

Exhibit 206

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MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDICES 1-3

SPIRE MISSOURI, INC., d/b/a SPIRE

**LACLEDE GAS COMPANY and MISSOURI GAS ENERGY
GENERAL RATE CASE**

**CASE NOS. GR-2017-0215
and GR-2017-0216**

Jefferson City, Missouri
September 2017

Staff Exhibit No. 206
Date 12-7-17 Reporter AF
File No. GR-2017-0215, GR-2017-0216

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 1

Staff Credentials

SPIRE MISSOURI, INC., d/b/a SPIRE

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*Jefferson City, Missouri
September 2017*

APPENDIX 1
STAFF CREDENTIALS
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MICHELLE A. BOCKLAGE

Present Position

I am currently employed as a Rate & Tariff Examiner III with the Tariff/Rate Design Unit within the Operational Analysis Department of the Commission Staff Division of the Missouri Public Service Commission (Commission). The Rate Design & Tariffs Unit participates and makes recommendations on tariff filings and various case filings at the Commission; such as, rate, complaint, applications, territorial agreements, sales and merger cases. We also perform and provide technical support on the issues of rate design, class-cost-of-service studies and weather normalizations.

Educational and Employment Background and Credentials

I have been employed as a Rate & Tariff Examiner III within the Tariff, Safety, Economic & Engineering Analysis Department (nka Operational Analysis Department) since July 16, 2013. I began my employment with the Commission as a Clerk IV in December 1997. In June 1999, I moved to the Consumer Services section where my responsibilities included investigating informal and formal consumer complaints for compliance with the rules and regulations of the Commission. In January 2011, I moved to the Energy Resource Analysis section where my testimony and responsibility topics included tariff issues relating to Missouri Energy Efficiency Investment Act (MEEIA), Fuel Adjustment Clause (FAC), and promotional programs. Prior to joining the Commission I was employed by the Missouri Department of Transportation.

In December 2010, I earned a Bachelor of Science degree in Business Administration with majors in Management and Human Resources Management from Columbia College. In May 2014, I earned a Masters in Business Administration degree from Columbia College.

Case Proceedings Participation

Michelle A. Bocklage

Case Number	Company Name	Testimony Type	Issue(s)
EO-2012-0009	Greater Missouri Operations	Rebuttal	Tariff Issue
EO-2012-0142	Ameren Missouri	Rebuttal	Tariff Issue
EO-2012-0142	Ameren Missouri	Surrebuttal	Tariff Issue
GR-2014-0007	Laclede Gas Co.	Cost of Service Report	Weather Normalization
GR-2014-0086	Summit Natural Gas	Cost of Service Report	Weather Normalization
GR-2014-0086	Summit Natural Gas	Rebuttal	Weather Normalization
GR-2014-0086	Summit Natural Gas	Surrebuttal	Weather Normalization
ER-2016-0179	Ameren Missouri	Cost of Service Report	Weather Normalization
ER-2016-0023	Empire District Electric Company	Cost of Service Report	Weather Normalization
GR-2017-0215	Laclede Gas Company	Cost of Service Report	Weather Normalization

KIM COX

Education and Employment Background and Credentials

I attended Central Missouri State University at Warrensburg, Missouri. In May 1996, I received a Bachelor of Science degree.

I am currently employed as a Utility Policy Analyst II with the Tariff/Rate Design Unit within the Operational Analysis Department of the Commission Staff Division of the Missouri Public Service Commission (Commission). I have been employed by the Commission since July, 2009. From July 2009 to June 2013, I worked in the Tariffs/Rate Design Section of the Energy Unit as a Rate and Tariff Examiner III, where my duties consisted of analyzing applications, reviewing tariffs and making recommendations based upon those evaluations. On June 16, 2013, I assumed my current position as Utility Policy Analyst II within the same Section, where my duties consist of coordinating highly complex activities, analyzing applications, reviewing tariffs, and making recommendations based upon my evaluations. I currently serve on the NARUC Staff Subcommittee on Rate Design. Prior to joining the Commission, I held the position of a Quality Assurance Analyst in the regulatory field for ten years.

