuttal	Laclede Gas Company
Main Replacement Program, Order-Infrastructure, Accounting Authority, Main Replacement Programs	WO-98-223	Direct	St. Louis County Water Company
Lease Classification & Terms	WA-97-46	Rebuttal	Missouri-American Water Company
Amortization of Depreciation Reserve Deficiency, Appointment Meter Reading, Main Incident Expense, Income Tax, Infrastructure Replacement Deferral, Property Tax	WR-97-382	Direct	St. Louis County Water Company
Lease Classification & Terms	WF-97-241	Rebuttal	Missouri-American Water Company
Income Tax, Territorial Agreement, Overview, Income Taxes, Alternative Regulation Plan and Agreements, Pension Liability	EM-96-149	Direct, Surrebuttal	Union Electric Company
Overview, Income Tax, Territorial Agreements, Alternative Regulation Plan and Agreement	EO-96-14	Direct, Surrebuttal	Union Electric Company

Arthur W. Rice

Educational and Employment Background and Credentials

I am currently employed as a Utility Regulatory Engineer I for the Missouri Public Service Commission (Commission). I was employed by the Commission in April of 2008. Previously I worked in private industry both as self employed and as an employee. I received a Bachelors of Science in Chemical Engineering from the University of Massachusetts in 1979. I am a licensed professional engineer in the state of Missouri, license No 028012

From 1998 to 2008 I developed a residential subdivision on 270 Acres in Callaway County Missouri. I established Arthur Rice Contracting LLC, obtained the appropriate permits, installed infrastructure and built residential homes. Thirty seven families have moved into the development resulting in approximately $8,000,000 added to the Callaway County property tax base.

From 1979 to 1998 I was employed by Monsanto Company and then Air Products and Chemicals as an engineer and manager in progressively responsible assignments in equipment and process development, plant operations and plant construction. The processes worked on revolved around manufacturing, installation and operation of gas separation equipment for oil refineries, chemical plants and natural gas processing.

From 1972 to 1977 I was employed by General Electric Company as a tool and die maker apprentice. The facility I worked at produced pole transformers, power transformers and electrical switch gear.

From 1966 to 1972 I was employed by the U.S. Navy as a mechanical plant operator, qualified in submarines and nuclear power plant operation.

Case Participation of

Arthur W. Rice

Case/Tracking Number	Company Name - Issue
SR-2008-0388	WPC Sewer, Depreciation Review
SR-2008-0389	West 16Th Street, Depreciation Review
WA-2008-0403	Seges Mobile Home Park, Depreciation Assignment
WR-2009-0098	Raytown Water Company, Depreciation Review
SR-2009-0144	Cannon Home Assoc. Depreciation Review
WR-2009-0145	Peaceful Valley Service Co., Depreciation Review
SR-2009-0146	Peaceful Valley Service Co., Depreciation Review
WR-2009-0218	Terre Du Lac Utilities Corp., Depreciation Review
SR-2009-0219	Terre Du Lac Utilities Corp., Depreciation Review
WR-2009-0227	Lakeland Heights Water, Depreciation Review
WR-2009-0228	Wispering Hills Water, Depreciation Review
WR-2009-0229	Oakbrier Water Company, Depreciation Review
SR-2009-0226	R. D. Sewer Company, Depreciation Review
GA-2009-0264	Missouri Gas Utilities, Depreciation Assignment
WA-2009-0316	Highway H Utilities, Depreciation Assignment
SA-2009-0317	Highway H Utilities, Depreciation Assignment
SA-2009-0319	Mid Mo Sanitiation LLC, Depreciation Assignment
SR-2009-0298	Port Perry Service Company, Depreciation Review
WR-2009-0299	Port Perry Service Company, Depreciation Review
SA-2009-0401	Seges Mobile Home Park, Depreciation Assignment
SR-2009-0392	Highway H Utilities, Depreciation Review
WR2009-0393	Highway H Utilities, Depreciation Review
WR-2009-0418	Gladlo Water and Sewer, Depreciation Review
SR-2009-0419	Gladlo Water and Sewer, Depreciation Review
WR-2009-0395	Noel Water Co., Depreciation Review

John A. Rogers

Educational Background and Work Experience

I have a Master of Business Administration degree from the University of San Diego, and a Bachelor of Science degree in Engineering Science from the University of Notre Dame and am a registered professional engineer. My work experience includes 34 years in energy utility engineering, system operations, strategic planning, regulatory affairs and management. From 1974 to 1985, I was employed by San Diego Gas & Electric with responsibilities in gas engineering, gas system planning and gas system operations. From 1985 to 2000, I was employed by Citizens Utilities in leadership roles for gas operations in Arizona, Colorado and Louisiana. From 2000 to 2003, I was an executive consultant for Convergent Group (a division of Schlumberger) providing management consulting services to energy companies. From 2004 to 2008, I was employed by Arkansas Western Gas and was responsible for strategic planning and resource planning. I have provided expert testimony before the California Public Utilities Commission, Arizona Corporation Commission, Arkansas Public Service Commission and Missouri Public Service Commission in general rate cases, applications for special projects and gas resource plan filings. I have been employed by the Missouri Public Service Commission since December 2008 and am responsible for Staff's review of electric utility resource planning compliance filings, demand-side management programs and fuel adjustment clauses.

David C. Roos

Present Position: I am a Regulatory Economist III in the Energy Resource Analysis Section, Energy Department, Operations Division of the Missouri Public Service Commission.

Educational Background and Work Experience:

In May 1983, I graduated from the University of Notre Dame, Notre Dame, Indiana, with a Bachelor of Science Degree in Chemical Engineering. I also graduated from the University of Missouri in December 2005, with a Master of Arts in Economics. I have been employed at the Missouri Public Service Commission as a Regulatory Economist III since March 2006. Prior to joining the Public Service Commission I taught introductory economics and conducted research as a graduate teaching assistant and graduate research assistant at the University of Missouri. Prior to the University of Missouri, I was employed by several private firms where I provided consulting, design, and construction oversight of environmental projects for private and public sector clients.

Previous Cases

Company	Case No.
The Empire District Electric Company	ER-2006-0315
Union Electric Company d/b/a AmerenUE	ER-2007-0002
Aquila, Inc.	ER-2007-0004
Kansas City Power & Light Company	ER-2007-0291
Union Electric Company d/b/a AmerenUE	EO-2007-0409
The Empire District Electric Company	ER-2008-0093
Kansas City Power & Light Company	ER-2008-0034
KCP&L Greater Missouri Operations Company	HR-2008-0340
KCP& L Greater Missouri Operations Company	ER-2009-0090
KCP&L Greater Missouri Operations Company	EO-2009-0115
KCP&L Greater Missouri Operations Company	EE-2009-0237
KCP&L Greater Missouri Operations Company	EO-2009-0431
The Empire District Electric Company	ER-2010-0105
KCP&L Greater Missouri Operations Company	EO-2010-0002
Union Electric Company d/b/a AmerenUE	ER-2010-0044

MICHAEL E. TAYLOR

- Bachelor of Science degree in Mechanical Engineering, University of Missouri-Rolla, 1972

- Master of Science degree in Engineering Management, University of Missouri-Rolla, 1987

- United States Navy (Submarine Service), 1972 to 1979

- Union Electric Company (AmerenUE), 1979 to 2003
  Experience included Callaway Plant operations, work control, engineering, quality assurance, quality control, instrumentation and controls, fire protection, industrial safety, outage scheduling, daily scheduling and work planning
  Licensed as a Senior Reactor Operator

- Missouri Public Service Commission Staff, 2003 to present
  Utility Engineering Specialist II, Safety/Engineering, Energy Department
  Utility Engineering Specialist III, Engineering Analysis, Energy Department

PREVIOUS TESTIMONY OF MICHAEL E. TAYLOR

Case Number	Company	Type of Filing	Issue
ER-2006-0314	Kansas City Power & Light	Direct	Plant in Service
ER-2006-0314	Kansas City Power & Light	True-Up Direct	Plant in Service
ER-2007-0002	AmerenUE	Direct	Plant in Service
ER-2007-0002	AmerenUE	Supplemental Direct	Plant in Service
ER-2007-0004	Aquila	Rebuttal	Fuel Adjustment Clause
ER-2007-0291	Kansas City Power & Light	Staff Report	Plant in Service
ER-2007-0291	Kansas City Power & Light	True-Up Direct	Plant in Service
ER-2008-0093	Empire District Electric	Staff Report	Plant in Service
ER-2008-0093	Empire District Electric	Rebuttal	Fuel Adjustment Clause
ER-2008-0093	Empire District Electric	Surrebuttal	Plant in Service
ER-2008-0318	AmerenUE	Rebuttal	Fuel Adjustment Clause
ER-2009-0089	Kansas City Power & Light	Surrebuttal	Plant in Service
ER-2009-0089	Kansas City Power & Light	Live Testimony	Plant in Service
ER-2009-0090	KCP&L Greater Missouri Operations Company	Live Testimony	Plant in Service

Curt Wells

Present Position:

I am a Regulatory Economist in the Economic Analysis Section, Energy Department, Operations Division of the Missouri Public Service Commission.

Educational Background and Work Experience:

I have a Bachelor's degree in Economics from Duke University, a Master's degree in Economics from The Pennsylvania State University, and a Master's degree in Applied Economics from Southern Methodist University. I have been employed by the Missouri Public Service Commission since February, 2006. Prior to joining the Commission, I completed a career in the U.S. Air Force, which included assignments as an aircraft navigator, and later in the Purchasing/Contracting area as Contract Negotiator and Administrator, Installation Purchasing Department Chief, Contracting Policy Manager, Director of the Air Force warranty center, and Program Manager responsible for developing and awarding technical support contracts.

CURT WELLS

TESTIMONY/REPORTS FILED

BEFORE

THE MISSOURI PUBLIC SERVICE COMMISSION

Case Number	Company	Issue
ER-2006-0314 Direct/ True-up Direct	Kansas City Power & Light Company	Calculation of Normal Weather, Revenue
ER-2006-0315 Direct/Rebuttal	Empire District Electric	Revenue
GR-2006-0387 Direct	ATMOS Energy Corporation	Calculation of Normal Weather
GR-2006-0422 Direct/Rebuttal/ Surrebuttal	Missouri Gas Energy	Calculation of Normal Weather
ER-2007-0002 Direct/Rebuttal	Union Electric d/b/a AmerenUE	Calculation of Normal Weather, Large Customer Annualization
GR-2007-0003 Direct	Union Electric d/b/a AmerenUE	Calculation of Normal Weather
ER-2007-0004 Direct/ Supplemental Direct	Aquila, Inc	Calculation of Normal Weather, Revenue
GR-2007-0208 Direct	Laclede Gas Company	Calculation of Normal Weather
ER-2007-0291 Direct/Rebuttal	Kansas City Power & Light Co.	Calculation of Normal Weather, Large Power Revenue
ER-2008-0093 Direct(Report)/ Surrebuttal True-up Direct	Empire District Electric	Revenue, Rate Design
HR-2008-0300 Direct(Report)	Trigen-Kansas City Energy Corp.	Rate Design

CURT WELLS

TESTIMONY/REPORTS FILED

BEFORE

THE MISSOURI PUBLIC SERVICE COMMISSION

Case Number	Company	Issue
ER-2008-0318 Direct(Report)	Union Electric d/b/a AmerenUE	Revenue
ER-2009-0089 Direct	Kansas City Power & Light Co.	[Coordinator]
ER-2009-0090 Direct(Report)	KCP&L Greater Missouri Operations	Revenue, [Coordinator]
HR-2009-0092 Direct	KCP&L Steam Greater Missouri Operations	[Coordinator]

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 2

Support for Staff Cost
of
Capital Recommendations

UNION ELECTRIC COMPANY

d/b/a AmerenUE

CASE NO. ER-2010-0036

Attachment A

The DCF model is a market-oriented approach for deriving the cost of common equity. The cost of common equity calculated from the DCF model is inherently capable of attracting capital. This results from the theory that security prices adjust continually over time, so that an equilibrium price exists and the stock is neither undervalued nor overvalued. It can also be stated that stock prices continually fluctuate to reflect the required and expected return for the investor.

The constant-growth form of the DCF model was used in this analysis. This model relies upon the fact that a company's common stock price is dependent upon the expected cash dividends and upon cash flows received through capital gains or losses that result from stock price changes. The interest rate which discounts the sum of the future expected cash flows to the current market price of the common stock is the calculated cost of common equity. This can be expressed algebraically as:

$$\text{Present Price} = \underset{\text{Discounted by k}}{\text{Expected Dividends}} + \underset{\text{Discounted by k}}{\text{Expected Price in 1 year}} \qquad (1)$$

where k equals the cost of equity. Since the expected price of a stock in one year is equal to the present price multiplied by one plus the growth rate, equation (1) can be restated as:

$$\text{Present Price} = \frac{\text{Expected Dividends}}{(1+k)} + \frac{\text{Present Price } (1+g)}{(1+k)} \qquad (2)$$

where g equals the growth rate and k equals the cost of equity. Letting the present price equal P_0 and expected dividends equal D_1, the equation appears as:

$$P_0 = \frac{D_1}{(1+k)} + \frac{P_0(1+g)}{(1+k)} \qquad (3)$$

The cost of equity equation may also be algebraically represented as:

$$k = \frac{D_1}{P_0} + g \qquad (4)$$

Thus, the cost of common stock equity, k, is equal to the expected dividend yield (D_1/P_0) plus the expected growth in dividends (g) continuously summed into the future. The growth in dividends and implied growth in earnings will be reflected in the current price. Therefore, this model also recognizes the potential of capital gains or losses associated with owning a share of common stock.

The discounted cash flow method is a continuous stock valuation model. The DCF theory is based on the following assumptions:

1. Market equilibrium;
2. Perpetual life of the company;
3. Constant payout ratio;
4. Payout of less than 100% earnings;
5. Constant price/earnings ratio;
6. Constant growth in cash dividends;
7. Stability in interest rates over time;
8. Stability in required rates of return over time; and,
9. Stability in earned returns over time.

Flowing from these, it is further assumed that an investor's growth horizon is unlimited and that earnings, book values and market prices grow hand-in-hand. Although the entire list of the above assumptions is rarely met, the DCF model is a reasonable working model describing an actual investor's expectations and resulting behaviors.

Attachment B

The CAPM describes the relationship between a security's investment risk and its market rate of return. This relationship identifies the rate of return which investors expect a security to earn so that its market return is comparable with the market returns earned by other securities that have similar risk. The general form of the CAPM is as follows:

$$k = R_f + \beta (R_m - R_f)$$

where:

k	=	the expected return on equity for a specific security;
R_f	=	the risk-free rate;
β	=	beta; and
$R_m - R_f$	=	the market risk premium.

The first term of the CAPM is the risk-free rate (Rf). The risk-free rate reflects the level of return that can be achieved without accepting any risk. In reality, there is no such risk-free asset, but it is generally represented by U.S. Treasury securities.

The second term of the CAPM is beta (β). Beta is an indicator of a security's investment risk. It represents the relative movement and relative risk between a particular security and the market as a whole (where beta for the market equals 1.00). Securities with betas greater than 1.00 exhibit greater volatility than do securities with betas less than 1.00. This causes a higher beta security to be less desirable to a risk-averse investor and therefore requires a higher return in order to attract investor capital away from a lower beta security.

The final term of the CAPM is the market risk premium ($R_m - R_f$). The market risk premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk-free investment.

AN ANALYSIS OF THE COST OF CAPITAL

FOR

UNION ELECTRIC COMPANY
d/b/a AMERENUE

CASE NO. ER-2010-0036

SCHEDULES

BY

DAVID MURRAY

UTILITY SERVICES DIVISION

MISSOURI PUBLIC SERVICE COMMISSION

DECEMBER 2009

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

List of Schedules

Schedule Number	Description of Schedule
1	List of Schedules
2-1	Federal Reserve Discount Rate Changes and Federal Reserve Funds Rate Changes
2-2	Graph of Federal Reserve Discount Rates and Federal Funds Rates Changes
3-1	Rate of Inflation
3-2	Graph of Rate of Inflation
4-1	Average Yields on Mergent's Public Utility Bonds
4-2	Average Yields on Thirty-Year U.S. Treasury Bonds
4-3	Graph of Average Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds
4-4	Graph of Monthly Spreads Between Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds
4-5	Moody's Baa Corporate Bond Yields
5	Economic Estimates and Projections, 2009-2011
6-1	Historical Consolidated Capital Structures for Union Electric and Ameren (in Millions of Dollars)
6-2	Historical Consolidated Capital Structures for Union Electric and Ameren (in Percentages)
7	Capital Structure as of March 31, 2009 for Union Electric Company
8	Criteria for Selecting Comparable Electric Utility Companies
9	Comparable Electrical Utility Companies
10-1	Ten-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and Ameren
10-2	Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and Ameren
10-3	Average of Ten- and Five-Year Dividends Per Share, Earnings Per Share & Book Value Per share Growth Rates for the Comparable Electric Utility Companies and Ameren
11	Five-Year Projected Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and Ameren
12	Projected EPS Growth Rates for the Comparable Electric Utility Companies and Ameren
13	Historical and Projected Growth Rates for the Comparable Electric Utility Companies and Ameren
14	Average High / Low Stock Price for September 2009 through November 2009 for the Comparable Electric Utility Companies and Ameren
15	Constant-Growth Discounted Cash Flow (DCF) Estimated Costs of Common Equity for the Comparable Electric Utility Companies and Ameren
16	Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates Based on Historical Return Differences Between Common Stocks and Long-Term U.S. Treasuries for the Comparable Electric Utility Companies and Ameren
17	Multiple-Stage Discounted Cash Flow (DCF) Estimated Costs of Common Equity for the Comparable Electric Utility Companies and Ameren
18	Selected Financial Ratios for the Comparable Electric Utility Companies and Ameren
19	Public Utility Revenue Requirement or Cost of Service
20	Weighted Cost of Capital as of March 31, 2009 for Union Electric Company

SCHEDULE 1

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Federal Reserve Discount Rate Changes and Federal Reserve Funds Rate Changes

Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate
01/01/83	8.50%	
12/31/83	8.50%	
04/09/84	9.00%	
11/21/84	8.50%	
12/24/84	8.00%	
05/20/85	7.50%	
03/07/86	7.00%	
04/21/86	6.50%	
07/11/86	6.00%	
08/21/86	5.50%	
09/04/87	6.00%	
08/09/88	6.50%	
02/24/89	7.00%	
07/13/90		8.00% *
10/29/90		7.75%
11/13/90		7.50%
12/07/90		7.25%
12/18/90		7.00%
12/19/90	6.50%	
01/09/91		6.75%
02/01/91	6.00%	6.25%
03/08/91		6.00%
04/30/91	5.50%	5.75%
08/06/91		5.50%
09/13/91	5.00%	5.25%
10/31/91		5.00%
11/06/91	4.50%	4.75%
12/06/91		4.50%
12/20/91	3.50%	4.00%
04/09/92		3.75%
07/02/92	3.00%	3.25%
09/04/92		3.00%
01/01/93		
12/31/93	No Changes	No Changes
02/04/94		3.25%
03/22/94		3.50%
04/18/94		3.75%
05/17/94	3.50%	4.25%
08/16/94	4.00%	4.75%
11/15/94	4.75%	5.50%
02/01/95	5.25%	6.00%
07/06/95		5.75%
12/19/95		5.50%
01/31/96	5.00%	5.25%
03/25/97		5.50%
12/12/97	5.00%	
01/09/98	5.00%	
03/06/98	5.00%	
09/29/98		5.25%
10/15/98	4.75%	5.00%
11/17/98	4.50%	4.75%
06/30/99	4.50%	5.00%
08/24/99	4.75%	5.25%
11/16/99	5.00%	5.50%
02/02/00	5.25%	5.75%
03/21/00	5.50%	6.00%
05/19/00	6.00%	6.50%
01/03/01	5.75%	6.00%
01/04/01	5.50%	6.00%
01/31/01	5.00%	5.50%
03/20/01	4.50%	5.00%
04/18/01	4.00%	4.50%
05/15/01	3.50%	4.00%
06/27/01	3.25%	3.75%
08/21/01	3.00%	3.50%
09/17/01	2.50%	3.00%
10/02/01	2.00%	2.50%
11/06/01	1.50%	2.00%
12/11/01	1.25%	1.75%
11/06/02	0.75%	1.25%
01/09/03	2.25%**	1.25%
06/25/03	2.00%	1.00%
06/30/04	2.25%	1.25%
08/10/04	2.50%	1.50%
09/21/04	2.75%	1.75%
11/10/04	3.00%	2.00%
12/14/04	3.25%	2.25%
02/02/05	3.50%	2.50%
03/22/05	3.75%	2.75%
05/03/05	4.00%	3.00%
06/30/05	4.25%	3.25%
08/09/05	4.50%	3.50%
09/20/05	4.75%	3.75%
11/01/05	5.00%	4.00%
12/13/05	5.25%	4.25%
01/31/06	5.50%	4.50%
03/28/06	5.75%	4.75%
05/10/06	6.00%	5.00%
06/29/06	6.25%	5.25%
08/17/07	5.75%	5.25%
09/18/07	5.25%	4.75%
10/31/07	5.00%	4.50%
12/11/07	4.75%	4.25%
01/22/08	4.00%	3.50%
01/30/08	3.50%	3.00%
03/16/08	3.25%	
03/18/08	2.50%	2.25%
04/30/08	2.25%	2.00%
10/08/08	1.75%	1.50%
10/28/08	1.25%	1.00%
12/30/08	0.50%	0% - .25%

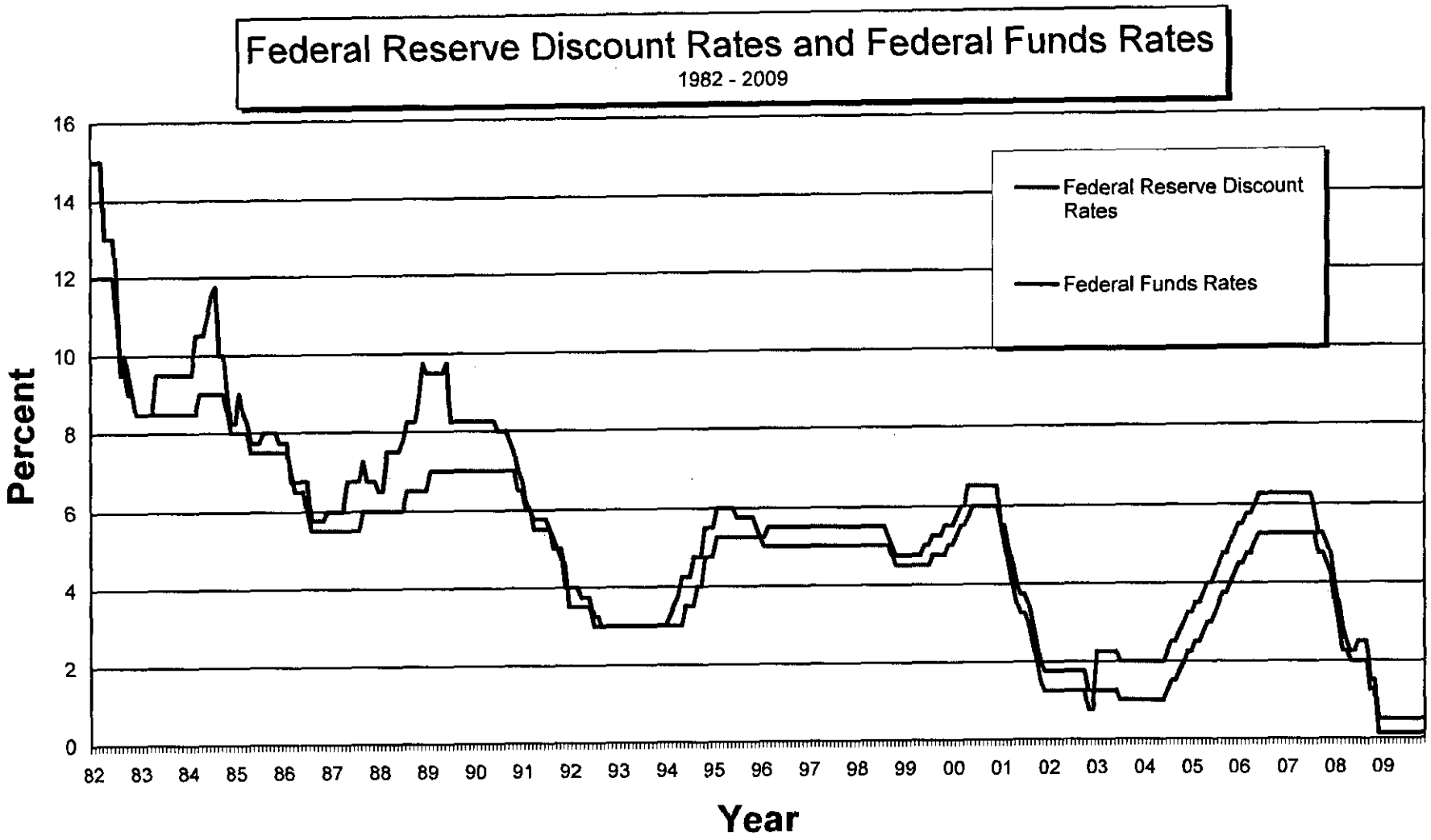
*Staff began tracking the Federal Funds Rate.
**Revised discount window program begins. Reflects rate on primary credit. This revised discount window policy results in incomparability of the discount rates after January 9, 2003 to discount rates before January 9, 2003.

Source:
Federal Reserve Discount rate http://www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html
Federal Reserve Funds rate http://www.newyorkfed.org/markets/statistics/dlyrates/fedrate.htm

Note: Interest rates as of December 31 for each year are underlined.

SCHEDULE 2-1

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036



SCHEDULE 2-2

Schedule 2-2

Union Electric Company d/b/a AmerenUE
Case No. ER-2010-0036

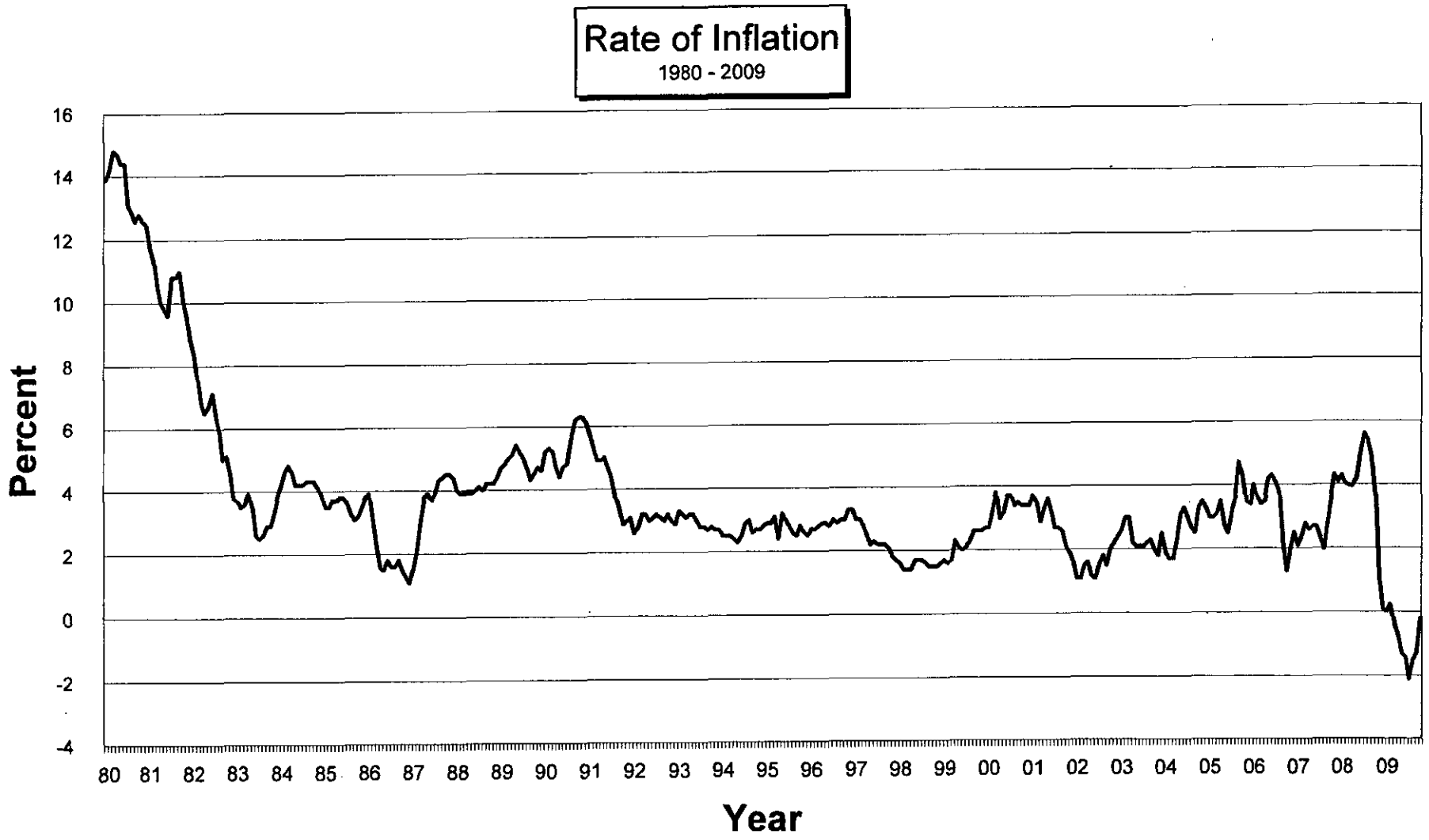
Rate of Inflation

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	13.90	Jan 1984	4.20	Jan 1988	4.00	Jan 1992	2.60	Jan 1996	2.70	Jan 2000	2.70	Jan 2004	1.90	Jan 2008	4.30
Feb	14.20	Feb	4.60	Feb	3.90	Feb	2.80	Feb	2.70	Feb	3.20	Feb	1.70	Feb	4.00
Mar	14.80	Mar	4.80	Mar	3.90	Mar	3.20	Mar	2.80	Mar	3.70	Mar	1.70	Mar	4.00
Apr	14.70	Apr	4.60	Apr	3.90	Apr	3.20	Apr	2.80	Apr	3.00	Apr	2.30	Apr	3.90
May	14.40	May	4.20	May	3.90	May	3.00	May	2.90	May	3.20	May	3.10	May	4.20
Jun	14.40	Jun	4.20	Jun	4.00	Jun	3.10	Jun	2.80	Jun	3.70	Jun	3.30	Jun	5.00
Jul	13.10	Jul	4.20	Jul	4.10	Jul	3.20	Jul	3.00	Jul	3.70	Jul	3.00	Jul	5.60
Aug	12.90	Aug	4.30	Aug	4.00	Aug	3.10	Aug	2.90	Aug	3.40	Aug	2.70	Aug	5.40
Sep	12.60	Sep	4.30	Sep	4.20	Sep	3.00	Sep	3.00	Sep	3.50	Sep	2.50	Sep	4.90
Oct	12.80	Oct	4.30	Oct	4.20	Oct	3.20	Oct	3.00	Oct	3.40	Oct	3.30	Oct	3.70
Nov	12.60	Nov	4.10	Nov	4.20	Nov	3.00	Nov	3.30	Nov	3.40	Nov	3.50	Nov	1.10
Dec	12.50	Dec	3.90	Dec	4.40	Dec	2.90	Dec	3.30	Dec	3.40	Dec	3.30	Dec	0.10
Jan 1981	11.80	Jan 1985	3.50	Jan 1989	4.70	Jan 1993	3.30	Jan 1997	3.00	Jan 2001	3.70	Jan 2005	3.00	Jan 2009	0.00
Feb	11.40	Feb	3.50	Feb	4.80	Feb	3.20	Feb	3.00	Feb	3.50	Feb	3.00	Feb	0.20
Mar	10.50	Mar	3.70	Mar	5.00	Mar	3.10	Mar	2.80	Mar	2.90	Mar	3.10	Mar	-0.40
Apr	10.00	Apr	3.70	Apr	5.10	Apr	3.20	Apr	2.50	Apr	3.30	Apr	3.50	Apr	-0.70
May	9.80	May	3.80	May	5.40	May	3.20	May	2.20	May	3.60	May	2.80	May	-1.28
Jun	9.60	Jun	3.80	Jun	5.20	Jun	3.00	Jun	2.30	Jun	3.20	Jun	2.50	Jun	-1.40
Jul	10.80	Jul	3.60	Jul	5.00	Jul	2.80	Jul	2.20	Jul	2.70	Jul	3.20	Jul	-2.10
Aug	10.80	Aug	3.30	Aug	4.70	Aug	2.80	Aug	2.20	Aug	2.70	Aug	3.60	Aug	-1.50
Sep	11.00	Sep	3.10	Sep	4.30	Sep	2.70	Sep	2.20	Sep	2.60	Sep	4.70	Sep	-1.30
Oct	10.10	Oct	3.20	Oct	4.50	Oct	2.80	Oct	2.10	Oct	2.10	Oct	4.30	Oct	-0.20
Nov	9.60	Nov	3.50	Nov	4.70	Nov	2.70	Nov	1.80	Nov	1.90	Nov	3.50		
Dec	8.90	Dec	3.80	Dec	4.60	Dec	2.70	Dec	1.70	Dec	1.60	Dec	3.40		
Jan 1982	8.40	Jan 1986	3.90	Jan 1990	5.20	Jan 1994	2.50	Jan 1998	1.60	Jan 2002	1.10	Jan 2006	4.00		
Feb	7.80	Feb	3.10	Feb	5.30	Feb	2.50	Feb	1.40	Feb	1.10	Feb	3.60		
Mar	6.80	Mar	2.30	Mar	5.20	Mar	2.50	Mar	1.40	Mar	1.50	Mar	3.40		
Apr	6.50	Apr	1.60	Apr	4.70	Apr	2.40	Apr	1.40	Apr	1.60	Apr	3.50		
May	6.70	May	1.50	May	4.40	May	2.30	May	1.70	May	1.20	May	4.20		
Jun	7.10	Jun	1.80	Jun	4.70	Jun	2.50	Jun	1.70	Jun	1.10	June	4.30		
Jul	6.40	Jul	1.60	Jul	4.80	Jul	2.90	Jul	1.70	Jul	1.50	July	4.10		
Aug	5.90	Aug	1.60	Aug	5.60	Aug	3.00	Aug	1.60	Aug	1.80	Aug	3.80		
Sep	5.00	Sep	1.80	Sep	6.20	Sep	2.60	Sep	1.50	Sep	1.50	Sep	2.10		
Oct	5.10	Oct	1.50	Oct	6.30	Oct	2.70	Oct	1.50	Oct	2.00	Oct	1.30		
Nov	4.60	Nov	1.30	Nov	6.30	Nov	2.70	Nov	1.50	Nov	2.20	Nov	2.90		
Dec	3.80	Dec	1.10	Dec	6.10	Dec	2.80	Dec	1.60	Dec	2.40	Dec	2.50		
Jan 1983	3.70	Jan 1987	1.50	Jan 1991	5.70	Jan 1995	2.90	Jan 1999	1.70	Jan 2003	2.60	Jan 2007	2.10		
Feb	3.50	Feb	2.10	Feb	5.30	Feb	2.90	Feb	1.60	Feb	3.00	Feb	2.40		
Mar	3.60	Mar	3.00	Mar	4.90	Mar	3.10	Mar	1.70	Mar	3.00	Mar	2.80		
Apr	3.90	Apr	3.80	Apr	4.90	Apr	2.40	Apr	2.30	Apr	2.20	Apr	2.60		
May	3.50	May	3.90	May	5.00	May	3.20	May	2.10	May	2.10	May	2.70		
Jun	2.60	Jun	3.70	Jun	4.70	Jun	3.00	Jun	2.00	Jun	2.10	Jun	2.70		
Jul	2.50	Jul	3.90	Jul	4.40	Jul	2.80	Jul	2.10	Jul	2.10	Jul	2.40		
Aug	2.60	Aug	4.30	Aug	3.80	Aug	2.60	Aug	2.30	Aug	2.20	Aug	2.00		
Sep	2.90	Sep	4.40	Sep	3.40	Sep	2.50	Sep	2.60	Sep	2.30	Sep	2.80		
Oct	2.90	Oct	4.50	Oct	2.90	Oct	2.80	Oct	2.60	Oct	2.00	Oct	3.50		
Nov	3.30	Nov	4.50	Nov	3.00	Nov	2.60	Nov	2.60	Nov	1.80	Nov	4.30		
Dec	3.80	Dec	4.40	Dec	3.10	Dec	2.50	Dec	2.70	Dec	1.90	Dec	4.10		

Source: U.S. Dept of Labor, Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers,
Change for 12-Month Period, Bureau of Labor Statistics,
http://www.bls.gov/schedule/archives/cpi_nr.htm

Schedule 3-1

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036



Schedule 3-2

SCHEDULE 3-2

Union Electric Company d/b/a AmerenUE
Case No. ER-2010-0036

Average Yields on Mergent's Public Utility Bonds

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	12.12	Jan 1984	13.40	Jan 1988	10.75	Jan 1992	8.67	Jan 1996	7.20	Jan 2000	8.22	Jan 2004	6.23	Jan 2008	6.08
Feb	13.48	Feb	13.50	Feb	10.11	Feb	8.77	Feb	7.37	Feb	8.10	Feb	6.17	Feb	6.28
Mar	14.33	Mar	14.03	Mar	10.11	Mar	8.84	Mar	7.72	Mar	8.14	Mar	6.01	Mar	6.29
Apr	13.50	Apr	14.30	Apr	10.53	Apr	8.79	Apr	7.88	Apr	8.14	Apr	6.38	Apr	6.36
May	12.17	May	14.95	May	10.75	May	8.72	May	7.99	May	8.55	May	6.68	May	6.38
Jun	11.87	Jun	15.16	Jun	10.71	Jun	8.64	Jun	8.07	Jun	8.22	Jun	6.53	Jun	6.50
Jul	12.12	Jul	14.92	Jul	10.86	Jul	8.46	Jul	8.02	Jul	8.17	Jul	6.34	Jul	6.50
Aug	12.82	Aug	14.29	Aug	11.09	Aug	8.34	Aug	7.84	Aug	8.05	Aug	6.16	Aug	6.48
Sep	13.29	Sep	14.04	Sep	10.56	Sep	8.32	Sep	8.01	Sep	8.16	Sep	6.01	Sep	6.59
Oct	13.53	Oct	13.68	Oct	9.92	Oct	8.44	Oct	7.76	Oct	8.08	Oct	5.95	Oct	7.70
Nov	14.07	Nov	13.15	Nov	9.89	Nov	8.53	Nov	7.48	Nov	8.03	Nov *	5.97	Nov	7.80
Dec	14.48	Dec	12.96	Dec	10.02	Dec	8.36	Dec	7.58	Dec	7.79	Dec	5.93	Dec	6.87
Jan 1981	14.22	Jan 1985	12.88	Jan 1989	10.02	Jan 1993	8.23	Jan 1997	7.79	Jan 2001	7.76	Jan 2005	5.80	Jan 2009	6.77
Feb	14.84	Feb	13.00	Feb	10.02	Feb	8.00	Feb	7.68	Feb	7.69	Feb	5.64	Feb	6.72
Mar	14.86	Mar	13.66	Mar	10.16	Mar	7.85	Mar	7.92	Mar	7.59	Mar	5.86	Mar	6.85
Apr	15.32	Apr	13.42	Apr	10.14	Apr	7.76	Apr	8.08	Apr	7.81	Apr	5.72	Apr	6.90
May	15.84	May	12.89	May	9.92	May	7.78	May	7.94	May	7.88	May	5.60	May	6.83
Jun	15.27	Jun	11.91	Jun	9.49	Jun	7.68	Jun	7.77	Jun	7.75	Jun	5.39	June	6.54
Jul	15.87	Jul	11.88	Jul	9.34	Jul	7.53	Jul	7.52	Jul	7.71	Jul	5.50	July	6.15
Aug	16.33	Aug	11.93	Aug	9.37	Aug	7.21	Aug	7.57	Aug	7.57	Aug	5.51	Aug	5.80
Sep	16.89	Sep	11.95	Sep	9.43	Sep	7.01	Sep	7.50	Sep	7.73	Sep	5.54	Sep	5.60
Oct	16.76	Oct	11.84	Oct	9.37	Oct	6.99	Oct	7.37	Oct	7.64	Oct	5.79	Oct	5.64
Nov	15.50	Nov	11.33	Nov	9.33	Nov	7.30	Nov	7.24	Nov	7.61	Nov	5.88		
Dec	15.77	Dec	10.82	Dec	9.31	Dec	7.33	Dec	7.16	Dec	7.86	Dec	5.83		
Jan 1982	16.73	Jan 1986	10.66	Jan 1990	9.44	Jan 1994	7.31	Jan 1998	7.03	Jan 2002	7.69	Jan 2006	5.77		
Feb	16.72	Feb	10.16	Feb	9.66	Feb	7.44	Feb	7.09	Feb	7.62	Feb	5.83		
Mar	16.07	Mar	9.33	Mar	9.75	Mar	7.83	Mar	7.13	Mar	7.83	Mar	5.98		
Apr	15.82	Apr	9.02	Apr	9.87	Apr	8.20	Apr	7.12	Apr	7.74	Apr	6.28		
May	15.60	May	9.52	May	9.89	May	8.32	May	7.11	May	7.76	May	6.39		
Jun	16.18	Jun	9.51	Jun	9.69	Jun	8.31	Jun	6.99	Jun	7.67	June	6.39		
Jul	16.04	Jul	9.19	Jul	9.66	Jul	8.47	Jul	6.99	Jul	7.54	July	6.37		
Aug	15.22	Aug	9.15	Aug	9.84	Aug	8.41	Aug	6.96	Aug	7.34	Aug	6.20		
Sep	14.56	Sep	9.42	Sep	10.01	Sep	8.65	Sep	6.88	Sep	7.23	Sep	6.03		
Oct	13.88	Oct	9.39	Oct	9.94	Oct	8.88	Oct	6.88	Oct	7.43	Oct	6.01		
Nov	13.58	Nov	9.15	Nov	9.76	Nov	9.00	Nov	6.96	Nov	7.31	Nov	5.82		
Dec	13.55	Dec	8.96	Dec	9.57	Dec	8.79	Dec	6.84	Dec	7.20	Dec	5.83		
Jan 1983	13.46	Jan 1987	8.77	Jan 1991	9.56	Jan 1995	8.77	Jan 1999	6.87	Jan 2003	7.13	Jan 2007	5.96		
Feb	13.60	Feb	8.81	Feb	9.31	Feb	8.56	Feb	7.00	Feb	6.92	Feb	5.91		
Mar	13.28	Mar	8.75	Mar	9.39	Mar	8.41	Mar	7.18	Mar	6.80	Mar	5.87		
Apr	13.03	Apr	9.30	Apr	9.30	Apr	8.30	Apr	7.16	Apr	6.68	Apr	6.01		
May	13.00	May	9.82	May	9.29	May	7.93	May	7.42	May	6.35	May	6.03		
Jun	13.17	Jun	9.87	Jun	9.44	Jun	7.62	Jun	7.70	Jun	6.21	June	6.34		
Jul	13.28	Jul	10.01	Jul	9.40	Jul	7.73	Jul	7.66	Jul	6.54	July	6.28		
Aug	13.50	Aug	10.33	Aug	9.16	Aug	7.86	Aug	7.86	Aug	6.78	Aug	6.28		
Sep	13.35	Sep	11.00	Sep	9.03	Sep	7.62	Sep	7.87	Sep	6.58	Sep	6.24		
Oct	13.19	Oct	11.32	Oct	8.99	Oct	7.46	Oct	8.02	Oct	6.50	Oct	6.17		
Nov	13.33	Nov	10.82	Nov	8.93	Nov	7.40	Nov	7.86	Nov	6.44	Nov	6.04		
Dec	13.48	Dec	10.99	Dec	8.76	Dec	7.21	Dec	8.04	Dec	6.36	Dec	6.23		

Source: Mergent Bond Record

Schedule 4-1

d/b/a AmerenUE
Case No. ER-2010-0036

Average Yields on Thirty-Year U.S. Treasury Bonds

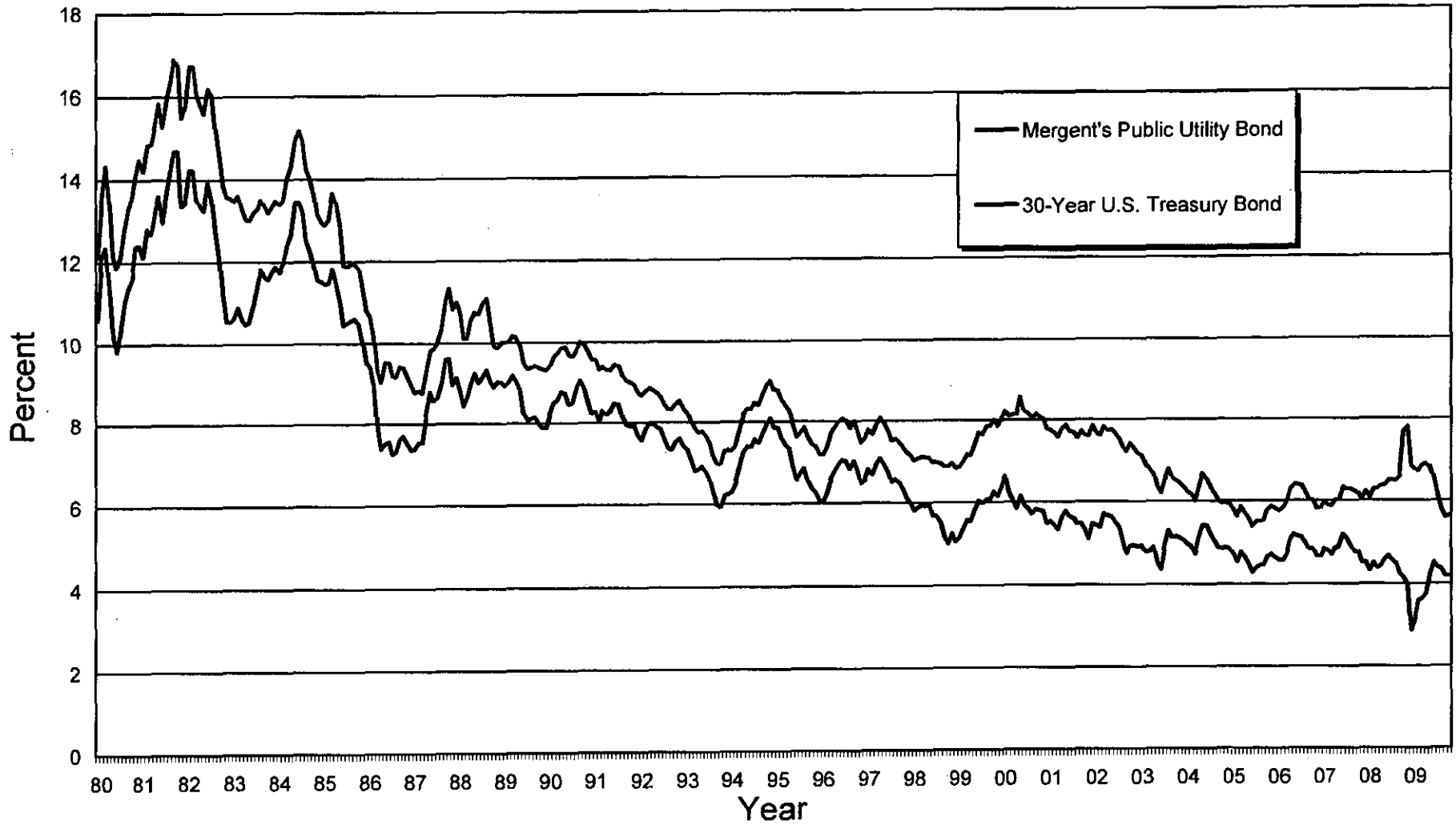
Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	10.60	Jan 1984	11.75	Jan 1988	8.83	Jan 1992	7.58	Jan 1996	6.05	Jan 2000	6.63	Jan 2004	4.99	Jan 2008	4.33
Feb	12.13	Feb	11.95	Feb	8.43	Feb	7.85	Feb	6.24	Feb	6.23	Feb	4.93	Feb	4.52
Mar	12.34	Mar	12.38	Mar	8.63	Mar	7.97	Mar	6.60	Mar	6.05	Mar	4.74	Mar	4.39
Apr	11.40	Apr	12.65	Apr	8.95	Apr	7.96	Apr	6.79	Apr	5.85	Apr	5.14	Apr	4.44
May	10.36	May	13.43	May	9.23	May	7.89	May	6.93	May	6.15	May	5.42	May	4.60
Jun	9.81	Jun	13.44	Jun	9.00	Jun	7.84	Jun	7.06	Jun	5.93	Jun	5.41	Jun	4.69
Jul	10.24	Jul	13.21	Jul	9.14	Jul	7.60	Jul	7.03	Jul	5.85	Jul	5.22	Jul	4.57
Aug	11.00	Aug	12.54	Aug	9.32	Aug	7.39	Aug	6.84	Aug	5.72	Aug	5.06	Aug	4.50
Sep	11.34	Sep	12.29	Sep	9.06	Sep	7.34	Sep	7.03	Sep	5.83	Sep	4.90	Sep	4.27
Oct	11.59	Oct	11.98	Oct	8.89	Oct	7.53	Oct	6.81	Oct	5.80	Oct	4.86	Oct	4.17
Nov	12.37	Nov	11.56	Nov	9.02	Nov	7.61	Nov	6.48	Nov	5.78	Nov	4.89	Nov	4.00
Dec	12.40	Dec	11.52	Dec	9.01	Dec	7.44	Dec	6.55	Dec	5.49	Dec	4.86	Dec	2.87
Jan 1981	12.14	Jan 1985	11.45	Jan 1989	8.93	Jan 1993	7.34	Jan 1997	6.83	Jan 2001	5.54	Jan 2005	4.73	Jan 2009	3.13
Feb	12.80	Feb	11.47	Feb	9.01	Feb	7.09	Feb	6.69	Feb	5.45	Feb	4.55	Feb	3.59
Mar	12.69	Mar	11.81	Mar	9.17	Mar	6.82	Mar	6.93	Mar	5.34	Mar	4.78	Mar	3.64
Apr	13.20	Apr	11.47	Apr	9.03	Apr	6.85	Apr	7.09	Apr	5.65	Apr	4.65	Apr	3.76
May	13.60	May	11.05	May	8.83	May	6.92	May	6.94	May	5.78	May	4.49	May	4.23
Jun	12.96	Jun	10.44	Jun	8.27	Jun	6.81	Jun	6.77	Jun	5.67	Jun	4.29	June	4.52
Jul	13.59	Jul	10.50	Jul	8.08	Jul	6.63	Jul	6.51	Jul	5.61	Jul	4.41	July	4.41
Aug	14.17	Aug	10.56	Aug	8.12	Aug	6.32	Aug	6.58	Aug	5.48	Aug	4.46	August	4.37
Sep	14.67	Sep	10.61	Sep	8.15	Sep	6.00	Sep	6.50	Sep	5.48	Sep	4.47	Sept	4.19
Oct	14.68	Oct	10.50	Oct	8.00	Oct	5.94	Oct	6.33	Oct	5.32	Oct	4.67	Oct	4.19
Nov	13.35	Nov	10.06	Nov	7.90	Nov	6.21	Nov	6.11	Nov	5.12	Nov	4.73	Nov	4.31
Dec	13.45	Dec	9.54	Dec	7.90	Dec	6.25	Dec	5.99	Dec	5.48	Dec	4.66		
Jan 1982	14.22	Jan 1986	9.40	Jan 1990	8.26	Jan 1994	6.29	Jan 1998	5.81	Jan 2002	5.44	Jan 2006	4.59		
Feb	14.22	Feb	8.93	Feb	8.50	Feb	6.49	Feb	5.89	Feb	5.39	Feb	4.58		
Mar	13.53	Mar	7.96	Mar	8.56	Mar	6.91	Mar	5.95	Mar	5.71	Mar	4.73		
Apr	13.37	Apr	7.39	Apr	8.76	Apr	7.27	Apr	5.92	Apr	5.67	Apr	5.06		
May	13.24	May	7.52	May	8.73	May	7.41	May	5.93	May	5.64	May	5.20		
Jun	13.92	Jun	7.57	Jun	8.46	Jun	7.40	Jun	5.70	Jun	5.52	Jun	5.16		
Jul	13.55	Jul	7.27	Jul	8.50	Jul	7.58	Jul	5.68	Jul	5.38	July	5.13		
Aug	12.77	Aug	7.33	Aug	8.86	Aug	7.49	Aug	5.54	Aug	5.08	Aug	5.00		
Sep	12.07	Sep	7.62	Sep	9.03	Sep	7.71	Sep	5.20	Sep	4.76	Sep	4.85		
Oct	11.17	Oct	7.70	Oct	8.86	Oct	7.94	Oct	5.01	Oct	4.93	Oct	4.85		
Nov	10.54	Nov	7.52	Nov	8.54	Nov	8.08	Nov	5.25	Nov	4.95	Nov	4.69		
Dec	10.54	Dec	7.37	Dec	8.24	Dec	7.87	Dec	5.06	Dec	4.92	Dec	4.68		
Jan 1983	10.63	Jan 1987	7.39	Jan 1991	8.27	Jan 1995	7.85	Jan 1999	5.16	Jan 2003	4.94	Jan 2007	4.85		
Feb	10.88	Feb	7.54	Feb	8.03	Feb	7.61	Feb	5.37	Feb	4.81	Feb	4.82		
Mar	10.63	Mar	7.55	Mar	8.29	Mar	7.45	Mar	5.58	Mar	4.80	Mar	4.72		
Apr	10.48	Apr	8.25	Apr	8.21	Apr	7.36	Apr	5.55	Apr	4.90	Apr	4.86		
May	10.53	May	8.78	May	8.27	May	6.95	May	5.81	May	4.53	May	4.90		
Jun	10.93	Jun	8.57	Jun	8.47	Jun	6.57	Jun	6.04	Jun	4.37	Jun	5.20		
Jul	11.40	Jul	8.64	Jul	8.45	Jul	6.72	Jul	5.98	Jul	4.93	July	5.11		
Aug	11.82	Aug	8.97	Aug	8.14	Aug	6.86	Aug	6.07	Aug	5.30	Aug	4.93		
Sep	11.63	Sep	9.59	Sep	7.95	Sep	6.55	Sep	6.07	Sep	5.14	Sep	4.79		
Oct	11.58	Oct	9.61	Oct	7.93	Oct	6.37	Oct	6.26	Oct	5.16	Oct	4.77		
Nov	11.75	Nov	8.95	Nov	7.92	Nov	6.26	Nov	6.15	Nov	5.13	Nov	4.52		
Dec	11.88	Dec	9.12	Dec	7.70	Dec	6.06	Dec	6.35	Dec	5.08	Dec	4.53		

Sources:
http://finance.yahoo.com/q/hp?s=^TYX
http://research.stlouisfed.org/fred2/data/GS30.txt

Schedule 4-2

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Average Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds (1980 - 2009)

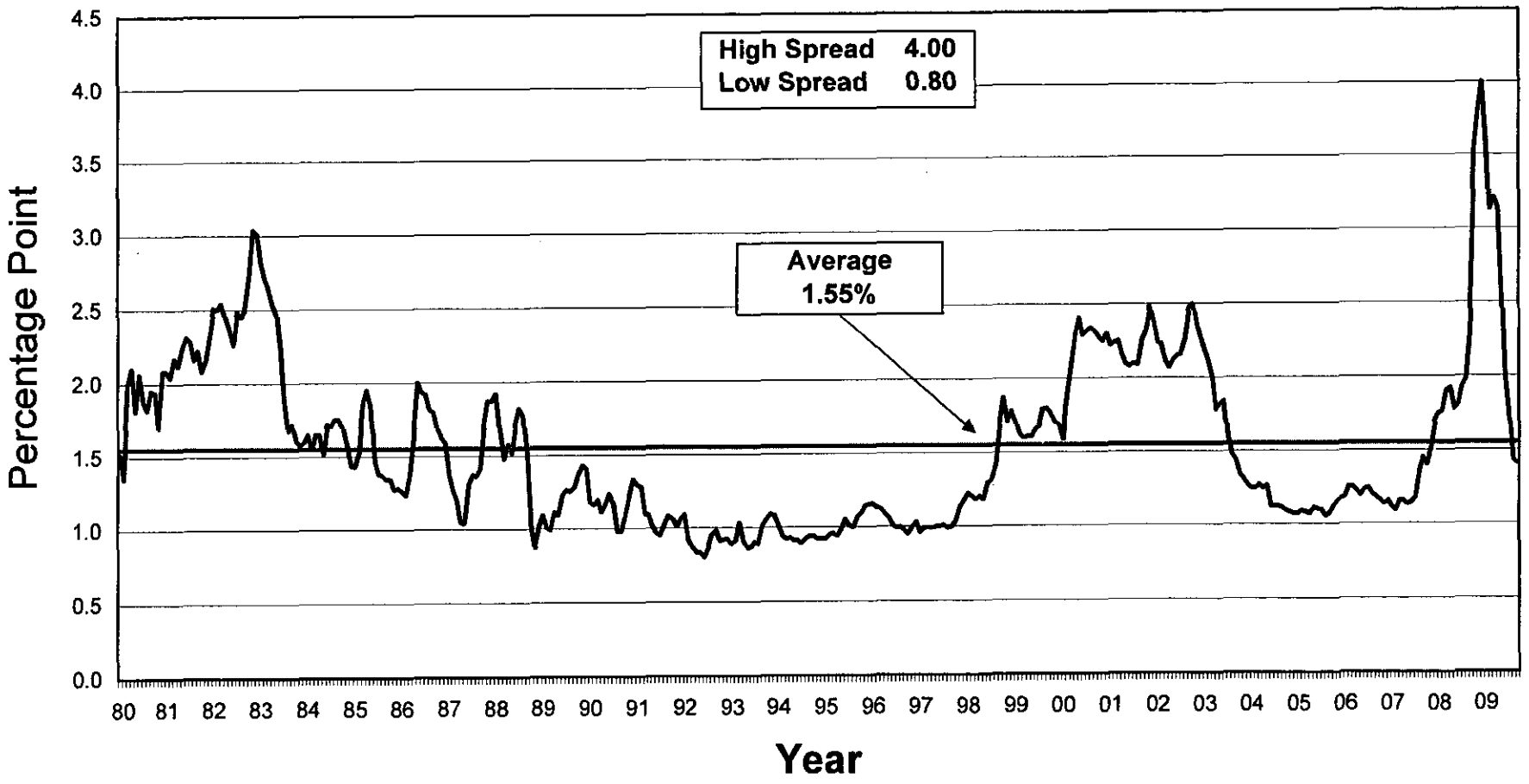


SCHEDULE 4-3

Schedule 4-3

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

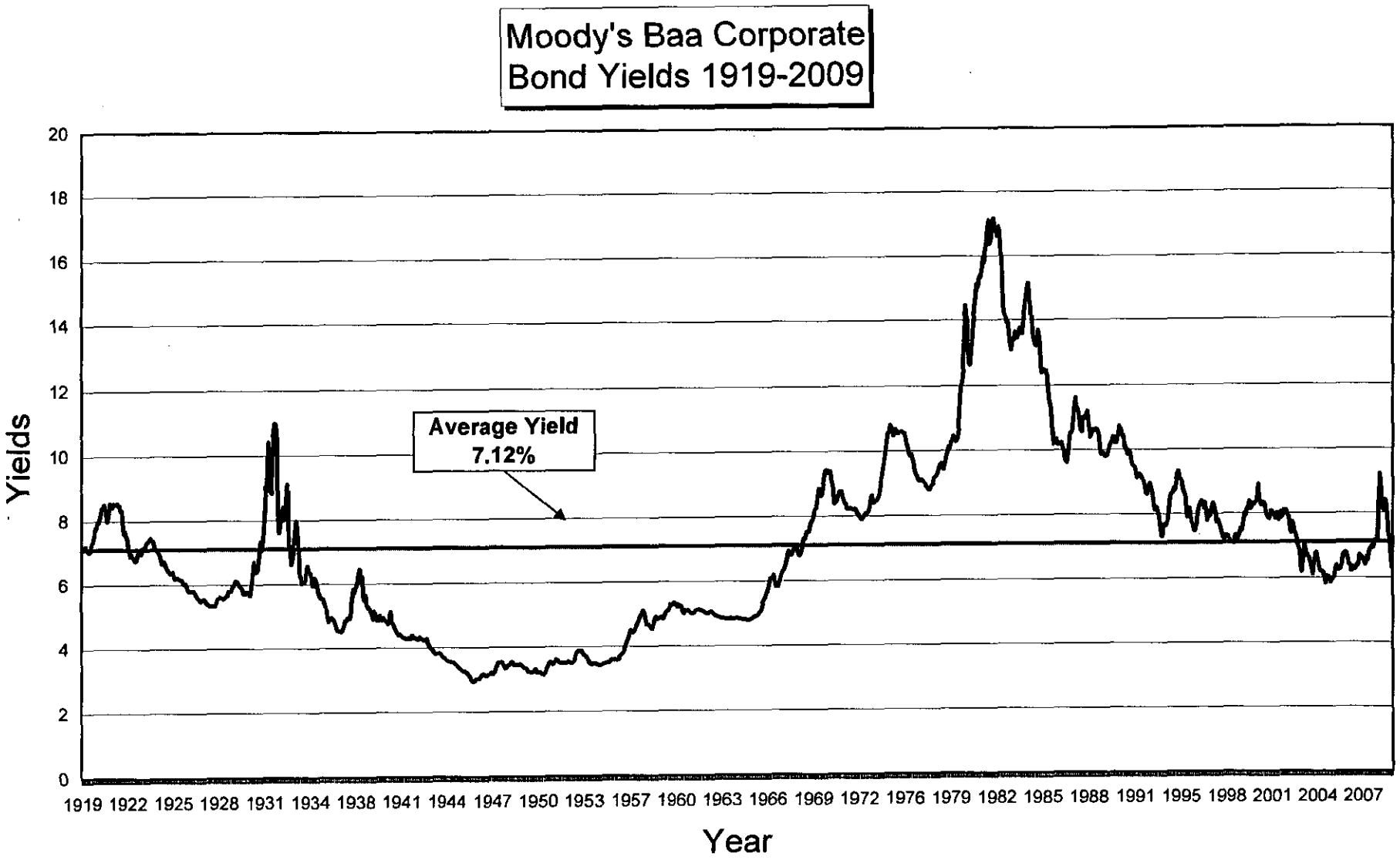
Monthly Spreads Between Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds (1980 - 2009)



Schedule 4-4

SCHEDULE 4-4

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036



Source: St. Louis Federal Reserve Website: http://stlouisfed.org

Schedule 4-5

Schedule 4-5

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Economic Estimates and Projections, 2009-2011

Source	Inflation Rate			Real GDP			Unemployment			3-Mo. T-Bill Rate			Long-Term T-Bond Rate		
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2011
Value Line Investment Survey – Selection & Opinion (11-27-09, page 3183)	1.10%	1.80%	2.50%	-2.50%	2.20%	3.10%	9.30%	10.10%	9.00%	0.20%	0.60%	2.00%	4.10%	4.50%	5.00%
The Budget and Economic Outlook FY2009-2019 (August 2009)	0.80%	1.50%	1.20%	-2.50%	1.70%	3.50%	9.30%	10.20%	9.10%	0.20%	0.60%	1.70%	N/A	N/A	N/A
Current rate	-0.20%			2.80%			10.00%			0.06%			4.29%		

Notes: N.A. = Not Available.
Value Line data for 2009-2011 are estimated.

Sources of Current Rates:

Inflation:	The Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers, unadjusted 12-Month Period Ending, October 31, 2009 (see first paragraph). http://www.bls.gov/schedule/archives/cpi_nr.htm
GDP:	U.S. Department of Commerce, Bureau of Economic Analysis. Percentage change for the Third Quarter 2009 (see first paragraph). http://www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm
Unemployment:	The Bureau of Labor Statistics, Economy Situation Summary - Unemployment Rate, November 2009. http://www.bls.gov/news.release/empsit.nr0.htm
3-Month Treasury:	St. Louis Federal Reserve website for December 4, 2009 (Weekly). http://research.stlouisfed.org/fred2/series/TB3MS/22
30-Yr. T-Bond:	St. Louis Federal Reserve website for December 4, 2009 (Weekly). http://research.stlouisfed.org/fred2/series/WGS30YR
Other Sources:	ValueLine Investment Survey Selection & Opinion, November 27, 2009, page 3183. The Congressional Budget Office, The Budget and Economic Outlook: Fiscal Years 2009-2019, August 2009. http://www.cbo.gov/publications/bysubject.cfm?cat=0

Schedule 5

SCHEDULE 5

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Historical Consolidated Capital Structures for Union Electric Company

(Millions of Dollars)

Capital Components	2004	2005	2006	2007	2008	9/30/2009
Common Equity	$2,883.0	$2,903.0	$3,040.0	$3,488.0	$3,449.0	$3,934.0
Preferred Stock	113.0	113.0	113.0	113.0	113.0	113.0
Long-Term Debt	2,062.0 *	2,702.0 *	2,939.0 *	3,360.0 *	3,677.0 *	4,026.0
Short-Term Debt	377.0	80.0	311.0	82.0	343.0	0.0
Total	$5,435.0	$5,798.0	$6,403.0	$7,043.0	$7,582.0	$8,073.0

Historical Consolidated Capital Structures for Ameren

(Millions of Dollars)

Capital Components	2004	2005	2006	2007	2008	9/30/2009
Common Equity	$5,814.0	$6,381.0	$6,599.0	$6,774.0	$6,984.0	$7,851.0
Preferred Stock	215.0	214.0	213.0	211.0	195.0	195.0
Long-Term Debt	5,444.0 *	5,450.0 *	5,741.0 *	5,912.0 *	6,934.0	7,449.0
Short-Term Debt	417.0	193.0	612.0	1,472.0	1,174.0	435.0
Total	$11,890.0	$12,238.0	$13,165.0	$14,369.0	$15,287.0	$15,930.0

Source: Ameren's Annual SEC 10-K Filings and 10-Q Filing.

Note: **Includes current maturities of long-term debt.*

Schedule 6-1

SCHEDULE 6-1

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Historical Consolidated Capital Structures for Union Electric

(in Percentages)

Capital Components	2004	2005	2006	2007	2008	5-Year Average	9/30/2009
Common Equity	53.05%	50.07%	47.48%	49.52%	45.49%	49.12%	48.73%
Preferred Stock	2.08%	1.95%	1.76%	1.60%	1.49%	1.78%	1.40%
Long-Term Debt	37.94% *	46.60% *	45.90% *	47.71% *	48.50% *	45.33%	49.87%
Short-Term Debt	6.94%	1.38%	4.86%	1.16%	4.52%	3.77%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Historical Consolidated Capital Structures for Ameren

(in Percentages)

Capital Components	2004	2005	2006	2007	2008	5-Year Average	9/30/2009
Common Equity	48.90%	52.14%	50.13%	47.14%	45.69%	48.80%	49.28%
Preferred Stock	1.81%	1.75%	1.62%	1.47%	1.28%	1.58%	1.22%
Long-Term Debt	45.79%	44.53%	43.61%	41.14%	45.36%	44.09%	46.76%
Short-Term Debt	3.51%	1.58%	4.65%	10.24%	7.68%	5.53%	2.73%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Sources: Ameren's 10-K Filings and 10-Q Filing.

Schedule 6-2

SCHEDULE 6-2

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Capital Structure as of March 31, 2009
Union Electric Company

Capital Component	Dollar Amount (000's)	Percentage of Capital
Common Stock Equity	$ 3,392,179,086	47.39%
Preferred Stock	$ 114,502,040	1.60%
Long-Term Debt	$ 3,651,044,928	51.01%
Short-Term Debt	$ -	0.00%
Total Capitalization	**$ 7,157,726,054**	**100.00%**

Source:
Company Witness Michael O'Bryan's Schedule MGO-E1 attached to his Direct Testimony.

SCHEDULE 7

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036
Criteria for Selecting Comparable Electric Utility Companies

ValueLine Electric Utility Companies	Ticker	Stock Publicly Traded	Regulated Electric Utility (EEI)	% Electric Revenues ≥ 70%	10-Year Value Line Historical Growth Available	No Reduced Dividend since 2006	Projected Growth Available from Value Line and Reuters	At Least Investment Grade Credit Rating	Generation Assets	Comparable Company Met All Criteria
Allegheny Energy	AYE	Yes	No							
ALLETE	ALE	Yes	Yes	Yes	No					
Alliant Energy	**LNT**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Amer. Elec. Power	**AEP**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Ameren Corp.	AEE	Yes	Yes	Yes	Yes	No				
Avista Corp.	AVA	Yes	Yes	No						
Black Hills	BKH	Yes	No							
Cen. Vermont Pub. Serv.	CV	Yes	Yes	Yes	Yes	Yes	No			
CenterPoint Energy	CNP	Yes	No							
CH Energy Group	CHG	Yes	Yes	No						
Cleco Corp.	**CNL**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
CMS Energy Corp.	CMS	Yes	Yes	No						
Consol. Edison	ED	Yes	Yes	No						
Constellation Energy	CEG	Yes	No							
Dominion Resources	D	Yes	No							
DPL Inc.	**DPL**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
DTE Energy	DTE	Yes	No							
Duke Energy	DUK	Yes	No							
Edison Int'l	EIX	Yes	No							
El Paso Electric	EE	Yes	Yes	Yes	Yes	No[1]				
Empire Dist. Elec.	EDE	Yes	Yes	Yes	Yes	Yes	No[2]			
Entergy Corp.	ETR	Yes	No							
Evergreen Energy Inc	EEE	Yes	NA							
Exelon Corp.	EXC	Yes	No							
FirstEnergy Corp.	FE	Yes	No							
Florida Public Utilities	FPU	Yes	NA							
Fortis Inc.	FTS.TO	Yes	NA							
FPL Group	FPL	Yes	No							
G't Plains Energy	GXP	Yes	Yes	Yes	Yes	No				
Hawaiian Elec.	HE	Yes	No							
IDACORP, Inc.	**IDA**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Integrys Energy	TEG	Yes	No							
ITC Holdings	ITC	Yes	NA							
Maine & Maritimes Corp	MAM	Yes	Yes	Yes	Yes	No				
MDU Resources	MDU	Yes	No							
MGE Energy	MGEE	Yes	No							
NiSource Inc.	NI	Yes	No							
Northeast Utilities	**NU**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NorthWestern Corp	NWE	Yes	Yes	No						
NSTAR	NST	Yes	Yes	Yes	Yes	No				
OGE Energy	OGE	Yes	No							
Otter Tail Corp.	OTTR	Yes	No							
Pepco Holdings	POM	Yes	No							
PG&E Corp.	**PCG**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Pinnacle West Capital	**PNW**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
PNM Resources	PNM	Yes	Yes	Yes	Yes	No				
Portland General	POR	Yes	Yes	Yes	No					
PPL Corp.	PPL	Yes	No							
Progress Energy	**PGN**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Public Serv. Enterprise	PEG	Yes	No							
SCANA Corp.	SCG	Yes	No							
Sempra Energy	SRE	Yes	No							
Sierra Pacific Res.	SRP	Yes	NA							
Southern Co.	**SO**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
TECO Energy	TE	Yes	Yes	No						
U.S. Energy Sys Inc	USEYQ	Yes	NA							
UIL Holdings	UIL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	
UniSource Energy	UNS	Yes	Yes	Yes	Yes	Yes	No			
UNITIL Corp.	UTL	Yes	Yes	No						
Vectren Corp.	VVC	Yes	Yes	No						
Westar Energy	**WR**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Wilmington Capital Management	WCM/A.TO	Yes	NA							
Wisconsin Energy	WEC	Yes	Yes	No						
Xcel Energy Inc.	**XEL**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Notes:
1. No dividends per share.
2. Reuters had a projected growth rate (34%), but it appears to be incorrect due to an error so Staff did not include Empire in the proxy group.

Sources: Columns 1, 2, 5, 6, 7 and 9 = The Value Line Investment Survey: Ratings & Reports.
Column 3 = Edison Electric Institute 2008 Financial Review
Column 4 = December 2009 AUS Utility Reports.
Column 7 = Reuters.com.
Column 8 = S&P RatingsDirect

NA = Not available.

SCHEDULE 8

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Comparable Electrical Utility Companies
for Union Electric Company

Number	Ticker Symbol	Company Name
1	LNT	Alliant Energy
2	AEP	American Electric Power
3	CNL	Cleco Corp.
4	DPL	DPL Inc.
5	IDA	IDACORP, Inc.
6	NU	Northeast Utilities
7	PCG	PG&E Corp.
8	PNW	Pinnacle West Capital
9	PGN	Progress Energy
10	SO	Southern Company
11	WR	Westar Energy
12	XEL	Xcel Energy

SCHEDULE 9

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Ten-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and Ameren

	10-Year Annual Compound Growth Rates			
Company Name	DPS	EPS	BVPS	Average of 10 Year Annual Compound Growth Rates
Alliant Energy	-4.50%	3.00%	2.00%	0.17%
American Electric Power	-4.00%	-0.50%	0.00%	-1.50%
Cleco Corp.	1.50%	3.00%	6.50%	3.67%
DPL Inc.	1.50%	3.50%	-1.00%	1.33%
IDACORP, Inc.	-4.50%	-1.00%	3.50%	-0.67%
Northeast Utilities	3.50%	0.00%	1.00%	1.50%
PG&E Corp.	0.50%	4.50%	1.50%	2.17%
Pinnacle West Capital	6.50%	0.00%	3.50%	3.33%
Progress Energy	2.50%	-0.50%	5.50%	2.50%
Southern Company	2.00%	3.00%	1.50%	2.17%
Westar Energy Inc.	-6.50%	1.50%	-4.00%	-3.00%
Xcel Energy	-4.00%	-2.50%	-0.50%	-2.33%
Average	**-0.46%**	**1.17%**	**1.63%**	**0.78%**
Standard Deviation	3.89%	2.10%	2.77%	1.99%
Ameren	0.00%	0.50%	3.50%	1.33%

Source: The Value Line Investment Survey, September 25, November 6, and November 27, 2009.

Schedule 10-1

SCHEDULE 10-1

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and Ameren

	------- 5-Year Annual Compound Growth Rates -------			
Company Name	DPS	EPS	BVPS	Average of 5 Year Annual Compound Growth Rates
Alliant Energy	-5.00%	7.00%	3.00%	1.67%
American Electric Power	-6.00%	0.00%	2.50%	-1.17%
Cleco Corp.	0.50%	0.50%	9.00%	3.33%
DPL Inc.	2.00%	7.00%	2.50%	3.83%
IDACORP, Inc.	-8.00%	1.50%	3.00%	-1.17%
Northeast Utilities	8.50%	3.00%	2.00%	4.50%
PG&E Corp.	0.00%	NMF	18.00%	9.00%
Pinnacle West Capital	5.00%	-1.00%	3.00%	2.33%
Progress Energy	2.00%	-6.50%	2.50%	-0.67%
Southern Company	3.00%	4.00%	5.50%	4.17%
Westar Energy Inc.	-0.50%	21.50%	1.00%	7.33%
Xcel Energy	-4.00%	1.00%	1.00%	-0.67%
Average	**-0.21%**	**3.17%**	**4.42%**	**2.71%**
Standard Deviation	4.61%	6.53%	4.59%	3.19%
Ameren	0.00%	-1.50%	5.00%	1.17%

Source: The Value Line Investment Survey, September 25, November 6, and November 27, 2009.

NMF - Not Meaningful

Schedule 10-2

SCHEDULE 10-2

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Average of Ten- and Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and Ameren

Company Name	10-Year Average DPS, EPS & BVPS	5-Year Average DPS, EPS & BVPS	Average of 5-Year & 10-Year Averages
Alliant Energy	0.17%	1.67%	0.92%
American Electric Power	-1.50%	-1.17%	-1.33%
Cleco Corp.	3.67%	3.33%	3.50%
DPL Inc.	1.33%	3.83%	2.58%
IDACORP, Inc.	-0.67%	-1.17%	-0.92%
Northeast Utilities	1.50%	4.50%	3.00%
PG&E Corp.	2.17%	9.00%	5.58%
Pinnacle West Capital	3.33%	2.33%	2.83%
Progress Energy	2.50%	-0.67%	0.92%
Southern Company	2.17%	4.17%	3.17%
Westar Energy Inc.	-3.00%	7.33%	2.17%
Xcel Energy	-2.33%	-0.67%	-1.50%
Average	**0.78%**	**2.71%**	**1.74%**
Ameren	1.33%	1.17%	1.25%

Schedule 10-3

SCHEDULE 10-3

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Five-Year Projected Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies and Ameren

	----- 5-Year Projected Compound Growth Rates -----			
Company Name	DPS	EPS	BVPS	Average of 5 Year Annual Compound Growth Rates
Alliant Energy	7.00%	4.50%	4.00%	5.17%
American Electric Power	3.00%	3.00%	5.00%	3.67%
Cleco Corp.	10.00%	9.50%	4.50%	8.00%
DPL Inc.	3.50%	8.50%	5.00%	5.67%
IDACORP, Inc.	2.50%	4.50%	5.00%	4.00%
Northeast Utilities	7.00%	8.00%	4.50%	6.50%
PG&E Corp.	7.50%	6.50%	6.50%	6.83%
Pinnacle West Capital	1.00%	3.00%	1.00%	1.67%
Progress Energy	1.00%	6.00%	2.00%	3.00%
Southern Company	4.00%	4.50%	5.00%	4.50%
Westar Energy Inc.	4.50%	4.50%	6.00%	5.00%
Xcel Energy	3.00%	6.50%	4.50%	4.67%
Average	**4.50%**	**5.75%**	**4.42%**	**4.89%**
Standard Deviation	2.68%	2.03%	1.47%	1.66%
Ameren	-6.50%	1.00%	2.50%	-1.00%

Source: The Value Line Investment Survey, September 25, November 6, and November 27, 2009.

Schedule 11

SCHEDULE 11

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Projected EPS Growth Rates
for the Comparable Electric Utility Companies
and Ameren

Company Name	(1) Projected 5-Year EPS Growth Reuters (Mean)	(2) Projected 3-5 Year EPS Growth Value Line	(3) Average Projected EPS Growth Growth
Alliant Energy	4.00%	4.50%	4.25%
American Electric Power	4.25%	3.00%	3.63%
Cleco Corp.	9.72%	9.50%	9.61%
DPL Inc.	15.00%	8.50%	11.75%
IDACORP, Inc.	5.00%	4.50%	4.75%
Northeast Utilities	7.50%	8.00%	7.75%
PG&E Corp.	7.00%	6.50%	6.75%
Pinnacle West Capital	3.00%	3.00%	3.00%
Progress Energy	5.22%	6.00%	5.61%
Southern Company	4.97%	4.50%	4.74%
Westar Energy	3.45%	4.50%	3.98%
Xcel Energy	6.32%	6.50%	6.41%
Average	**6.29%**	**5.75%**	**6.02%**
Standard Deviation	3.19%	2.03%	2.50%
Ameren	4.00%	1.00%	2.50%

Sources:

Column 1 = Analyst Estimates Accessed from Reuters on December 2, 2009.

Column 2 = The Value Line Investment Survey, September 25, November 6, and November 27, 2009.

SCHEDULE 12

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Historical and Projected Growth Rates for the Comparable Electric Utility Companies and Ameren

Company Name	(1) Historical Growth Rate (DPS, EPS and BVPS)	(2) Projected 5-Year EPS Growth Consensus Estimates (Mean)	(3) Projected 3-5 Year EPS Growth Value Line	(4) Average Projected EPS Growth Growth	(5) Average of Historical & Projected Growth
Alliant Energy	0.92%	4.00%	4.50%	4.25%	2.58%
American Electric Power	-1.33%	4.25%	3.00%	3.63%	1.15%
Cleco Corp.	3.50%	9.72%	9.50%	9.61%	6.56%
DPL Inc.	2.58%	15.00%	8.50%	11.75%	7.17%
IDACORP, Inc.	-0.92%	5.00%	4.50%	4.75%	1.92%
Northeast Utilities	3.00%	7.50%	8.00%	7.75%	5.38%
PG&E Corp.	5.58%	7.00%	6.50%	6.75%	6.17%
Pinnacle West Capital	2.83%	3.00%	3.00%	3.00%	2.92%
Progress Energy	0.92%	5.22%	6.00%	5.61%	3.26%
Southern Company	3.17%	4.97%	4.50%	4.74%	3.95%
Westar Energy	2.17%	3.45%	4.50%	3.98%	3.07%
Xcel Energy	-1.50%	6.32%	6.50%	6.41%	2.46%
Average	**1.74%**	**6.29%**	**5.75%**	**6.02%**	**3.88%**
Ameren	1.25%	4.00%	1.00%	2.50%	1.88%

Proposed Range of Growth for Comparables: 4.00% - 5.00%

Sources and Notes:
Column 1 = Average of 10-Year and 5-Year Annual Compound Growth Rates from Schedule 10-3.
Column 2 = http://www.reuters.com/finance/stocks/estimates
Column 3 = The Value Line Investment Survey, September 25, November 6, and November 27, 2009.
Column 4 = [(Column 2 + Column 3) / 2]
Column 5 = [(Column 1 + Column 4) / 2]

Schedule 13

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Average High / Low Stock Price for September 2009 through November 2009.
for the Comparable Electric Utility Companies and Ameren

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	-- September 2009 --		-- October 2009 --		-- November 2009 --		
Company Name	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	**Average High/Low Stock Price (9/09 - 11/09)**
Alliant Energy	28.78	25.67	28.40	26.40	28.07	26.08	**27.23**
American Electric Power	32.13	30.47	31.87	29.59	32.31	30.23	**31.10**
Cleco Corp.	25.43	23.74	25.85	24.02	26.26	24.03	**24.89**
DPL Inc.	26.62	24.61	26.38	25.10	27.86	25.35	**25.99**
IDACORP, Inc.	29.37	27.83	29.65	28.00	30.28	27.71	**28.81**
Northeast Utilities	24.78	23.41	24.01	22.64	24.60	22.20	**23.61**
PG&E Corp.	41.97	39.53	43.21	39.74	43.00	40.40	**41.31**
Pinnacle West Capital	33.60	31.94	34.71	31.31	35.48	31.08	**33.02**
Progress Energy	39.94	38.61	39.13	36.67	39.38	36.91	**38.44**
Southern Company	32.34	30.72	33.78	31.13	32.36	30.89	**31.87**
Westar Energy	21.56	19.16	20.53	19.12	20.93	18.91	**20.04**
Xcel Energy	20.29	19.12	20.03	18.79	20.61	18.53	**19.56**
Ameren	27.27	25.02	26.08	24.22	26.06	23.78	**25.41**

Notes:
Column 7 = [(Column 1 + Column 2 + Column 3 + Column 4 + Column 5 + Column 6 / 6].

Source: http://finance.yahoo.com

Schedule 14

SCHEDULE 14

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Constant-Growth Discounted Cash Flow (DCF) Estimated Costs of Common Equity for the Comparable Electric Utility Companies and Ameren

Company Name	(1) Expected Annual Dividend	(2) Average High/Low Stock Price	(3) Projected Dividend Yield	(4) Average of Historical & Projected Growth	(5) Estimated Cost of Common Equity
Alliant Energy	$1.60	$27.233	5.88%	2.58%	8.46%
American Electric Power	$1.66	$31.100	5.34%	1.15%	6.48%
Cleco Corp.	$1.00	$24.888	4.02%	6.56%	10.57%
DPL Inc.	$1.18	$25.987	4.54%	7.17%	11.71%
IDACORP, Inc.	$1.20	$28.807	4.17%	1.92%	6.08%
Northeast Utilities	$1.00	$23.607	4.24%	5.38%	9.61%
PG&E Corp.	$1.80	$41.308	4.36%	6.17%	10.52%
Pinnacle West Capital	$2.10	$33.020	6.36%	2.92%	9.28%
Progress Energy	$2.50	$38.440	6.50%	3.26%	9.77%
Southern Company	$1.80	$31.870	5.65%	3.95%	9.60%
Westar Energy	$1.24	$20.035	6.19%	2.46%	8.64%
Xcel Energy	$1.00	$19.562	5.11%	3.88%	8.99%
Average			**5.20%**	**3.95%**	**9.14%**
Ameren	$1.54	$25.405	6.06%	2.12%	8.18%

Proposed Dividend Yield:	**5.20%**
Proposed Range of Growth:	**4.00% - 5.00%**
Indicated Cost of Common Equity:	**9.20%-10.20%**
Ameren Company-Specific Using Average Projected Growth	8.56%

Notes:
Column 1 = Estimated Dividend Declared per share represents the projected dividend for 2010.
Column 3 = (Column 1 / Column 2).
Column 5 = (Column 3 + Column 4).

Sources:
Column 1 = The Value Line Investment Survey: Ratings and Reports, September 25, November 6, and November 27, 2009.
Column 2 = Schedule 14.

SCHEDULE 15

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates
Based on Historical Return Differences Between Common Stocks and Long-Term U.S. Treasuries
for the Comparable Electric Utility Companies and Ameren

	(1)	(2)	(3)	(4)	(5)	(6)
Company Name	Risk Free Rate	Company's Value Line Beta	Arithmetic Average Market Risk Premium (1926-2008)	Geometric Average Market Risk Premium (1926-2008)	Arithmetic CAPM Cost of Common Equity (1926-2008)	Geometric CAPM Cost of Common Equity (1926-2008)
Alliant Energy	4.23%	0.70	5.60%	3.90%	8.15%	6.96%
American Electric Power	4.23%	0.70	5.60%	3.90%	8.15%	6.96%
Cleco Corp.	4.23%	0.65	5.60%	3.90%	7.87%	6.77%
DPL Inc.	4.23%	0.60	5.60%	3.90%	7.59%	6.57%
IDACORP, Inc.	4.23%	0.70	5.60%	3.90%	8.15%	6.96%
Northeast Utilities	4.23%	0.70	5.60%	3.90%	8.15%	6.96%
PG&E Corp.	4.23%	0.55	5.60%	3.90%	7.31%	6.38%
Pinnacle West Capital	4.23%	0.75	5.60%	3.90%	8.43%	7.16%
Progress Energy	4.23%	0.65	5.60%	3.90%	7.87%	6.77%
Southern Company	4.23%	0.55	5.60%	3.90%	7.31%	6.38%
Westar Energy	4.23%	0.75	5.60%	3.90%	8.43%	7.16%
Xcel Energy	4.23%	0.65	5.60%	3.90%	7.87%	6.77%
Average		**0.66**			**7.94%**	**6.81%**
Ameren	4.23%	0.80	5.60%	3.90%	8.71%	7.35%

Column 1 = The appropriate yield is equal to the average 30-year U.S. Treasury Bond yield for September, October and November 2009 which was obtained from the St. Louis Federal Reserve website at http://research.stlouisfed.org/fred2/series/GS30/22.

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole as reported by the Value Line Investment Survey: Ratings & Reports, September 25, November 6, and November 27, 2009.

Column 3 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2008 was determined to be 5.60% based on an arithmetic average as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2009 Yearbook.

Column 4 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2008 was determined to be 3.9% based on a geometric average as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2009 Yearbook.

Column 5 = (Column 1 + (Column 2 * Column 3)).

Column 6 = (Column 1 + (Column 2 * Column 4)).

Schedule 16

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Multiple-Stage Discounted Cash Flow (DCF) Estimated Costs of Common Equity for the Comparable Electric Utility Companies and Ameren

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Company Name	Annualized Quarterly Dividend	Growth Years 1-5	6	7	Growth Years 8	9	10	Growth in Perpetuity	Cost of Equity
Alliant Energy	$1.50	4.25%	4.06%	3.87%	3.68%	3.48%	3.29%	3.10%	9.19%
American Electric Powe	$1.64	3.63%	3.54%	3.45%	3.36%	3.28%	3.19%	3.10%	8.71%
Cleco Corp.	$0.90	9.61%	8.53%	7.44%	6.36%	5.27%	4.19%	3.10%	8.63%
DPL Inc.	$1.14	11.75%	10.31%	8.87%	7.43%	5.98%	4.54%	3.10%	10.55%
IDACORP, Inc.	$1.20	4.75%	4.48%	4.20%	3.93%	3.65%	3.38%	3.10%	7.86%
Northeast Utilities	$0.95	7.75%	6.98%	6.20%	5.43%	4.65%	3.88%	3.10%	8.61%
PG&E Corp.	$1.68	6.75%	6.14%	5.53%	4.93%	4.32%	3.71%	3.10%	8.35%
Pinnacle West Capital	$2.10	3.00%	3.02%	3.03%	3.05%	3.07%	3.08%	3.10%	9.62%
Progress Energy	$2.48	5.61%	5.19%	4.77%	4.36%	3.94%	3.52%	3.10%	10.79%
Southern Company	$1.75	4.74%	4.46%	4.19%	3.92%	3.65%	3.37%	3.10%	9.34%
Westar Energy	$1.20	3.98%	3.83%	3.68%	3.54%	3.39%	3.25%	3.10%	9.61%
Xcel Energy	$0.98	6.41%	5.86%	5.31%	4.76%	4.20%	3.65%	3.10%	9.39%
								Average:	**9.22%**
							Proposed Range:	**8.70% - 9.70%**	
Ameren	$1.54	2.50%	2.60%	2.70%	2.80%	2.90%	3.00%	3.10%	9.13%

Sources:
Column 1 = The Value Line Investment Survey: Ratings and Reports, September 25, November 6, and November 27, 2009
Column 2 = Average Projected Growth from Brokers' Estimates and Value Line Estimates.

SCHEDULE 17

Selected Financial Ratios for the Comparable Electric Utility Companies and Ameren

Company Name	(1) 2008 Common Equity Ratio	(2) 2008 Long-Term Debt Ratio	(3) 2008 Funds From Operations Interest Coverage	(4) 2008 Funds From Operations to Total Debt	(5) Market-to-Book Value	(6) 2008 Return on Common Equity	(7) 2009 Estimated Return on Common Equity	(8) S&P Corporate Credit Rating
Alliant Energy	58.60%	36.30%	4.56 x	20.0%	1.12 x	9.3%	7.0%	BBB+
American Electric Power	40.70%	59.10%	3.06 x	13.4%	1.17 x	11.3%	10.0%	BBB
Cleco Corp.	48.90%	51.10%	2.60 x	10.0%	1.40 x	9.6%	9.5%	BBB
DPL Inc.	41.10%	58.00%	4.87 x	23.9%	3.01 x	25.0%	23.0%	A-
IDACORP, Inc.	52.40%	47.60%	2.93 x	10.3%	1.01 x	7.6%	8.0%	BBB
Northeast Utilities	38.10%	60.40%	3.08 x	9.8%	1.19 x	9.6%	9.0%	BBB
PG&E Corp.	46.50%	52.20%	4.12 x	22.5%	1.63 x	12.6%	11.5%	BBB+
Pinnacle West Capital	53.20%	46.80%	4.29 x	18.0%	1.00 x	6.2%	7.5%	BBB-
Progress Energy	44.40%	55.10%	2.95 x	12.2%	1.15 x	8.9%	9.5%	BBB+
Southern Company	42.60%	53.90%	4.24 x	17.2%	1.78 x	13.1%	12.5%	A
Westar Energy	49.70%	49.80%	3.64 x	12.6%	0.98 x	6.2%	8.0%	BBB-
Xcel Energy	47.10%	52.20%	3.85 x	17.1%	1.27 x	9.2%	9.5%	BBB+
Average	**46.94%**	**51.88%**	**3.68** x	**15.6%**	**1.39** x	**10.7%**	**10.4%**	**BBB+**
Ameren	**50.80%**	**47.80%**	**4.92** x	**19.3%**	**0.72** x	**8.70%**	**8.00%**	**BBB-**

Sources:
The Value Line Investment Survey Ratings & Reports, September 25, November 6, and November 27, 2009. for columns (1), (2), (6) and (7).
Standard & Poor's RatingsDirect for columns (3), (4) and (8).
AUS Utility Reports, December 2009 for column (5).

Schedule 18

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Public Utility Revenue Requirement
or
Cost of Service

The formula for the revenue requirement of a public utility may be stated as follows :

Equation 1 : **Revenue Requirement = Cost of Service**

or

Equation 2 : **R R = O + (V - D) R**

The symbols in the second equation are represented by the following factors :

R R	=	Revenue Requirement
O	=	Prudent Operating Costs, including Depreciation and Taxes
V	=	Gross Valuation of the Property Serving the Public
D	=	Accumulated Depreciation
(V - D)	=	Rate Base (Net Valuation)
(V - D) R	=	Return Amount ($$) or Earnings Allowed on Rate Base
R	=	i L + d P + k E or Overall Rate of Return (%)
i	=	Embedded Cost of Debt
L	=	Proportion of Debt in the Capital Structure
d	=	Embedded Cost of Preferred Stock
P	=	Proportion of Preferred Stock in the Capital Structure
k	=	Required Return on Common Equity (ROE)
E	=	Proportion of Common Equity in the Capital Structure

Union Electric Company
d/b/a AmerenUE
Case No. ER-2010-0036

Weighted Cost of Capital as of March 31, 2009
for Union Electric Company

Capital Component	Percentage of Capital	Embedded Cost	Weighted Cost of Capital Using Common Equity Return of: 9.00%	9.35%	9.70%
Common Stock Equity	47.39%	----	4.27%	4.43%	4.60%
Preferred Stock	1.60%	5.189%	0.08%	0.08%	0.08%
Long-Term Debt	51.01%	5.967%	3.04%	3.04%	3.04%
Total	**100.00%**		**7.39%**	**7.56%**	**7.72%**

Sources:
See Schedule 7 for the Capital Structure Ratios.
Embedded Cost of Long-Term Debt and Embedded Cost of Preferred Stock Provided in Company Witness Michael O'Bryan's Direct Testimony,
Schedules MGO-E2 and MGO-E4, respectively.

SCHEDULE 20

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 3

Support for Demand-Side Management (DSM)

Resource Status

UNION ELECTRIC COMPANY

d/b/a AmerenUE

Missouri Public Service Commission

POST OFFICE BOX 360
JEFFERSON CITY MISSOURI 65102
573-751-3234
573-751-1847 (Fax Number)
http://www.psc.mo.gov

April 15, 2009

Stephen M. Kidwell
Vice President – Regulatory Affairs
AmerenUE
PO Box 66149, MC 1450
St. Louis, MO 63166-6149

Dear Steve,

As we have discussed several times over several weeks, Staff is of the opinion that AmerenUE has changed its Preferred Resource Plan from what it filed in its last Chapter 22 Electric Utility Resource Planning compliance filing (Case No. EO-2007-0409) and that AmerenUE has not notified the Commission as required in 4 CSR 240-22.080(10). This section of the Filing Schedule and Requirements of Chapter 22 states that:

> If the utility determines that circumstances have changed so that the preferred resource plan is no longer appropriate, either due to the limits identified pursuant to 4 CSR 240-22.070(10)(C) being exceeded or for other reasons, the utility, in writing, shall notify the commission within sixty (60) days of the utility's determination. If the utility decides to implement any of the contingency options identified pursuant to 4 CSR 240-22.070(10)(D), the utility shall file for review in advance of its next regularly scheduled compliance filing a revised implementation plan.

It appears that AmerenUE has significantly changed two of the resources that it had identified in its Preferred Resource Plan and it did not appropriately notify the Commission.

AmerenUE's Preferred Resource Plan contains a 1600 MW nuclear power plant scheduled to become fully operational and used for service sometime between 2018 and 2021. In information and documents provided to various Missouri Senate and House Legislators to justify AmerenUE's need for legislation to allow CWIP to be included in rate base, AmerenUE provided information on a 900 MW portion of a 1600 MW nuclear power plant. On March 5, 2009 Staff and AmerenUE had a teleconference regarding the workpapers that AmerenUE

supplied as support for its CWIP information and documents to Missouri Legislators. In that teleconference, AmerenUE told Staff that it would only go forward with building a nuclear plant if it sold 700 MW of the 1600 MW plant to other utilities. Staff finds it hard to reconcile AmerenUE's Preferred Resource Plan with what it was told in the March 5 meeting and sees in the AmerenUE workpapers supporting CWIP in rate base. Staff does not know exactly when AmerenUE identified its need to change from 1600 MW of nuclear capacity to 900 MW. The earliest date that Staff has found on the documents with 900 MW of nuclear capacity is February 13, 2009.

AmerenUE's Preferred Resource Plan also contained several residential energy efficiency programs that provided incentives to residential customers to install energy efficiency measures. An AmerenUE schedule showed that these programs would be implemented in the Fall of 2008. On February 24, 2009 in a teleconference that included the Office of the Public Counsel (Public Counsel), AmerenUE told Staff and Public Counsel that it had changed its residential lighting and appliance energy efficiency program to be a market transformation program, i.e., the incentives would be paid to the manufacturers and retailers rather than the program design be direct rebates to AmerenUE customers. Staff considers this a significant change to AmerenUE's Preferred Resource Plan. Staff found a presentation that AmerenUE gave at a November 7, 2008 Missouri Energy Efficiency Peer Exchange Conference hosted by AmerenUE that describes the residential market transformation programs. Staff therefore concludes AmerenUE apparently determined that it would make this change to its Preferred Resource Plan prior to November 7, 2008, which is more than 60 days from the date of this letter.

Staff is interested in receiving AmerenUE's position regarding its compliance with 4 CSR 240-22.080(10) and 4 CSR 240-22.070(10)(C) and (D) for these two resources and requests a written response addressing Staff's concerns within 10 calendar days of your receipt of this letter.

Sincerely,

Lena M Mantle

Lena Mantle
Manager – Energy Department
Missouri Public Service Commission

cc: Wess Henderson
Natelle Dietrich
Bob Schallenberg
John Rogers
Kevin Thompson
Steven Dottheim
Nathan Williams

AmerenUE

One Ameren Plaza
1901 Chouteau Avenue
PO Box 66149
St. Louis, MO 63166-6149
314.621.3222

April 29, 2009

Lena Mantle
Manager – Energy Department
Missouri Public Service Commission
PO Box 360
Jefferson City, MO 65102

RE: AmerenUE's Preferred Resource Plan from Case No. EO-2007-0409

Dear Lena:

I am responding to your April 15th letter in which you expressed the Staff's opinion that AmerenUE has changed its Preferred Resource Plan from that filed in Case No. EO-2007-0409 and that this change triggers a reporting requirement under 4 CSR 240-22.080(10).

AmerenUE does not agree with the Staff's interpretation of the IRP rules as applied to the energy efficiency component of its Preferred Resource Plan. The Company's Preferred Resource Plan, found on pages 57 and 58 of the volume of its last IRP filing titled *Risk Analysis and Strategy Selection* and in attachment Q2 of the volume titled *Integrated Resource Plan*, calls for a commitment to energy efficiency which would reduce demand 540 megawatts by 2025. AmerenUE is continuing to pursue energy efficiency programs with the goal of reducing demand by 540 megawatts by 2025. A change in the particular marketing strategy within a single energy efficiency program supporting that demand reduction commitment is not a change in the plan itself.

Indeed, the Company's IRP filing stated clearly that AmerenUE would continue to revise the specifics of its DSM program design and implementation and that the scope of that work would likely include market transformation initiatives. The volume of the Company's IRP filing titled *Appendix B, DSM Implementation Plan*, page 121, specifically states:

> However, actual implementation must be based on much more detailed program designs and implementation plans. The Company envisions that these detailed plans will be developed by the entities selected to implement the programs, in close consultation with the Company... Final program designs will describe the final proposed structure of the program, specific incentive levels or methods for calculating incentives, and marketing and recruiting strategies to ensure that targets are met. It is likely

> that as final designs are completed assumptions used to prepare this plan will be revised.

After working with the Company's contractor, assumptions were revised and it was those revised assumptions which drove AmerenUE towards utilizing market transformation efforts to pursue the energy efficiency component of its Preferred Resource Plan. Even before AmerenUE revised its underlying DSM assumptions, it indicated that market transformation initiatives would continue to be a focus. The Company's IRP filing continues on page 121:

> At the same time that the Company is working with contractors to finalize the implementation plans for its resource acquisition programs, it will develop the structure for its market transformation initiatives and will put in-place the elements needed for program and portfolio management. Once the final designs and implementation plans are complete, the portfolio budget will be rebalanced to ensure that it remains within the spending limit, and the portfolio TRC will be checked to ensure that the portfolio remains cost-effective.

The bottom line is that AmerenUE is proceeding in a manner consistent with the implementation plan and with the Preferred Resource Plan itself.

The energy efficiency component of AmerenUE's Preferred Resource Plan remains the same – to use energy efficiency to reduce demand by 540 megawatts by 2025. The Commission's IRP rules do not require any notice for a change in implementation strategy, only for a change in the Preferred Resource Plan. Consequently, there has been no determination that the energy efficiency component of AmerenUE's Preferred Resource Plan is "no longer appropriate," which means no report is required under 4 CSR 240-22.080(10).

With respect to the supply-side component of its Preferred Resource Plan, AmerenUE has now determined that the addition of a second nuclear power plant is at this time neither feasible nor appropriate. Consequently, AmerenUE will be providing the requisite notification in accordance with the Commission's rules.

Sincerely,

Stephen M. Kidwell
Vice President, Regulatory Affairs

Cc: Steve Dottheim (Staff)
Wendy Tatro (Ameren)

BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of Union Electric Company d/b/a AmerenUE's Tariff Sheets Filed to Implement a new Residential Lighting and Appliance Program.	))))	Case No. ET-2009- Tariff No. JE-2009-0691

STAFF RECOMMENDATION TO APPROVE TARIFF SHEETS IF AMERENUE ACCEPTS CONDITIONS

Comes now the Staff of the Missouri Public Service Commission and for its recommendation states:

1. On March 25, 2009 Union Electric Company d/b/a AmerenUE ("AmerenUE") filed seven (7) proposed tariff sheets designed to initiate a Residential Energy Efficiency Program section of its tariff by adding a new pilot Residential Lighting and Appliance Program. Each tariff sheet bears an effective date of April 24, 2009.

2. To allow more time for Staff and other stakeholders to discuss the proposed Residential Lighting and Appliance Program with AmerenUE, on April 9, 2009 and again on May 1, 2009, AmerenUE extended the effective date of the tariff sheets to May 15, 2009 and to May 22, 2009, respectively.

3. AmerenUE's proposed Residential Lighting and Appliance Program is intended to reduce energy consumption in residential lighting and appliance products by encouraging selection of ENERGY STAR products through market transformation (i.e., a strategy that promotes the manufacture and purchase of energy efficient products and services resulting in lasting structural and behavioral changes in the marketplace and increased adoption of energy efficient technologies).

4. In the attached Memorandum (Appendix A), the Missouri Public Service Commission Energy Department Staff recommends that, if AmerenUE accepts the conditions following:

- In addition to annual reports and a final report, AmerenUE shall quarterly provide comprehensive quantitative and qualitative reports for the Program to Staff, OPC, DNR and any other interested stakeholders that track the progress of implementation and evaluation of the Program beginning with the first quarter following program implementation.

- Program evaluation, measurement, verification and reporting shall be done separately for the St. Louis metro area, for rural areas and for the Program in total.

- At the end of the Program term, AmerenUE shall share the Program final report with all stakeholders and with all electric utilities (including cooperatives and municipals) in Missouri.

- Should AmerenUE decide to continue the Program beyond its current term of September 30, 2011, AmerenUE shall invite all other electric utilities (including co-operatives, municipals, and investor-owned electric utilities) and other stakeholders in Missouri to meet and evaluate the opportunity for and interest in a statewide Residential ENERGY STAR Lighting and Appliance Program. This condition recognizes that statewide and regional utility collaborations for residential ENERGY STAR lighting and appliance market transformation programs have a history of success in many parts of the United States.

the Commission issue an Order with those conditions that approves the following proposed tariff sheets, as filed on March 25, 2009, to go into effect on May 22, 2009, the currently proposed effective date:

Filed	Canceling
17th Revised Sheet No. 125	16th Revised Sheet No. 125
Original Sheet No. 236	
Original Sheet No. 237	
Original Sheet No. 238	
Original Sheet No. 239	
Original Sheet No. 240	
Original Sheet No. 241	

5. AmerenUE currently lacks residential energy efficiency programs. As the Staff explains in Appendix A, the Staff proposes the foregoing conditions due to several concerns it

has with AmerenUE's proposed Residential Lighting and Appliance Program. Those concerns are that: (1) the proposed program has a high level of risk for AmerenUE's ratepayers, (2) national market transformation efforts for ENERGY STAR products have been underway since 1992 and are expected to accelerate absent AmerenUE's proposed program, (3) the proposed program has relatively low direct benefit to AmerenUE's residential ratepayers, (4) it will be difficult to quantify benefits from the proposed program, and (5) the proposed program is a large and expensive pilot program.

5. The Staff has verified that AmerenUE has filed its annual report and is not delinquent on any assessment. Staff is not aware of any other matter before the Commission that affects or is affected by this filing.

6. The Staff expressly reserves the right to make a prudence determination regarding the implementation of this program in future rate cases if AmerenUE requests recovery of the costs of the program.

WHEREFORE, the Staff recommends that the Commission issue an order that, if AmerenUE accepts the conditions following:

- In addition to annual reports and a final report, AmerenUE will quarterly provide comprehensive quantitative and qualitative reports for the Program to Staff, OPC, DNR and any other interested stakeholders that track the progress of implementation and evaluation of the Program beginning with the first quarter following program implementation.

- Program EM&V and reporting will be done separately for the St. Louis metro area, for rural areas and for the Program in total.

- At the end of the Program term, AmerenUE will share the Program final report with all stakeholders and with all electric utilities (including cooperatives and municipals) in Missouri.

- Should AmerenUE decide to continue the Program beyond its current term of September 30, 2011, AmerenUE will invite all other electric utilities (including cooperatives and municipals) and other stakeholders in Missouri to meet and evaluate the opportunity for

and interest in a statewide Residential ENERGY STAR Lighting and Appliance Program. This condition recognizes that statewide and regional utility collaborations for residential ENERGY STAR lighting and appliance market transformation programs have a history of success in many parts of the United States.

the Commission issue an Order with those conditions that approves the following proposed tariff sheets, as filed on March 25, 2009, to go into effect on May 22, 2009, the currently proposed effective date:

Filed	Canceling
17th Revised Sheet No. 125	16th Revised Sheet No. 125
Original Sheet No. 236	
Original Sheet No. 237	
Original Sheet No. 238	
Original Sheet No. 239	
Original Sheet No. 240	
Original Sheet No. 241	

Respectfully submitted,

/s/ Nathan Williams
Nathan Williams
Deputy General Counsel
Missouri Bar No. 35512

Attorney for the Staff of the
Missouri Public Service Commission
P. O. Box 360
Jefferson City, MO 65102
(573) 751-8702 (Telephone)
(573) 751-9285 (Fax)
e-mail: nathan.williams@psc.mo.gov

Certificate of Service

I hereby certify that copies of the foregoing have been mailed, hand-delivered, or transmitted by facsimile or electronically mailed to all counsel of record this 12th day of May 2009.

/s/ Nathan Williams

MEMORANDUM

To: Missouri Public Service Commission Official Case File
Tariff No. JE-2009-0691
Union Electric Company d/b/a AmerenUE

From: John Rogers, Energy Department – Resource Analysis Manager

/s/ Lena M. Mantle 05/12/09	/s/ Nathan Williams 05/12/09
Lena M. Mantle	Nathan Williams
Energy Department/Date	General Counsel's Office/Date

Subject: Staff analysis of and recommendation for approval of tariff sheets for Residential Energy Efficiency Program, subject to specified conditions being accepted by AmerenUE – Effective May 22, 2009

Date: May 12, 2009

Recommendation:

Staff recommends that the Commission approve the tariff sheets subject to certain conditions set out by Staff in this memo. Staff has concerns with this program as listed in this memo but is recommending approval to enable AmerenUE to offer a demand-side program that may impact the energy usage of its residential customers. Staff believes there will be numerous lessons learned from this program and the program can be monitored for effectiveness. Staff reserves the right to make a prudence determination regarding the implementation of this program in future rate cases where AmerenUE will request recovery of the costs of the program.

Summary:

On March 25, 2009 Union Electric Company d/b/a AmerenUE ("AmerenUE") filed in Tariff Tracking No. JE-2009-0691 its original tariff sheets listed below to include a new Residential Lighting and Appliance Program (Program).

Filed	Canceling
17th Revised Sheet No. 125	16th Revised Sheet No. 125
Original Sheet No. 236	
Original Sheet No. 237	
Original Sheet No. 238	
Original Sheet No. 239	
Original Sheet No. 240	
Original Sheet No. 241	

The tariff sheets filed on March 25, 2009 bore an effective date of April 24, 2009. On April 9, 2009 and on May 1, 2009 AmerenUE filed to extend the effective date of the tariff sheets to May

15, 2009 and to May 22, 2009, respectively. Both extensions were made to allow more time for discussion of the Program among AmerenUE, Staff and other stakeholders.

Staff has had four meetings with AmerenUE to discuss the Program. AmerenUE has consistently expressed confidence in the Program and the Program delivery team. However, Staff has a number of concerns regarding the Program. Taking these concerns into consideration along with AmerenUE's lack of residential energy efficiency programs and AmerenUE's confidence in the Program, Staff is recommending that the tariff sheets be approved with several conditions for the Program. The recommended conditions are in the Conclusion section of this memo.

Background:

On March 25, 2009 AmerenUE filed in Tariff Tracking No. JE-2009-0691 original tariff sheets to include a new Residential Lighting and Appliance Program. The Program as described in this tariff filing was not evaluated as part of AmerenUE's last Chapter 22 electric resource plan filing. Staff and OPC first became aware of the Program on February 24, 2009 when AmerenUE provided a presentation concerning the Program's overview, data collection and reporting to Staff and to OPC. From a presentation dated in November 2008 on AmerenUE's website, it is clear that AmerenUE had been planning to file such a program for some time before notifying the Staff. On March 27, 2009, AmerenUE conducted a second meeting with Staff and OPC regarding the Program. On March 31, 2009, AmerenUE provided an additional presentation concerning the Program and its evaluation plans to Staff, OPC, DNR and other interested entities. On May 1, 2009, AmerenUE again met with Staff and OPC to provide additional information and to address concerns regarding the Program.

The Program is intended to reduce energy consumption in residential lighting and appliance products used by AmerenUE customers by encouraging selection of ENERGY STAR products through market transformation (i.e., a strategy that promotes the manufacture and purchase of energy efficient products and services resulting in lasting structural and behavioral changes in the marketplace and increased adoption of energy efficient technologies). The Program will be administered by Lockheed-Martin (LM). Program evaluation, measurement and verification (EM&V) will be independently performed and reported by Cadmus Group, Inc. (Cadmus). LM and Cadmus have performed these roles in the past for numerous utility demand-side management programs.

LM will introduce the Program to manufacturers and retail distributors of ENERGY STAR products with the objective of having Program contracts with approximately 400 Program partners: manufacturers and retail distributors of ENERGY STAR products who participate in the Program. The Program term ends September 30, 2011, and the Program has a total budget of $13.7 million. LM estimates that the Program's Total Resource Cost Test (TRC)[1] is 2.92, which means that the expected net present value of Program benefits are nearly three time greater than the expected net present value of Program costs. The Program's TRC is higher than the TRC for

[1] A TRC greater than one (1) is considered to be cost effective for the utility.

any of the nine residential demand-side management programs in the preferred plan in AmerenUE's last resource plan filing.

The Program filed is similar to a demand-side management program included in AmerenUE's latest filed preferred resource plan (Case No. EO-2007-0409) in that the objective of both is to achieve energy and demand savings through an increased use of ENERGY STAR lighting products (e. g., compact florescent lights (CFLs)) and ENERGY STAR home appliances by AmerenUE's customers. However, the Program is primarily a market transformation program with limited AmerenUE customer incentives (price buy downs/mark downs), while the program in AmerenUE's latest filed preferred resource plan is primarily a customer incentive program with rebates to AmerenUE customers for program products purchased and limited promotional and marketing incentives for manufacturers and retail distributors. The ENERGY STAR lighting and appliance program in AmerenUE's last resource plan filing had a program launch window of August through November 2008.

During the four meetings regarding the Program, Staff expressed its concerns about the Program design and EM&V process. AmerenUE has worked hard to help Staff and other stakeholders understand the program and to address the concerns being expressed. AmerenUE has consistently expressed a very strong desire to implement the Program, as well as a confidence that this is the right program for the times.

Analysis:

The Program has a high level of risk for ratepayers.

ENERGY STAR market transformation programs have existed for more than ten years. However, all of the ENERGY STAR market transformation programs have included a collaborative of utilities and have all had a program footprint at a state-wide level or a regional level in order to share risk and minimize "free riders" (purchasers of program products who: 1) are not customers of utilities funding the program or 2) would have purchased the products in absence of the program). LM does have experience with state-wide and regional ENERGY STAR market transformation programs. AmerenUE has stated that this is the first time an ENERGY STAR market transformation program will be attempted by one utility in a portion of one state. And, thus, there will be no sharing of risk with other utilities. AmerenUE's service territory is intertwined with nearby electric co-operatives, municipal electric utilities and investor-owned electric utilities (in Missouri and neighboring states) which increases the likelihood of a large number of "free riders" for the Program. AmerenUE has no data currently on the market share of ENERGY STAR lighting products and appliances in the AmerenUE service territory and does not plan to develop this market share data until the fall of 2009. Thus, AmerenUE has neither quantified the need for the Program specific to the AmerenUE's territory nor the potential benefits to AmerenUE expected from the Program. An ENERGY STAR market transformation program was not screened for cost effectiveness in AmerenUE's last resource plan filing.

Finally, as specifically addressed below, the delivery process for the Program is complicated, and the Program results will be difficult to evaluate, measure and verify when compared to traditional customer rebate energy efficiency programs.

In the description of its risk analysis conducted as a part of its last electric resource plan filing, AmerenUE describes the risk of a manufacturer and/or major retail participation program such as the one AmerenUE is proposing in this tariff filing. At page 47 of AmerenUE's February 5, 2008 resource plan filing made to comply with 4 CSR 240-22.070, Risk Analysis and Strategy Selection, Volume II in Case No. EO-2007-0409, the description of AmerenUE's residential lighting and appliance program included in AmerenUE's preferred plan has the following statement:

> Given the initial size of the program, scale is insufficient to generate significant manufacturer or major retailer participation (such as through in-store instant rebates or product price buy-downs). The primary delivery strategy will be direct consumer rebates, supported by outreach to retailers (special in-store events, etc).

At page 24 of the referenced document, AmerenUE further states:

> ... programs intended principally to effect a market transformation typically have very different designs, embody more program elements, require greater investment per unit of energy saved and are more difficult to evaluate, particularly over short periods than resource acquisition programs

At page 26 of the referenced document, AmerenUE states the following as a way to manage some of the risk associated with market transformation programs:

> ... where risks are closely associated with being able to influence a mass market, risk can be mitigated to some extent by moving the program focus upstream to retailers, distributors or manufacturers where greater control over performance can be exercised.

In the time between when AmerenUE filed its last electric resource plan in Case No. EO-2007-0409 and the filing of this tariff, AmerenUE hired LM to refine the design and administer its residential programs. AmerenUE has told Staff that it took many discussions with LM for it to agree on this particular program design.

National market transformation efforts for ENERGY STAR products have been underway since 1992 and are expected to accelerate with or without the Program.

The ENERGY STAR program was started in 1992 and is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy. Through its partnerships with more than 15,000 private and public sector organizations throughout the United States, ENERGY STAR delivers technical information and tools that organizations and consumers can

use to choose energy efficient solutions. Over 70 percent of consumers are aware of the ENERGY STAR brand (per the ENERGY STAR web site). Founded in 1991, The Consortium for Energy Efficiency (of which AmerenUE is a member) is a non-profit collaborative of utilities extending over 27 states and two provinces that promotes energy efficiency through a variety of avenues including efforts to encourage lighting and appliance manufacturers to meet or exceed ENERGY STAR efficiency standards. Staff believes the ENERGY STAR brand is well established and recognized.

In addition, there is a high likelihood that the federal government will soon pass legislation that requires newly manufactured home appliances to meet higher energy efficiency standards. The federal Clean Energy Act of 2007 effectively banned incandescent light bulbs by January 2014. Such legislation will reduce the need for and effectiveness of market transformation for ENERGY STAR lighting and appliances.

The Program budget has relatively low direct benefits for AmerenUE residential customers.

Program Budget Item	Amount	Percentage
AmerenUE Administration (1)	$ 2,005,860	14.6%
LM Program Administration (2)	$ 5,585,000	40.8%
Marketing and Education	$ 1,869,585	13.7%
Partner Incentives (3)	$ 571,310	4.2%
Customer Incentives (4)	$ 3,664,416	26.8%
Total Budget	$13,696,171	

(1) Program's portion of total "below the line" AmerenUE Residential Portfolio Costs including EM&V (Cadmus) costs, education, information, and administrative costs.
(2) Total time and materials per LM contract including web development, media planning and production, marketing consulting and database system development and administration.
(3) For market share incentives and 50/50 sharing of special promotions.
(4) For manufacturer buy downs and retail distributor mark downs.

About 27 percent (27%) of the Program's total costs are for direct incentives for customers (buy/mark down of prices), which the retailers and manufacturers may or may not choose to pass on to AmerenUE customers, assuming there are no "free riders." By contrast, the residential lighting and appliance program in AmerenUE's last electric resource plan filing included about 53 percent (53%) of program total costs for direct incentives for customers.

Program benefits will be difficult to quantify.

By their very nature, energy efficiency market transformation program benefits are difficult to quantify, because there is no way to directly identify the incremental sales of lights and appliances as a result of the program above the level of natural sales that would occur absent the program. Cadmus plans to attempt to do this through a market-based evaluation approach which

will track and compare the growth in the sale of ENERGY STAR lighting products and appliances within AmerenUE's service territory over the course of the Program to the growth in sales of similar products observed in "control states" (such as Georgia) where utilities are not operating any energy efficiency programs. This theoretical approach is the only way Cadmus, or anyone else, can determine an estimate of the Program's benefits. Staff is concerned that there may be many economic factors/driving forces which may vary significantly between the AmerenUE service territory and the "control state" and that this will make it very difficult to make an apples-to-apples comparison through the planned market-based evaluation approach.

Cadmus plans to use "in-store intercepts" of purchasers to determine the percentage of sales at participating stores that are made by "free riders." Staff is concerned about the adequacy of the number and location of "in-store intercepts" to properly identify the percentage of "free riders" in light of the fact that AmerenUE's service territory is intertwined with many adjoining or nearby electric co-operatives, municipal electric utilities and investor-owned electric utilities in Missouri and neighboring states.

In addition Staff is concerned about the evaluation of the Program. In the presentation on March 31, 2009, Cadmus told Staff that while they had evaluated similar programs before, none were like the one AmerenUE is proposing.

The Program may be a large and expensive pilot program.

AmerenUE will be breaking new ground with the Program, since this will be the first time one utility will attempt this market transformation program in a portion of one state. During the four meetings with Staff and others to discuss the Program, AmerenUE has openly stated that there is much uncertainty surrounding the Program and that such uncertainty will likely require frequent review and adjustment to the Program design. The Program budget is approximately one-third of the total budget for the Residential Energy Efficiency Portfolio.

Because the Program budget is relatively large and because of the expectation that there will be periodic changes to the Program design, Staff has expressed its belief that the Program is a large and expensive pilot program. AmerenUE has responded that it does not believe the Program should be viewed as a pilot since there is much experience with similar statewide and/or regional programs.

Conclusion:

Although the Program has relatively high risk and uncertainty, Staff does recognize the potential for significant Program benefits and the need for AmerenUE to begin implementing new residential demand-side management programs. Staff believes that AmerenUE should be allowed to implement the Program subject to the following conditions:

- In addition to annual reports and a final report, AmerenUE shall quarterly provide comprehensive quantitative and qualitative reports for the Program to Staff, OPC, DNR and any other interested stakeholders that track the progress of implementation and

evaluation of the Program beginning with the first quarter following program implementation.

- Program EM&V and reporting shall be done separately for the St. Louis metro area, for rural areas and for the Program in total.

- At the end of the Program term, AmerenUE shall share the Program final report with all stakeholders and with all electric utilities (including cooperatives and municipals) in Missouri.

- Should AmerenUE decide to continue the Program beyond its current term of September 30, 2011, AmerenUE shall invite all other electric utilities (including co-operatives, municipals, and investor-owned electric utilities) and other stakeholders in Missouri to meet and evaluate the opportunity for and interest in a statewide Residential ENERGY STAR Lighting and Appliance Program. This condition recognizes that statewide and regional utility collaborations for residential ENERGY STAR lighting and appliance market transformation programs have a history of success in many parts of the United States.

Recommendation:

Staff recommends that the Commission approve the tariff sheets and that AmerenUE be ordered to comply with the conditions listed above.

AmerenUE is not delinquent in filing its Annual Report and the Staff is not aware of any other matter before the Commission that affects or is affected by this filing.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the matter of Union Electric Company d/b/a AmerenUE's Tariff Sheets Filed to Implement a new Residential Lighting and Appliance Program.	))))	Case No. ET-2009- Tariff No. JE-2009-0691

AFFIDAVIT OF JOHN ROGERS

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

John Rogers, of lawful age, on oath states: that he participated in the preparation of the foregoing Staff Recommendation in memorandum form, to be presented in the above case; that the information in the Staff Recommendation was provided to him; that he has knowledge of the matters set forth in such Staff Recommendation; and that such matters are true to the best of his knowledge and belief.

John Rogers

Subscribed and sworn to before me this 12th day of May, 2009.

Notary Public

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086

CASE NO. ER-2010-0036

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 4

Staff Recommended Depreciation Rates

UNION ELECTRIC COMPANY

d/b/a AmerenUE

CASE NO. ER-2010-0036

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No ER-2010-0036

DEPRECIATION RATE & ACCRUAL SUMMARY COMPARISON SPREADSHEET

Accounting Group	Depreciation Rate Compare			Adjusted Plant	No Reserve Amortization Accruals		
	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036	Original Cost Dec 31 2008	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036
Year Ordered --->	2007			Staff			
Steam Production Plant	2.00	3.11	2.55	2,926,312,418	58,640,359	95,983,107	74,700,159
Nuclear Production Plant	2.19	2.02	2.02	2,812,616,747	61,690,556	63,950,415	63,950,415
Hydraulic Production Plant	1.54	2.55	1.92	245,906,142	3,785,270	5,526,095	4,727,513
Other Production Plant	2.63	2.02	1.99	1,178,321,614	30,989,858	31,015,115	28,432,100
Total Production plant	2.17	2.48	2.23	7,163,156,921	155,106,044	196,474,732	171,810,187
Transmission Plant	2.35	2.39	1.98	588,819,798	13,811,073	13,552,708	11,662,458
Distribution plant	3.44	3.37	3.44	3,893,051,128	134,082,529	131,664,963	134,067,281
General Plant	5.07	4.81	5.24	435,447,175	22,065,547	22,205,026	22,801,108
Total Plant	**2.69**	**2.85**	**2.72**	**12,080,475,022**	**325,065,194**	**363,897,429**	**340,341,035**

Schedule AWR-1

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No ER-2010-0036

DEPRECIATION RATE & ACCRUAL SUMMARY COMPARISON SPREADSHEET

Accounting Group	AmerenUE Case ER-2010-0036 Proposal Company Remaining Life Accruals Total Reserve Variance	Reserve Remain Life	Remain Life Accrual	PSC Staff ER-2010-0036 Proposal Staff Accruals with Amortization Total Reserve Variance	Reserve Annual	Annual Acrual
Year Ordered —>	(neg = over)	Amortization	Depreciation	(neg = over)	Amortization	
Steam Production Plant	-205,980,943	-5,118,514	90,864,593	-247,350,429	0	74,700,159
Nuclear Production Plant	-236,146,314	-7,199,461	56,750,954	-236,146,314	-7,199,461	56,750,954
Hydraulic Production Plant	28,849,994	740,964	6,267,059	31,194,095	0	4,727,513
Other Production Plant	-235,901,232	-7,196,933	23,818,182	-253,427,754	-5,000,000	23,432,100
Total Production plant	-649,178,495	-18,773,943	177,700,789	-705,730,402	0	159,610,726
Transmission Plant	17,396,663	501,172	14,053,880	-12,623,268	0	11,662,458
Distribution plant	-22,641,582	-472,855	131,192,108	17,754,312	0	134,067,281
General Plant	-5,456,960	-1,251,117	20,953,909	1,780,137	0	22,801,108
Total Plant	**-659,880,374**	**-19,996,744**	**343,900,685**	**-698,819,221**	**-12,199,461**	**328,141,574**
				Difference from company -->		-15,759,111
				Difference from current -->		3,076,380

Schedule AWR-1

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

DEPRECIATION RATE COMPARISON SPREADSHEET

Account No.	Title	Ordered EC-2002-1 Life (Yr.)	Ordered EC-2002-1 Net Salvage (%)	Ordered EC-2002-1 Deprec. Rate (%)	ER-2007-0002 and ER-2008-0318 Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Probable Retirement Year	ER-2010-0036 --> Company Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	ER-2010-0036-->Staff Mass Prop except Nuclear Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Steam Production Plant																Update	11/5
	Meramec Steam Production Plant								Life Span	Meramec Steam Production Plant								
311	Structures & Improvements	35	(1)	2.89%	115	R1.5	(21)	1.05%	01-2022	115	R1.5(a)	(2)	3.49%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	32	(2)	3.19%	60	L0.5	(29)	2.15%	01-2022	60	L0.5(a)	(15)	5.36%	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	35	2	2.80%	63	L1	(7)	1.70%	01-2022	70	L0.5(a)	(5)	4.15%	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	35	3	2.77%	90	R1	(9)	1.21%	01-2022	80	S0(a)	(3)	4.35%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	29	6	3.24%	60	O2	(6)	1.77%	01-2022	60	O1(a)	0	5.41%	316	45	R0.5	(20)	2.67%
	Bloux Steam Production Plant								Life Span	Bloux Steam Production Plant								
311	Structures & Improvements	35	(1)	2.89%	115	R1.5	(21)	1.05%	09-2033	115	R1.5(a)	(2)	2.90%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	32	(2)	3.19%	60	L0.5	(29)	2.15%	09-2033	60	L0.5(a)	(15)	3.65%	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	35	2	2.80%	63	L1	(7)	1.70%	09-2033	70	L0.5(a)	(5)	3.31%	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	35	3	2.77%	90	R1	(9)	1.21%	09-2033	80	S0(a)	(3)	3.04%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	29	6	3.24%	60	O2	(6)	1.77%	09-2033	60	O1(a)	0	3.36%	316	45	R0.5	(20)	2.67%
	Labadie Steam Production Plant								Life Span	Labadie Steam Production Plant								
311	Structures & Improvements	35	(1)	2.89%	115	R1.5	(21)	1.05%	09-2042	115	R1.5(a)	(2)	1.99%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	32	(2)	3.19%	60	L0.5	(29)	2.15%	09-2042	60	L0.5(a)	(15)	2.78%	312	45	R1.5	(23)	2.73%
312.03	Aluminum Coal Cars	22	0	4.55%	22	R3	8	4.19%		26	R2.5	30	2.69%	312.03	26	R2.5	72	1.08%
314	Turbogenerator Units	35	2	2.80%	63	L1	(7)	1.70%	09-2042	70	L0.5(a)	(5)	2.65%	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	35	3	2.77%	90	R1	(9)	1.21%	09-2042	80	S0(a)	(3)	2.25%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	29	6	3.24%	60	O2	(6)	1.77%	09-2042	60	O1(a)	0	2.64%	316	45	R0.5	(20)	2.67%
	Rush Island Steam Production Plant								Life Span	Rush Island Steam Production Plant								
311	Structures & Improvements	35	(1)	2.89%	115	R1.5	(21)	1.05%	09-2046	115	R1.5(a)	(2)	1.80%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	32	(2)	3.19%	60	L0.5	(29)	2.15%	09-2046	60	L0.5(a)	(15)	2.70%	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	35	2	2.80%	63	L1	(7)	1.70%	09-2046	70	L0.5(a)	(5)	2.36%	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	35	3	2.77%	90	R1	(9)	1.21%	09-2046	80	S0(a)	(3)	2.19%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	29	6	3.24%	60	O2	(6)	1.77%	09-2046	60	O1(a)	0	2.50%	316	45	R0.5	(20)	2.67%
	Common Steam Production Plant								Life Span	Common Steam Production Plant								
311	Structures & Improvements				115	R1.5	(21)	1.05%	09-2042	115	R1.5(a)	(2)	2.57%	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment				60	L0.5	(29)	2.15%	09-2042	60	L0.5(a)	(15)	3.25%	312	45	R1.5	(23)	2.73%
315	Accessory Electrical Equipment				90	R1	(9)	1.21%	09-2042	80	S0.5(a)	(3)	2.68%	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment				60	O2	(6)	1.77%	09-2042	60	O1(a)	0	2.95%	316	45	R0.5	(20)	2.67%
	Nuclear Production Plant				60 yr Life Span				Life Span	Nuclear Production Plant				60 yr Life Span				
321	Structures and Improvements	40	0	2.60%	100	R1(a)	0	1.97%	10-2044	100	R1(a)	(1)	1.95%	321	100	R1(a)	(1)	1.95%
322	Reactor Plant Equipment	40	4	2.60%	60	S0(a)	0.2	2.46%	10-2044	60	S0(a)	(10.0)	2.55%	322	60	S0(a)	(10.0)	2.55%
323	Turbogenerator Units	40	0	2.60%	100	S0(a)	0	2.08%	10-2044	60	S0.5(a)	(2)	2.28%	323	60	S0.5(a)	(2)	2.28%
324	Accessory Electric Equipment	40	1	2.60%	80	R2(a)	0	1.91%	10-2044	80	R2(a)	0	1.87%	324	80	R2(a)	0	1.87%

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

DEPRECIATION RATE COMPARISON SPREADSHEET

Account No.	Title	Ordered EC-2002-1 Life (Yr.)	Net Salvage (%)	Deprec. Rate (%)	ER-2007-0002 and ER-2008-0318 Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Probable Retirement Year	ER-2010-0036 --> Company Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	ER-2010-0036-->Staff Mass Prop except Nuclear Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
325	Misc. Power Plant Equipment	40	2	2.80%	60	O1(a)	0	2.49%	10-2044	60	O3(a)	0	2.68%	325	60	O3(a)	0	2.86%
	Osage Hydraulic Production Plant								Life Span	Osage Hydraulic Production Plant								
331	Structures and Improvements	91	0	1.10%	150	R1.5	(41)	0.94%	06-2047	130	R1(a)	(20)	1.96%	331	130	R2	(150)	1.92%
332	Reservoirs, Dams, and Waterways	85	(1)	1.19%	180	R3	0	0.56%	06-2047	150	L2(a)	(20)	1.57%	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	96	0	1.04%	125	S0	(161)	2.09%	06-2047	95	S0.5(a)	(30)	2.85%	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	90	(2)	1.13%	65	O1	(9)	1.68%	06-2047	65	R0.5(a)	(8)	2.45%	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	74	5	1.28%	60	O1	0	1.67%	06-2047	60	R0.5(a)	(5)	2.63%	335	60	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	22	0	4.55%	60	SQ	0	1.63%	06-2047	40	O2(a)	0	2.57%	336	50	SQ	0	2.00%
	Keokuk Hydraulic Production Plant								Life Span	Keokuk Hydraulic Production Plant								
331	Structures and Improvements	91	0	1.10%	150	R1.5	(41)	0.94%	06-2055	130	R1(a)	(20)	2.03%	331	130	R2	(150)	1.92%
332	Reservoirs, Dams, and Waterways	85	(1)	1.19%	180	R3	0	0.56%	06-2055	150	L2(a)	(20)	1.68%	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	96	0	1.04%	125	S0	(161)	2.09%	06-2055	95	S0.5(a)	(30)	2.47%	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	90	(2)	1.13%	65	O1	(9)	1.68%	06-2055	65	R0.5(a)	(8)	2.33%	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	74	5	1.28%	60	O1	0	1.67%	06-2055	60	R0.5(a)	(5)	2.31%	335	60	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	22	0	4.55%	60	SQ	0	1.63%	06-2055	40	O2(a)	0	2.73%	336	50	SQ	0	2.00%
	Taum Sauk Hydraulic Production Plant								Life Span	Taum Sauk Hydraulic Production Plant								
331	Structures and Improvements	91	0	1.10%	150	R1.5	(41)	0.94%	06-2049	130	R1(a)	(20)	1.83%	331	130	R2	(150)	1.92%
332	Reservoirs, Dams, and Waterways	85	(1)	1.19%	180	R3	0	0.56%	06-2049	150	L2(a)	(20)	1.74%	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	96	0	1.04%	125	S0	(161)	2.09%	06-2049	95	S0.5(a)	(30)	2.43%	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	90	(2)	1.13%	65	O1	(9)	1.68%	06-2049	65	R0.5(a)	(8)	2.21%	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	74	5	1.28%	60	O1	0	1.67%	06-2049	60	R0.5(a)	(5)	2.67%	335	60	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	22	0	4.55%	60	SQ	0	1.63%	06-2049	40	O2(a)	0	2.63%	336	50	SQ	0	2.00%
	Other Production Plant									Other Production Plant								
341	Structures and Improvements	25	0	4.00%	40	R4	(5)	2.63%		40	R4	(5)	2.60%	341	44	R4	(37)	3.11%
342	Fuel Holders, Products, and Accessories	25	0	4.00%	40	R4	(5)	2.63%		40	R4	(5)	2.63%	342	44	R4	(11)	2.52%
344	Generators	25	0	4.00%	40	R4	(5)	2.63%		40	R4	(5)	2.62%	344	44	R4	(5)	2.39%
345	Accessory Electric Equipment	25	0	4.00%	40	R4	(5)	2.63%		40	R4	(5)	2.62%	345	44	R4	(5)	2.39%
346	Misc. Power Plant Equipment	25	0	4.00%	40	R4	(5)	2.63%		25	R1	(5)	4.15%	346	25	L0.5	3	3.88%
	Transmission Plant									Transmission Plant								
352	Structures and Improvements	79	(5)	1.33%	60	R2	(5)	1.75%		60	R2	0	1.67%	352	60	R2	0	1.67%
353	Station Equipment	50	0	2.00%	55	R2.5	0	1.82%		55	R2.5	0	1.82%	353	60	R2.5	0	1.67%
354	Tower and Fixtures	50	7	1.86%	65	R4	(10)	1.69%		70	R4	(14)	1.63%	354	70	R4	(14)	1.63%
355	Poles and Fixtures	43	(20)	2.79%	52	R4	(90)	3.65%		53	R4	(90)	3.59%	355	53	R4	(33)	2.51%
356	Overhead Conductors and Devices	60	13	1.45%	55	R4	(25)	2.27%		55	R4	(20)	2.18%	356	65	R2.5	(40)	2.15%
359	Roads and Trails	50	0	2.00%	50	SQ	0	2.00%		50	SQ	0	2.00%	359	50	SQ	0	2.00%

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

DEPRECIATION RATE COMPARISON SPREADSHEET

Account No.	Title	Ordered EC-2002-1 Life (Yr.)	Net Salvage (%)	Deprec. Rate (%)	ER-2007-0002 and ER-2008-0318 Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	Probable Retirement Year	ER-2010-0036 --> Company Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)	ER-2010-0036-->Staff Mass Prop except Nuclear Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Distribution Plant									Distribution Plant								
361	Structures and Improvements	61	10	1.46%	60	R2	(5)	1.75%		60	R2.5	0	1.67%	361	60	R2.5	0	1.67%
362	Station Equipment	44	(5)	2.39%	55	R2.5	0	1.82%		60	R2.5	(10)	1.84%	362	62	R2	(17)	1.89%
364	Poles, Towers, and Fixtures	34	(127)	6.68%	43	R3	(135)	5.47%		45	R2.5	(150)	5.55%	364	44	R3	(150)	5.68%
365	Overhead Conductors and Devices	36	(15)	3.19%	47	R1	(50)	3.19%		49	R1	(53)	3.12%	365	51	R1	(75)	3.43%
366	Underground Conduit	84	(45)	1.73%	65	R3	(50)	2.31%		70	R3	(40)	2.00%	366	70	R3	(40)	2.00%
367	Underground Conductors and Devices	45	22	1.73%	53	R2	(25)	2.38%		54	R2	(25)	2.31%	367	55	R2	(25)	2.27%
368	Line Transformers	40	17	2.08%	42	R2.5	(1)	2.40%		42	R2.5	0	2.38%	368	43	S1.5	0	2.33%
369.001	Overhead Services	36	(197)	8.25%	37	R2.5	(200)	8.11%		40	R2.5	(215)	7.87%	369.001	40	R2.5	(215)	7.88%
369.002	Underground Services	45	(17)	2.60%	45	R3	(80)	4.00%		55	R3	(80)	3.26%	369.002	70	R2	(80)	2.57%
370	Meters	36	1	2.75%	28	L2.5	0	3.57%		26	L2.5	0	3.85%	370	26	L2.5	5	3.65%
371	Installations on Customer Premises	46	(1)	2.20%	20	O1	0	5.00%		20	O1	0	3.13%	371	20	O1	(2)	5.10%
373.00	Street Lighting and Signal Systems	23	(36)	5.91%	33	L1	(45)	4.39%		36	L1	(43)	3.98%	373	36	L1	(43)	3.97%
	General Plant									General Plant								
390.0	Structures and Improvements	41	6	2.29%	45	S0	(5)	2.33%		45	R1.5	(10)	2.44%	390.0	45	R1.5	(22)	2.71%
391.0	Office Furniture and Equipment	28	8	3.29%	15	SQ	0	6.67%		15	SQ	0	6.67%	391.0	15	SQ	0	6.67%
391.1	Mainframe Computers	*	*	3.29%	5	SQ	0	0.00%		5	SQ	0	20.00%	391.1	5	SQ	0	20.00%
391.2	Personal Computers	*	*	3.29%	5	SQ	0	20.00%		5	SQ	0	20.00%	391.2	5	SQ	0	20.00%
392.0	Transportation Equipment	11	12	8.00%	11	S0	9	8.27%		11	R1.5	9	8.20%	392.0	11	R1.5	9	8.27%
393.0	Stores Equipment	32	12	2.75%	20	SQ	0	5.00%		20	SQ	0	5.00%	393.0	20	SQ	0	5.00%
394.00	Tools, Shop and Garage Equipment	45	18	1.82%	20	SQ	0	5.00%		20	SQ	0	5.00%	394.00	20	SQ	0	5.00%
395.00	Laboratory Equipment	52	2	1.88%	20	SQ	0	5.00%		20	SQ	0	5.00%	395.00	20	SQ	0	5.00%
396.00	Power Operated Equipment	18	23	4.28%	15	L2	15	5.67%		15	L2	15	5.66%	396.00	15	L2	15	5.67%
397.00	Communication Equipment	30	(5)	3.50%	15	SQ	0	6.67%		15	SQ	0	6.67%	397.00	15	SQ	0	6.67%
398.00	Miscellaneous Equipment	20	5	4.75%	20	SQ	0	5.00%		20	SQ	0	5.00%	398.00	20	SQ	0	5.00%

Schedule AWR-2

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

DEPRECIATION ACCRUAL COMPARISON SPREADSHEE

Account No.	Title	Depreciation Rate Compare (no amortization) Case 2002-1	Case 2007-0002	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036	Plant Company Books	Adjusted Plant Original Cost Dec 31 2008	Annual Accrual Compare (no amortization) Case 2002-1	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036
	Year Ordered —>	1983	2007	2007				Staff				
	Steam Production Plant	Whole life	Whole life	Whole life	Lifespan	Whole life						
311	Structures & Improvements	2.89%	1.05%	1.05%	2.42%	2.59%		196,696,234	5,627,900	2,065,310	4,756,554	5,093,027
312	Boiler Plant Equipment	3.19%	2.15%	2.15%	3.55%	2.73%		1,825,224,070	57,044,877	39,242,318	64,746,364	49,889,458
312.03	Aluminum Coal Cars	4.55%	4.19%	4.19%	2.69%	1.08%		116,271,400	5,290,349	4,871,772	3,133,514	1,252,154
314	Turbogenerator Units	2.80%	1.70%	1.70%	2.94%	2.36%		528,135,971	14,787,807	8,978,312	15,506,127	12,472,998
315	Acessory Electric Equipment	2.77%	1.21%	1.21%	2.83%	2.20%		199,836,019	5,448,757	2,418,016	5,663,574	4,388,556
316	Misc. Power Plant Equipment	3.24%	1.77%	1.77%	3.62%	2.67%		60,148,724	1,948,143	1,064,632	2,176,974	1,603,966
	Total Steam Production Plant							**2,926,312,418**	**90,147,834**	**59,640,359**	**96,983,107**	**74,700,159**
	Nuclear Production Plant											
321	Structures and Improvements	2.60%	1.97%	1.97%	1.95%	1.95%		908,912,210	23,631,717	17,905,571	17,684,720	17,684,720
322	Reactor Plant Equipment	2.60%	2.46%	2.46%	2.55%	2.55%		1,011,169,315	26,290,402	24,874,765	25,754,339	25,754,339
323	Turbogenerator Units	2.60%	2.08%	2.08%	2.28%	2.28%		509,558,176	13,248,513	10,598,810	11,601,424	11,601,424
324	Accessory Electric Equipment	2.60%	1.91%	1.91%	1.87%	1.87%		211,158,284	5,490,115	4,033,123	3,953,640	3,953,640
325	Misc. Power Plant Equipment	2.60%	2.49%	2.49%	2.88%	2.88%		171,818,762	4,467,288	4,278,287	4,956,292	4,956,292
	Annual Amortization											
	Total Nuclear Production Plant							**2,812,616,747**	**73,128,036**	**61,690,556**	**63,950,415**	**63,950,415**
	Hydraulic Production Plant	Whole life	Whole life	Whole life	Lifespan	Whole life						
331	Structures and Improvements	1.10%	0.94%	0.94%	1.94%	1.92%		16,032,698	176,360	150,707	310,334	308,321
332	Reservoirs, Dams, and Waterways	1.19%	0.56%	0.56%	1.66%	1.57%		68,738,872	817,893	384,938	1,140,918	1,080,182
333	Water Wheels, Turbines, and Generators	1.04%	2.09%	2.09%	2.56%	2.06%		132,538,567	1,378,401	2,770,056	3,388,578	2,728,735
334	Accessory Electric Equipment	1.13%	1.68%	1.68%	2.34%	2.15%		20,781,938	234,836	349,137	487,216	447,611
335	Misc. Power Plant Equipment	1.28%	1.67%	1.67%	2.52%	2.08%		7,658,363	98,027	127,895	192,731	159,549
336	Roads, Railroads, and Bridges	4.55%	1.63%	1.63%	4.06%	2.00%	237,941	155,704	7,085	2,538	6,318	3,114
	Total Hydraulic Production Plant							**245,906,142**	**2,712,701**	**3,785,270**	**5,526,095**	**4,727,513**
	Other Production Plant											
341	Structures and Improvements	4.00%	2.63%	2.63%	2.60%	3.11%		25,892,740	1,035,710	680,979	673,636	806,206
342	Fuel Holders, Products, and Accessories	4.00%	2.63%	2.63%	2.63%	2.52%		24,520,526	980,821	644,890	643,664	618,586
344	Generators	4.00%	2.63%	2.63%	2.62%	2.39%		1,051,873,156	42,074,926	27,664,264	27,609,348	25,101,518
345	Accessory Electric Equipment	4.00%	2.63%	2.63%	2.62%	2.39%		69,921,659	2,796,866	1,838,940	1,834,518	1,668,585
346	Misc. Power Plant Equipment	4.00%	2.63%	2.63%	4.15%	3.88%		6,113,533	244,541	160,786	253,949	237,205
	Annual Amortization											
	Total Other Production Plant							**1,178,321,614**	**47,132,865**	**30,989,858**	**31,015,115**	**28,432,100**
	Total Production Plant							**7,183,156,921**	**213,121,434**	**155,106,044**	**196,474,732**	**171,810,187**
	Transmission Plant											
352	Structures and Improvements	1.33%	1.75%	1.75%	1.67%	1.67%		6,271,634	83,413	109,754	104,736	104,527
353	Station Equipment	2.00%	1.82%	1.82%	1.82%	1.67%		228,351,122	4,567,022	4,155,990	4,155,990	3,805,852
354	Tower and Fixtures	1.86%	1.69%	1.69%	1.63%	1.63%		70,394,133	1,309,331	1,189,661	1,147,565	1,146,419
355	Poles and Fixtures	2.79%	3.65%	3.65%	3.59%	2.51%		138,655,625	3,868,492	5,060,930	4,979,080	3,479,471
356	Overhead Conductors and Devices	1.45%	2.27%	2.27%	2.18%	2.15%		145,108,058	2,104,067	3,293,953	3,164,552	3,125,404
359	Roads and Trails	2.00%	2.00%	2.00%	2.00%	2.00%	71,789	39,226	785	785	785	785
	Total Transmission Plant							**588,819,798**	**11,933,109**	**13,811,073**	**13,552,708**	**11,662,458**

Schedule AWR-3

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

DEPRECIATION ACCRUAL COMPARISON SPREADSHEET

Account No.	Title	Depreciation Rate Compare (no amortization) Case 2002-1	Case 2007-0002	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036	Plant Company Books	Adjusted Plant Original Cost Dec 31 2008	Annual Accrual Compare (no amortization) Case 2002-1	Case 2008-0318	Company 2010-0036	PSC Staff 2010-0036
	Distribution Plant											
361	Structures and Improvements	1.48%	1.75%	1.75%	1.67%	1.67%		15,366,771	227,428	268,918	256,625	256,113
362	Station Equipment	2.39%	1.82%	1.82%	1.84%	1.89%		598,830,057	14,312,038	10,898,707	11,000,508	11,300,503
364	Poles, Towers, and Fixtures	6.68%	5.47%	5.47%	5.55%	5.68%		767,060,219	51,239,623	41,958,194	42,568,665	43,582,967
365	Overhead Conductors and Devices	3.19%	3.19%	3.19%	3.12%	3.43%		856,325,270	27,316,776	27,316,776	26,727,624	29,383,710
366	Underground Conduit	1.73%	2.31%	2.31%	2.00%	2.00%		223,547,546	3,867,373	5,163,948	4,475,422	4,470,951
367	Underground Conductors and Devices	1.73%	2.36%	2.36%	2.31%	2.27%		527,667,832	9,128,653	12,452,961	12,202,319	11,992,451
368	Line Transformers	2.08%	2.40%	2.40%	2.38%	2.33%		401,240,245	8,345,797	9,629,766	9,546,050	9,331,168
369.001	Overhead Services	8.25%	8.11%	8.11%	7.87%	7.88%		153,326,209	12,649,412	12,434,756	12,061,060	12,074,439
369.002	Underground Services	2.60%	4.00%	4.00%	3.28%	2.57%		134,153,521	3,487,992	5,366,141	4,394,352	3,449,662
370	Meters	2.75%	3.57%	3.57%	3.85%	3.65%		106,165,932	2,919,563	3,790,124	4,085,925	3,879,140
371	Installations on Customer Premises	2.20%	5.00%	5.00%	3.13%	5.10%		164,611	3,621	8,231	5,160	8,395
373.00	Street Lighting and Signal Systems	5.91%	4.39%	4.39%	3.98%	3.97%		109,202,915	6,453,892	4,794,008	4,341,253	4,337,782
	Total Distribution Plant							**3,893,051,128**	**139,952,169**	**134,082,629**	**131,664,963**	**134,067,281**
	General Plant											
390.0	Structures and Improvements	2.29%	2.33%	2.33%	2.44%	2.71%		189,663,144	4,343,266	4,419,151	4,629,015	5,141,979
391.0	Office Furniture and Equipment	3.29%	6.67%	6.67%	6.67%	6.67%	55,554,783	42,993,873	1,414,498	2,867,691	2,867,691	2,866,258
391.1	Mainframe Computers	3.29%	0.00%	0.00%	20.00%	20.00%		0	0	0	0	0
391.2	Personal Computers	3.29%	20.00%	20.00%	20.00%	20.00%	2,077,726	1,527,337	50,249	305,467	305,467	305,467
392.0	Transportation Equipment	8.00%	8.27%	8.27%	8.20%	8.27%		94,534,723	7,562,778	7,818,022	7,748,088	7,820,600
393.0	Stores Equipment	2.75%	5.00%	5.00%	5.00%	5.00%	2,924,509	2,304,698	63,379	115,235	115,235	115,235
394.00	Tools, Shop and Garage Equipment	1.82%	5.00%	5.00%	5.00%	5.00%	13,425,316	12,071,031	219,693	603,552	603,552	603,552
395.00	Laboratory Equipment	1.88%	5.00%	5.00%	5.00%	5.00%	7,788,726	6,627,517	124,597	331,376	331,376	331,376
396.00	Power Operated Equipment	4.28%	5.67%	5.67%	5.66%	5.67%		8,575,690	367,040	486,242	485,790	485,956
397.00	Communication Equipment	3.50%	6.67%	6.67%	6.67%	6.67%	135,601,034	76,393,686	2,673,779	5,081,038	5,081,038	5,092,912
398.00	Miscellaneous Equipment	4.75%	5.00%	5.00%	5.00%	5.00%	780,241	755,476	35,885	37,774	37,774	37,774
	Total General Plant							**435,447,175**	**16,855,185**	**22,065,547**	**22,205,026**	**22,801,108**
	Column Totals							**12,080,475,022**	**381,861,897**	**325,066,194**	**363,897,429**	**340,341,035**

* Sub-account did not exist when the last depreciation rates were ordered in 1983

Schedule AWR-3

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

DEPRECIATION ACCRUAL COMPARISON SPREADSHEET

Account No.	Title	AmerenUE Case ER-2010-0036 Company Proposed Remaining Life Amortization Adjustment					PSC Staff ER-2010-0036 Proposed Annual Accruals and Amortization		
		Total Reserve Variance	Remain Life	Annual Reserve Amortization	Remain Life Accrual	Adj %	Total Reserve Variance	Depr %	Annual Accrual
	Year Ordered -->	(neg = over)	Yr	Amortiztion	Depreciation		(neg = over)		
	Steam Production Plant	Steam Production Plant							
311	Structures & Improvements	-35,072,880		-1,290,519	3,466,035	1.76%	-5,896,514	2.59%	5,093,027
312	Boiler Plant Equipment	-60,404,979		1,647,879	66,394,243	3.64%	-128,305,501	2.73%	49,889,458
312.03	Aluminum Coal Cars	-36,543,507		-2,502,980	630,534	0.54%	-36,543,507	1.08%	1,252,154
314	Turbogenerator Units	-44,874,834		-1,969,077	13,537,050	2.56%	-43,918,736	2.36%	12,472,998
315	Acessory Electric Equipment	-23,951,071		-884,430	4,779,144	2.39%	-24,276,380	2.20%	4,388,556
316	Misc. Power Plant Equipment	-5,133,662		-119,386	2,057,588	3.42%	-8,409,791	2.67%	1,603,966
	Total Steam Production Plant	**-205,980,943**		**-5,118,514**	**90,864,593**	3.11%	**-247,350,429**	2.55%	**74,700,159**
	Nuclear Production Plant	Nuclear Production Plant							
321	Structures and Improvements	-168,862,832	33.2	-5,086,230	12,598,490	1.39	-168,862,832	1.95%	17,684,720
322	Reactor Plant Equipment	5,378,725	29.8	180,494	25,934,833	2.56	5,378,725	2.55%	25,754,339
323	Turbogenerator Units	-34,335,970	29.9	-1,148,360	10,453,064	2.05	-34,335,970	2.28%	11,601,424
324	Accessory Electric Equipment	-41,334,066	32.9	-1,256,355	2,697,285	1.28	-41,334,066	1.87%	3,953,640
325	Misc. Power Plant Equipment	3,007,829	27.1	110,990	5,067,282	2.95	3,007,829	2.68%	4,956,292
	Annual Amortization						**Amortization**	-->	-7,199,461
	Total Nuclear Production Plant	**-236,146,314**		**-7,199,461**	**56,750,954**	2.02	**-236,146,314**	2.02%	**56,750,954**
	Hydraulic Production Plant	Hydraulic Production Plant							
331	Structures and Improvements	3,059,606		81,036	391,370	2.44%	5,233,506	1.92%	308,321
332	Reservoirs, Dams, and Waterways	10,172,109		263,746	1,404,664	2.04%	9,508,505	1.57%	1,080,182
333	Water Wheels, Turbines, and Generators	15,073,915		385,151	3,773,729	2.85%	16,119,383	2.06%	2,728,735
334	Accessory Electric Equipment	994,646		26,531	513,747	2.47%	970,544	2.15%	447,611
335	Misc. Power Plant Equipment	-299,766		-8,467	184,264	2.41%	-543,905	2.08%	159,549
336	Roads, Railroads, and Bridges	-150,516		-7,033	-715	-0.46%	-93,938	2.00%	3,114
	Total Hydraulic Production Plant	**28,849,994**		**740,964**	**6,267,059**	2.55%	**31,194,095**	1.92%	**4,727,513**
	Other Production Plant	Other Production Plant							
341	Structures and Improvements	-1,607,120	31.7	-50,698	622,938	2.41	-436,554	3.11%	806,206
342	Fuel Holders, Products, and Accessories	29,261	31.4	932	644,596	2.83	-158,547	2.52%	618,586
344	Generators	-235,363,144	32.8	-7,175,706	20,433,642	1.94	-252,443,005	2.39%	25,101,518
345	Accessory Electric Equipment	1,283,018	31.8	40,346	1,874,864	2.68	191	2.39%	1,668,585
346	Misc. Power Plant Equipment	-243,247	20.6	-11,808	242,141	3.96	-389,839	3.88%	237,205
	Annual Amortization						**Amortization**	-->	-5,000,000
	Total Other Production Plant	**-235,901,232**		**-7,196,933**	**23,818,182**	2.02	**-253,427,754**	1.99%	**23,432,100**
	Total Production Plant	**-649,178,495**		**-18,773,943**	**177,700,789**	2.48	**-705,730,402**	2.23%	**159,610,726**
	Transmission Plant	Transmission Plant							
352	Structures and Improvements	-65,960	38.3	-1,722	103,014	1.64	-65,960	1.67%	104,527
353	Station Equipment	-6,936,261	41.5	-167,139	3,988,851	1.75	-11,803,309	1.67%	3,805,852
354	Tower and Fixtures	-7,800,144	38.3	-203,659	943,906	1.34	-9,793,136	1.63%	1,146,419
355	Poles and Fixtures	16,828,618	39.2	429,301	5,408,381	3.90	-4,912,176	2.51%	3,479,471
356	Overhead Conductors and Devices	15,382,639	34.4	447,170	3,611,722	2.49	13,963,242	2.15%	3,125,404
359	Roads and Trails	-12,229	4.4	-2,779	-1,994	-5.08	-11,929	2.00%	785
	Total Transmission Plant	**17,396,663**		**501,172**	**14,053,880**	2.39	**-12,623,268**	1.98%	**11,662,458**

Schedule AWR-3

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

DEPRECIATION ACCRUAL COMPARISON SPREADSHEET

Account No.	Title	AmerenUE Case ER-2010-0036 Company Proposed Remaining Life Amortization Adjustment: Total Reserve Variance	Remain Life	Annual Reserve Amortization	Remain Life Accrual	Adj %	PSC Staff ER-2010-0036 Proposed Annual Accruals and Amortization: Total Reserve Variance	Depr %	Annual Accrual
	Distribution Plant	Distribution Plant							
361	Structures and Improvements	62,810	39.5	1,590	258,215	1.68	62,810	1.67%	256,113
362	Station Equipment	-3,744,321	43.0	-87,077	10,913,431	1.82	-3,744,321	1.89%	11,300,603
364	Poles, Towers, and Fixtures	-17,899,650	31.4	-570,053	41,998,612	5.48	20,482,623	5.68%	43,582,967
365	Overhead Conductors and Devices	14,813,931	38.2	387,799	27,115,423	3.17	44,504,976	3.43%	29,383,710
366	Underground Conduit	-8,372,363	56.4	-148,446	4,326,976	1.94	-8,372,363	2.00%	4,470,951
367	Underground Conductors and Devices	1,825,218	41.3	44,194	12,246,513	2.32	-688,831	2.27%	11,992,451
368	Line Transformers	12,629,752	27.9	452,679	9,998,729	2.49	9,327,302	2.33%	9,331,168
369.001	Overhead Services	-4,937,085	26.2	-188,438	11,872,622	7.74	-4,937,085	7.88%	12,074,439
369.002	Underground Services	-13,292,881	38.6	-344,375	4,049,977	3.02	-33,082,077	2.57%	3,449,662
370	Meters	5,196,297	15.8	328,880	4,414,805	4.16	3,121,989	3.65%	3,879,140
371	Installations on Customer Premises	-10,041	7.0	-1,434	3,726	2.26	-7,462	5.10%	8,395
373.00	Street Lighting and Signal Systems	-8,913,249	25.6	-348,174	3,993,079	3.66	-8,913,249	3.97%	4,337,782
	Total Distribution Plant	**-22,641,582**		**-472,856**	**131,192,108**	3.37	**17,764,312**	3.44%	**134,067,281**
	General Plant	General Plant							
390.0	Structures and Improvements	4,058,443	32.4	125,261	4,754,276	2.51	10,475,760	2.71%	5,141,979
391.0	Office Furniture and Equipment	-2,933,706	8.3	-353,459	2,514,232	5.85	-2,933,706	6.67%	2,866,258
391.1	Mainframe Computers	-332,101	0.0	0	0	0.00	-332,101	20.00%	0
391.2	Personal Computers	-167,459	2.4	-69,775	235,692	15.43	-167,459	20.00%	305,467
392.0	Transportation Equipment	-2,901,126	6.9	-420,453	7,327,635	7.75	-2,901,127	8.27%	7,820,600
393.0	Stores Equipment	-18,858	12.3	-1,533	113,702	4.93	-18,858	5.00%	115,235
394.00	Tools, Shop and Garage Equipment	-3,263	11.4	-286	603,266	5.00	1,351,022	5.00%	603,552
395.00	Laboratory Equipment	147,427	11.0	13,402	344,778	5.20	147,427	5.00%	331,376
396.00	Power Operated Equipment	220,055	8.6	25,588	511,376	5.96	220,055	5.67%	485,956
397.00	Communication Equipment	-3,539,509	6.2	-570,889	4,510,149	5.90	-3,830,370	6.67%	5,092,912
398.00	Miscellaneous Equipment	13,137	12.8	1,026	38,800	5.14	-230,506	5.00%	37,774
	Total General Plant	**-5,456,960**		**-1,251,117**	**20,953,909**	4.81	**1,780,137**	5.24%	**22,801,108**
	Column Totals	**-659,880,374**		**-19,996,744**	**343,900,685**	2.85	**-698,819,221**	2.72%	**328,141,574**
							Difference from company -->		-15,759,111
							Difference from current -->		3,076,380

* Sub-account did not exist when the last depreciation rate

Schedule AWR-3

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

ACCUMULATED RESERVE, THEORETICAL RESERVE, and ADJUSTMENTS FOR ACCOUNTS USING SQUARE CURVE TYPE DEPRECIATION

Account No.	Title	Adjusted Plant Balance Dec 31 2008	Adjusted Book Reserve Bal Dec 31 2008	Theoretical Reserve Calc Company	Theoretical Reserve Calc Staff	Difference	Book % Reserve	Theoretical % Reserve	Company Book Reserve	Staff Plant/Reserve Adjustment
			Rice		Rice				Wiedmayer	Rice
		(1)	(2 = 7-8)		(3)	(4=3-2)	(5=2/1)	(6=3/1)	(7)	(8)
	Steam Production Plant									
	Meramec Steam Production Plant									
311	Structures & Improvements	39,820,843	27,298,716	22,724,769	24,943,615	-2,355,101	68.6%	62.6%	27,298,716	
312	Boiler Plant Equipment	415,492,860	120,665,532	201,106,640	120,019,786	-645,746	29.0%	28.9%	120,665,532	
314	Turbogenerator Units	83,427,432	53,936,048	44,360,471	35,831,926	-18,104,122	64.7%	42.9%	53,936,048	
315	Acessory Electric Equipment	43,146,199	22,694,796	20,572,681	15,350,326	-7,344,470	52.6%	35.6%	22,694,796	
316	Misc. Power Plant Equipment	19,153,270	5,178,962	6,402,494	3,319,136	-1,859,826	27.0%	17.3%	5,178,962	
	SUM	601,040,604	229,774,054	295,167,055	199,464,789	-30,309,265	38.2%	33.2%	229,774,054	
	Sioux Steam Production Plant									
311	Structures & Improvements	36,425,327	14,911,056	11,764,291	14,913,488	2,432	40.9%	40.9%	14,911,056	
312	Boiler Plant Equipment	392,050,516	126,135,289	136,533,737	112,196,456	-13,938,833	32.2%	28.6%	126,135,289	
314	Turbogenerator Units	99,339,660	33,708,197	29,735,463	26,074,701	-7,633,496	33.9%	26.2%	33,708,197	
315	Acessory Electric Equipment	34,536,592	12,920,664	11,081,837	10,042,643	-2,878,021	37.4%	29.1%	12,920,664	
316	Misc. Power Plant Equipment	10,342,298	2,901,958	2,727,765	2,147,597	-754,361	26.1%	20.8%	2,901,958	
	SUM	572,694,393	190,577,164	191,843,093	165,374,885	-25,202,279	33.3%	28.9%	190,577,164	
	Labadie Steam Production Plant									
311	Structures & Improvements	64,976,426	37,436,347	24,538,479	36,353,311	-1,083,036	57.6%	55.9%	37,436,347	
312	Boiler Plant Equipment	594,753,745	311,792,182	231,961,342	252,624,513	-59,167,669	52.4%	42.5%	311,792,182	
312.03	Aluminum Coal Cars	116,271,400	72,203,419	35,659,912	35,659,912	-36,543,507	62.1%	30.7%	72,203,419	
314	Turbogenerator Units	208,376,677	72,315,621	56,828,019	62,584,580	-9,731,041	34.7%	30.0%	72,315,621	
315	Acessory Electric Equipment	81,057,131	41,876,752	28,241,210	32,245,905	-9,630,847	51.7%	39.8%	41,876,752	
316	Misc. Power Plant Equipment	19,334,388	8,615,370	4,894,099	5,033,623	-3,581,747	44.6%	26.0%	8,615,370	
	SUM	1,084,769,767	544,239,691	382,123,061	424,501,844	-119,737,847	50.2%	39.1%	544,239,691	
	Rush Island Steam Production Plant									
311	Structures & Improvements	53,514,432	34,602,766	20,126,171	32,104,786	-2,497,980	64.7%	60.0%	34,602,766	
312	Boiler Plant Equipment	385,943,531	203,577,879	131,646,862	150,327,925	-53,249,954	52.7%	39.0%	203,577,879	
314	Turbogenerator Units	136,992,202	57,396,310	41,557,389	48,946,233	-8,450,077	41.9%	35.7%	57,396,310	
315	Acessory Electric Equipment	37,966,123	17,479,208	11,051,577	13,102,771	-4,376,437	46.0%	34.5%	17,479,208	
316	Misc. Power Plant Equipment	11,297,925	5,014,763	2,553,804	2,802,438	-2,212,325	44.4%	24.8%	5,014,763	
	SUM	625,714,213	318,070,926	206,935,803	247,284,153	-70,786,773	50.8%	39.5%	318,070,926	

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

Account No.	Title	Adjusted Plant Balance Dec 31 2008	Adjusted Book Reserve Bal Dec 31 2008	Theoretical Reserve Calc Company	Theoretical Reserve Calc Staff	Difference	Book % Reserve	Theoretical % Reserve	Company Book Reserve	Staff Plant/Reserve Adjustment
	Common Steam Production Plant									
311	Structures & Improvements	1,959,206	332,348	354,633	369,519	37,171	17.0%	18.9%	332,348	
312	Boiler Plant Equipment	36,983,418	7,388,179	7,905,501	6,084,880	-1,303,299	20.0%	16.5%	7,388,179	
315	Accessory Electrical Equipment	3,129,974	525,483	598,527	478,878	-46,605	16.8%	15.3%	525,483	
316	Misc. Power Plant Equipment	20,843	3,979	3,208	2,447	-1,532	19.1%	11.7%	3,979	
	SUM	42,093,441	8,249,989	8,861,869	6,935,724	-1,314,265	19.6%	16.5%	8,249,989	
	Total Steam Production Plant	**2,926,312,418**	**1,290,911,824**	**1,084,930,881**	**1,043,561,395**	**-247,350,429**	44.1%	35.7%	**1,290,911,824**	
	Nuclear Production Plant									
321	Structures and Improvements	908,912,210	499,975,655	331,112,823	331,112,823	-168,862,832	55.0%	36.4%	499,975,655	
322	Reactor Plant Equipment	1,011,169,315	339,507,647	344,886,372	344,886,372	5,378,725	33.6%	34.1%	339,507,647	
323	Turbogenerator Units	509,558,176	207,370,797	173,034,827	173,034,827	-34,335,970	40.7%	34.0%	207,370,797	
324	Accessory Electric Equipment	211,158,284	122,373,296	81,039,230	81,039,230	-41,334,066	58.0%	38.4%	122,373,296	
325	Misc. Power Plant Equipment	171,818,762	34,394,723	37,402,552	37,402,552	3,007,829	20.0%	21.8%	34,394,723	
	Total Nuclear Production Plant	**2,812,616,747**	**1,203,622,118**	**967,475,804**	**967,475,804**	**-236,146,314**	42.8%	34.4%	**1,203,622,118**	
	Osage Hydraulic Production Plant									
331	Structures and Improvements	4,388,345	1,281,529	2,172,985	2,943,006	1,661,477	29.2%	67.1%	1,281,529	
332	Reservoirs, Dams, and Waterways	26,340,018	14,092,445	16,628,238	16,873,892	2,781,447	53.5%	64.1%	14,092,445	
333	Water Wheels, Turbines, and Generators	33,927,129	6,731,356	9,153,528	10,153,892	3,422,536	19.8%	29.9%	6,731,356	
334	Accessory Electric Equipment	6,077,560	1,768,215	1,872,635	1,823,549	55,334	29.1%	30.0%	1,768,215	
335	Misc. Power Plant Equipment	2,257,999	440,953	462,903	367,577	-73,376	19.5%	16.3%	440,953	
336	Roads, Railroads, and Bridges	11,214	52,927	37,202	9,348	-43,579	472.0%	83.4%	119,158	(66,231)
	SUM	73,002,265	24,367,425	30,327,491	32,171,264	7,803,839	33.4%	44.1%	24,433,656	
	Keokuk Hydraulic Production Plant									
331	Structures and Improvements	5,643,621	1,491,331	1,819,559	2,634,944	1,143,613	26.4%	46.7%	1,491,331	
332	Reservoirs, Dams, and Waterways	14,294,537	6,039,483	6,603,215	7,127,920	1,088,437	42.3%	49.9%	6,039,483	
333	Water Wheels, Turbines, and Generators	59,286,459	8,113,053	14,426,493	14,335,024	6,221,971	13.7%	24.2%	8,113,053	
334	Accessory Electric Equipment	10,757,362	1,212,775	2,241,976	2,228,932	1,016,157	11.3%	20.7%	1,212,775	
335	Misc. Power Plant Equipment	2,986,736	745,634	599,485	523,038	-222,596	25.0%	17.5%	745,634	
336	Roads, Railroads, and Bridges	98,920	48,470	34,757	20,439	-28,031	49.0%	20.7%	64,476	(16,006)
	SUM	93,067,635	17,650,746	25,725,485	26,870,297	9,219,551	19.0%	28.9%	17,666,752	
	Taum Sauk Hydraulic Production Plant									
331	Structures and Improvements	6,000,732	1,217,598	3,057,520	3,646,014	2,428,416	20.3%	60.8%	1,217,598	
332	Reservoirs, Dams, and Waterways	28,104,317	7,598,016	14,670,600	13,236,637	5,638,621	27.0%	47.1%	7,598,016	
333	Water Wheels, Turbines, and Generators	39,324,979	9,289,242	15,627,545	15,764,118	6,474,876	23.6%	40.1%	9,289,242	
334	Accessory Electric Equipment	3,947,016	1,588,236	1,449,261	1,487,289	-100,947	40.2%	37.7%	1,588,236	
335	Misc. Power Plant Equipment	2,413,628	523,926	348,359	275,993	-247,933	21.7%	11.4%	523,926	
336	Roads, Railroads, and Bridges	45,570	58,773	19,932	36,445	-22,328	129.0%	80.0%	58,773	0
	SUM	79,836,242	20,275,791	35,173,217	34,446,496	14,170,705	25.4%	43.1%	20,275,791	
	Total Hydraulic Production Plant	**245,906,142**	**62,293,962**	**91,226,193**	**93,488,057**	**31,194,095**	25.3%	38.0%	**62,376,199**	(82,237)

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

Account No.	Title	Adjusted Plant Balance Dec 31 2008	Adjusted Book Reserve Bal Dec 31 2008	Theoretical Reserve Calc Company	Theoretical Reserve Calc Staff	Difference	Book % Reserve	Theoretical % Reserve	Company Book Reserve	Staff Plant/Reserve Adjustment
	Other Production Plant									
341	Structures and Improvements	25,892,740	7,436,994	5,829,874	7,000,440	-436,554	28.7%	27.0%	7,436,994	
342	Fuel Holders, Products, and Accessories	24,520,526	5,486,183	5,515,444	5,327,636	-158,547	22.4%	21.7%	5,486,183	
344	Generators	1,051,873,156	433,024,882	197,661,738	180,581,877	-252,443,005	41.2%	17.2%	433,024,882	
345	Accessory Electric Equipment	69,921,659	13,833,369	15,116,387	13,833,560	191	19.8%	19.8%	13,833,369	
346	Misc. Power Plant Equipment	6,113,533	1,433,017	1,189,770	1,043,178	-389,839	23.4%	17.1%	1,433,017	
	Total Other Production Plant	**1,178,321,614**	**461,214,445**	**225,313,213**	**207,786,691**	**-253,427,754**	39.1%	17.6%	**461,214,445**	
	Transmission Plant									
352	Structures and Improvements	6,271,634	2,327,929	2,261,969	2,261,969	-65,960	37.1%	36.1%	2,327,929	
353	Station Equipment	228,351,122	62,940,658	56,004,397	51,137,349	-11,803,309	27.6%	22.4%	62,940,658	
354	Tower and Fixtures	70,394,133	44,155,918	36,355,774	34,362,782	-9,793,136	62.7%	48.8%	44,155,918	
355	Poles and Fixtures	138,655,625	51,679,866	68,508,484	46,767,690	-4,912,176	37.3%	33.7%	51,679,866	
356	Overhead Conductors and Devices	145,108,058	49,972,709	65,355,348	63,935,951	13,963,242	34.4%	44.1%	49,972,709	
359	Roads and Trails	39,226	48,009	68,343	36,080	-11,929	122.4%	92.0%	80,572	(32,563)
	Total Transmission Plant	**588,819,798**	**211,125,089**	**228,554,315**	**198,501,821**	**-12,623,268**	35.9%	33.7%	**211,157,652**	(32,563)
	Distribution Plant									
361	Structures and Improvements	15,366,771	5,180,137	5,242,947	5,242,947	62,810	33.7%	34.1%	5,180,137	
362	Station Equipment	598,830,057	189,119,546	185,375,225	185,375,225	-3,744,321	31.6%	31.0%	189,119,546	
364	Poles, Towers, and Fixtures	767,060,219	597,821,521	579,921,871	618,304,144	20,482,623	77.9%	80.6%	597,821,521	
365	Overhead Conductors and Devices	856,325,270	273,417,973	288,231,904	317,922,949	44,504,976	31.9%	37.1%	273,417,973	
366	Underground Conduit	223,547,546	68,816,867	60,444,504	60,444,504	-8,372,363	30.8%	27.0%	68,816,867	
367	Underground Conductors and Devices	527,667,832	153,703,427	155,528,645	153,014,596	-688,831	29.1%	29.0%	153,703,427	
368	Line Transformers	401,240,245	121,966,245	134,595,997	131,293,547	9,327,302	30.4%	32.7%	121,966,245	
369.001	Overhead Services	153,326,209	171,826,238	166,889,153	166,889,153	-4,937,085	112.1%	108.8%	171,826,238	
369.002	Underground Services	134,153,521	85,139,432	71,846,551	52,057,355	-33,082,077	63.5%	38.8%	85,139,432	
370	Meters	106,165,932	36,289,818	41,486,115	39,411,807	3,121,989	34.2%	37.1%	36,289,818	
371	Installations on Customer Premises	164,611	138,509	128,468	131,047	-7,462	84.1%	79.6%	138,509	
373.00	Street Lighting and Signal Systems	109,202,915	54,093,400	45,180,151	45,180,151	-8,913,249	49.5%	41.4%	54,093,400	
	Total Distribution Plant	**3,893,051,128**	**1,767,513,113**	**1,734,871,531**	**1,775,267,425**	**17,754,312**	45.1%	45.6%	**1,757,513,113**	

Schedule AWR-4

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

Account No.	Title	Adjusted Plant Balance Dec 31 2008	Adjusted Book Reserve Bal Dec 31 2008	Theoretical Reserve Calc Company	Theoretical Reserve Calc Staff	Difference	Book % Reserve	Theoretical % Reserve	Company Book Reserve	Staff Plant/Reserve Adjustment
	General Plant									
390.0	Structures and Improvements	189,663,144	54,763,375	58,821,818	65,239,135	10,475,760	28.9%	34.4%	54,763,375	
391.0	Office Furniture and Equipment	42,993,873	22,150,764	31,777,968	19,217,058	-2,933,706	51.5%	44.7%	34,711,674	(12,560,910)
391.1	Mainframe Computers	0	332,101	0	0	-332,101	100.0%	100.0%	332,101	
391.2	Personal Computers	1,527,337	953,192	1,336,122	785,733	-167,459	62.4%	51.4%	1,503,581	(550,389)
392.0	Transportation Equipment	94,534,723	35,234,174	32,333,048	32,333,047	-2,901,127	37.3%	34.2%	35,234,174	
393.0	Stores Equipment	2,304,698	909,358	1,510,311	890,500	-18,858	39.5%	38.6%	1,529,169	(619,811)
394.00	Tools, Shop and Garage Equipment	12,071,031	5,171,883	6,522,905	6,522,905	1,351,022	42.8%	54.0%	6,526,168	(1,354,285)
395.00	Laboratory Equipment	6,627,517	2,833,032	4,141,668	2,980,459	147,427	42.7%	45.0%	3,994,241	(1,161,209)
396.00	Power Operated Equipment	8,575,690	2,880,490	3,100,545	3,100,545	220,055	33.6%	36.2%	2,880,490	
397.00	Communication Equipment	76,393,686	48,590,738	104,258,577	44,760,368	-3,830,370	63.6%	58.6%	107,798,086	(59,207,348)
398.00	Miscellaneous Equipment	755,476	257,578	295,480	27,072	-230,506	34.1%	3.6%	282,343	(24,765)
	Total General Plant	**435,447,175**	**174,076,685**	**244,098,442**	**175,856,922**	**1,780,137**	40.0%	40.4%	**249,555,402**	**(75,478,717)**
Column Totals		12,080,475,022	5,160,757,236	4,576,470,379	4,461,938,015	-698,819,221	42.7%	38.9%	5,236,360,753	(76,593,517)

Schedule AWR-4

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

STAFF PROPOSED DEPRECIATION RATE SCHEDULE

Account No.	Title	ER-2010-0036 --> Staff Mass Prop except Nuclear				
		Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Steam Production Plant				Update	17-Dec-09
	Meramec Steam Production Plant					
311	Structures & Improvements	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	316	45	R0.5	(20)	2.67%
	Sioux Steam Production Plant					
311	Structures & Improvements	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	316	45	R0.5	(20)	2.67%
	Labadie Steam Production Plant					
311	Structures & Improvements	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	312	45	R1.5	(23)	2.73%
312.03	Aluminum Coal Cars	312.03	26	R2.5	72	1.08%
314	Turbogenerator Units	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	316	45	R0.5	(20)	2.67%
	Rush Island Steam Production Plant					
311	Structures & Improvements	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	312	45	R1.5	(23)	2.73%
314	Turbogenerator Units	314	47	R2	(11)	2.36%
315	Acessory Electric Equipment	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	316	45	R0.5	(20)	2.67%
	Common Steam Production Plant					
311	Structures & Improvements	311	56	R3	(45)	2.59%
312	Boiler Plant Equipment	312	45	R1.5	(23)	2.73%
315	Accessory Electrical Equipment	315	51	R2.5	(12)	2.20%
316	Misc. Power Plant Equipment	316	45	R0.5	(20)	2.67%

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

STAFF PROPOSED DEPRECIATION RATE SCHEDULE

Account No.	Title	ER-2010-0036 --> Staff Mass Prop except Nuclear				
		Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Nuclear Production Plant	60 yr Life Span				
321	Structures and Improvements	321	100	R1(a)	(1)	1.95%
322	Reactor Plant Equipment	322	60	S0(a)	(10.0)	2.55%
323	Turbogenerator Units	323	60	S0.5(a)	(2)	2.28%
324	Accessory Electric Equipment	324	80	R2(a)	0	1.87%
325	Misc. Power Plant Equipment	325	60	O3(a)	0	2.88%
	Osage Hydraulic Production Plant					
331	Structures and Improvements	331	130	R2	(150)	1.92%
332	Reservoirs, Dams, and Waterways	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	335	60	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	336	50	SQ	0	2.00%
	Keokuk Hydraulic Production Plant					
331	Structures and Improvements	331	130	R2	(150)	1.92%
332	Reservoirs, Dams, and Waterways	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	335	60	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	336	50	SQ	0	2.00%
	Taum Sauk Hydraulic Production Plant					
331	Structures and Improvements	331	130	R2	(150)	1.92%
332	Reservoirs, Dams, and Waterways	332	91	R2	(43)	1.57%
333	Water Wheels, Turbines, and Generators	333	85	R2.5	(75)	2.06%
334	Accessory Electric Equipment	334	65	R0.5	(40)	2.15%
335	Misc. Power Plant Equipment	335	60	R0.5	(25)	2.08%
336	Roads, Railroads, and Bridges	336	50	SQ	0	2.00%
	Other Production Plant					
341	Structures and Improvements	341	44	R4	(37)	3.11%
342	Fuel Holders, Products, and Accessories	342	44	R4	(11)	2.52%
344	Generators	344	44	R4	(5)	2.39%
345	Accessory Electric Equipment	345	44	R4	(5)	2.39%
346	Misc. Power Plant Equipment	346	25	L0.5	3	3.88%

UNION ELECTRIC COMPANY
d/b/a AmerenUE
Case No. ER-2010-0036

STAFF PROPOSED DEPRECIATION RATE SCHEDULE

Account No.	Title	ER-2010-0036 --> Staff Mass Prop except Nuclear				
		Account No.	Life (Yr.)	Curve	Net Salvage (%)	Deprec. Rate (%)
	Transmission Plant					
352	Structures and Improvements	352	60	R2	0	1.67%
353	Station Equipment	353	60	R2.5	0	1.67%
354	Tower and Fixtures	354	70	R4	(14)	1.63%
355	Poles and Fixtures	355	53	R4	(33)	2.51%
356	Overhead Conductors and Devices	356	65	R2.5	(40)	2.15%
359	Roads and Trails	359	50	SQ	0	2.00%
	Distribution Plant					
361	Structures and Improvements	361	60	R2.5	0	1.67%
362	Station Equipment	362	62	R2	(17)	1.89%
364	Poles, Towers, and Fixtures	364	44	R3	(150)	5.68%
365	Overhead Conductors and Devices	365	51	R1	(75)	3.43%
366	Underground Conduit	366	70	R3	(40)	2.00%
367	Underground Conductors and Devices	367	55	R2	(25)	2.27%
368	Line Transformers	368	43	S1.5	0	2.33%
369.001	Overhead Services	369.001	40	R2.5	(215)	7.88%
369.002	Underground Services	369.002	70	R2	(80)	2.57%
370	Meters	370	26	L2.5	5	3.65%
371	Installations on Customer Premises	371	20	O1	(2)	5.10%
373.00	Street Lighting and Signal Systems	373	36	L1	(43)	3.97%
	General Plant					
390.0	Structures and Improvements	390.0	45	R1.5	(22)	2.71%
391.0	Office Furniture and Equipment	391.0	15	SQ	0	6.67%
391.1	Mainframe Computers	391.1	5	SQ	0	20.00%
391.2	Personal Computers	391.2	5	SQ	0	20.00%
392.0	Transportation Equipment	392.0	11	R1.5	9	8.27%
393.0	Stores Equipment	393.0	20	SQ	0	5.00%
394.00	Tools, Shop and Garage Equipment	394.00	20	SQ	0	5.00%
395.00	Laboratory Equipment	395.00	20	SQ	0	5.00%
396.00	Power Operated Equipment	396.00	15	L2	15	5.67%
397.00	Communication Equipment	397.00	15	SQ	0	6.67%
398.00	Miscellaneous Equipment	398.00	20	SQ	0	5.00%

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 5

Support for Voluntary Green Program

UNION ELECTRIC COMPANY

d/b/a AmerenUE

CASE NO. ER-2010-0036

The New York Times

Paying Extra for Green Power, and Getting Ads Instead

By KATE GALBRAITH
Published: November 16, 2009

The solicitations have been flooding people's mailboxes lately: pay a bit more on your electricity bill for 100 percent clean wind power. Or, the fliers say, buy "green power certificates" to offset your global warming emissions.

Close to a million electricity customers have signed up for such payments voluntarily, and the amount of electricity sold in this way has nearly tripled since 2005, amid rising concern about climate change and energy security. But the participants are in a distinct minority, with a sign-up rate of only about 2 percent in programs run by utilities.

The low sign-up rate raises a question: If large majorities of Americans favor increased government support for clean energy, as polls suggest, why are so many people reluctant to back such programs when it comes to paying extra themselves?

One reason might be that they think the added expense is too high. Solar and wind power generally cost more than power generated with fossil fuels. While many people support alternative energy in principle, they personally may not want to spend hundreds of dollars more for electricity, especially in the current economic environment.

But in the back of some people's minds, there may be another issue: Do these programs really cause more renewable energy projects to get built? The government has looked at the question, and says it is difficult to draw an overall conclusion. Its experts say they believe that some green power programs work better than others.

"It's a tricky issue. It's not a one-size-fits-all market," said Lori Bird, a senior analyst at the National Renewable Energy Laboratory in Colorado and co-author of a report in September on green power markets.

At least one major program has come under fire from regulators. Last year, a Florida Power and Light green power program, called Sunshine Energy, was terminated by the state's Public Service Commission after an audit found that promised solar power facilities were far behind schedule. The program had more than 38,000 customers, and was once the sixth-largest in the country, according to the renewable energy laboratory.

The audit also found that the vast majority of homeowners' payments went into marketing and administration.

"No reasonable person would have contributed to the Sunshine Energy program had they known that approximately 76.4 percent of the contributions would be spent on marketing and administrative expenses instead of renewable energy," wrote Nathan Skop, a commissioner on the Florida Public Service Commission, in a note accompanying the termination decision.

Eric Silagy, the vice president of development for Florida Power and Light, said in an interview that the program had exceeded its renewable energy objectives. "Yes, we spent money on educating the customers, but I don't know how you do it otherwise," he said.

Over all, according to the national laboratory report, a median of 19 percent of the money that utilities are raising in these voluntary programs goes into promotion and marketing, with the numbers for smaller utilities often being much higher.

About a quarter of the country's utilities offer green power programs, and the way they are structured varies. In practice, no big utility delivers 100 percent renewable power to any customer, since electricity from all sources — coal plants, wind farms, solar panels —

is mingled in the same wires. The utilities are essentially collecting extra money that they promise to use to support the development of renewable energy, a pitch that some customers find persuasive.

"It's about what's good for the planet," said Mark Renfrow, a Dallas homeowner who this summer began paying an extra $26 or so a month to his electric company, Direct Energy, for 100 percent wind power.

Typically, the extra payments reach the operators of wind or solar farms through the buying and selling of renewable energy certificates. Many wind and solar farms offer such certificates, which are meant to attach a cash value to the environmental benefits associated with renewable power.

For example, the green power arm of a utility like Con Edison, of New York, might sell green power to its customers, then buy certificates for that amount of power on the open market. Green power advocates argue that such payments help new facilities get built, though they acknowledge that other factors, like bank financing, may play more important roles.

Paul Copleman, a spokesman for Iberdrola Renewables, a major developer, called the system of voluntary payments "an essential component of wind farm financing," although he said that no particular Iberdrola project had been built just to supply the voluntary demand.

"We don't set out early in the development process determined to build a project to supply the voluntary market specifically," Mr. Copleman said in an e-mail message. "But its presence provides flexibility and helps improve project economics."

Rob Harmon, the chief innovation officer for the Bonneville Environmental Foundation, a nonprofit Oregon group that directs voluntary payments toward solar and wind farms, said that projects he worked with typically increased their revenue by about 17 percent

through voluntary payments, an amount that he says can bump up profit margins enough to make the difference in whether a project should go forward. "This market is working, it's thriving, it's good and it should be embraced," Mr. Harmon said.

But some advocates for electricity consumers argue that the payments make little difference. Matthew Freedman, a staff lawyer with the Utility Reform Network, a ratepayer advocacy group in California, said the short-term nature of voluntary green power commitments meant that they were often meaningless on long-term projects like new wind or solar farms.

"There is very little evidence to suggest that customer subscriptions have resulted in any new additions of renewable power," Mr. Freedman said.

The utility for the city of Palo Alto, Calif., has the largest percentage of enrollments in the country, with 21 percent of customers participating, according to the government laboratory study.

But for many other groups, even green-minded ones, the higher price of clean electricity has caused soul-searching and hesitation. Early this year, the city government of Durango, Colo., stopped buying renewable power from its utility, saving $45,000 a year. The clean electricity had cost 40 percent extra — and the city manager, Ron LeBlanc, was irked that part of the payment went into putting solar panels on a school in a different city.

"Paying more and then investing in a community 16 miles away was offensive to a lot of us," he said, adding that Durango was exploring other options to develop clean energy locally.

In Texas, Austin Energy sells the most green power of any utility in the country, buying electricity from wind farms in west Texas. But its customers' appetite for renewable power has shrunk with higher prices.

Earlier this year, it managed to sell only 1 percent of a batch of wind power it offered to customers — no doubt because the program would have added $58 a month to the average home electric bill. That was far more than in previous years, resulting from a combination of factors, like congestion of transmission lines in Texas.

The utility has since slashed the prices, and Roger Duncan, its general manager, said that Austin Energy might change its program so that its green power costs for future projects are spread to all customers — not just the few who voluntarily pay extra.

"If we're going to transition to renewable energy," Mr. Duncan said, "you can't depend on a small percent of the customer base to do this."

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