KIM COX

Summary of Case Involvement

	Company	Issue	Type of Filing
GR-2009-0434	The Empire District Gas Company	Weather Normalized Sales and Coincident-Peak Day Demand	Staff Report
GR-2010-0171	Laclede Gas Company	Weather Normalized Sales, Blocks and Coincident-Peak Day Demand	Staff Report
GR-2010-0171	Laclede Gas Company	Weather Normalized Sales	Rebuttal
GR-2010-0363	Union Electric d/b/a Ameren UE	Weather Normalized Sales, Blocks and Coincident-Peak Day Demand	Staff Report
GR-2010-0347	Southern Missouri Natural Gas	Weather Normalized Sales	Staff Report
GR-2010-0192	Atmos	Weather Normalized Sales and Coincident-Peak Day Demand	Staff Report
HR-2011-0241	Veolia	Weather Normalized Sales	Staff Report
ER-2012-0175	KCP&L and GMO	L&P Normalization and Annualization	Staff Report
GR-2014-0007 Coordinated	Missouri Gas Energy	Direct COS sponsor of Weather, Weather Normalization and Large Volume Customer Revenue Adjustment	Direct Testimony
GR-2014-0007 Coordinated	Missouri Gas Energy	Direct CCOS sponsor of Rate Design, Miscellaneous Tariff Issues, School Transportation Capacity, Gas Supply Incentive Plan and Staff's CCOS	Direct Testimony
GR-2014-0086	Summit Natural Gas	Lake Ozark Transportation	Staff Report
GR-2014-0152	Liberty Utilities	Special Contract, Large and Industrial Customers	Staff Report, Rebuttal and Surrebuttal
ER-2016-0023	Empire	Large Power Feed Mill Annualization	Staff Report

CARY G. FEATHERSTONE

Education and Employment Background and Credentials

I graduated from the University of Missouri-Kansas City in December 1978 with a Bachelor of Arts degree in Economics. My course work included study in the field of accounting and auditing.

I am a Utility Regulatory Auditor V, Auditing Department, Commission Staff Division with the Missouri Public Service Commission ("Commission"). I have assisted, conducted, and supervised audits and examinations of the books and records of public utility companies operating within the state of Missouri. I have participated in examinations of electric, industrial steam, natural gas, water, sewer and telecommunication companies. I have been involved in cases concerning proposed rate increases, earnings investigations, complaint cases, and cases relating to mergers and acquisitions and certification cases. Below is a list of rate cases in which I have submitted testimony. In addition, I also identify other cases where I directly supervised and assisted Commission Staff in audits of public utilities, but where I did not testify.

I have acquired knowledge of the ratemaking and regulatory process through my employment with the Commission. I have participated in numerous rate cases, complaint cases, merger cases and certificate cases, and filed testimony on a variety of topics. I have also acquired knowledge of these topics through review of work papers from prior rate cases filed before this Commission relating to this company and its utility operations. I have also been involved in numerous other rate cases and merger cases involving electric, natural gas, steam, water and sewer and telecommunication companies. I have previously examined generation and generation-related topics and capacity planning areas; conducted and participated in several construction audits involving plant and construction records, specifically the costs of construction projects relating to power plants. I have been involved in the fuel and fuel-related areas for power plant production, and purchased power and off-system sales on numerous occasions. I have also worked in the area of utility income taxes, property taxes and gross receipts taxes. In addition, I have been the project coordinator, provided management oversight and involved in negotiations of many rate and merger cases throughout my employment with the Commission.

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
2017	EO-2016-0124	Kansas City Power & Light Company (Commission Ordered Review)	Management Audit Report on Merger/ Acquisition Costs & Savings and Administrative & General Cost Comparisons	Completed- Filed with the Commission
2016	ER-2016-0285	Kansas City Power & Light Company (electric rate increase)	Supervised Case Direct- Plant-in-Service and Accumulated Depreciation Reserve and Depreciation Expense; Additional Amortizations Regulatory Plan; Jurisdictional Allocations; Emission Allowances	Contested
2016	ER-2016-0156	KCP&L Greater Missouri Operations Company (electric rate increase)	Supervised Case Direct- Plant-in-Service and Accumulated Depreciation Reserve and Depreciation Expense; Jurisdictional Allocations; Emission Allowances; Resource Planning & Crossroads Energy Center --Transmission Costs Rebuttal- Rate Increases and Crossroads Energy Center Surrebuttal- Crossroads Energy Center and Resource Planning	Stipulated

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
2015	ER-2014-0370 Coordinated	Kansas City Power & Light Company (electric rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report; policy; Additional Amortizations Regulatory Plan; Jurisdictional Allocation Factors; Rebuttal- Collection of Various Amortizations; Regulatory Lag and Earned Returns Surrebuttal- Collection of Various Amortizations; Regulatory Lag and Earned Returns True-up Direct- True-up Revenue Requirement True-up Rebuttal- Capacity Agreements	Contested
2014	SR-2014-0247 Coordinated	Central Rivers Wastewater Utility Inc. (sewer rate increase)	Surrebuttal Testimony/Rebuttal of Supplemental Direct	Stipulated
2014	EU-2015-0094 Coordinated	Kansas City Power & Light Company (electric accounting order request)	Supervised- no testimony filed	Addressed in KCPL's 2015 Rate Case ER-2014-0370
2014	EU-2014-0255 Coordinated	Kansas City Power & Light Company (electric continuance of construction accounting request)	Supervised- no testimony filed	Stipulated-consolidated with KCPL's 2015 Rate Case ER-2014-0370
2014	HR-2014-0066 Coordinated	Veolia Energy Kansas City Company (former Trigen Kansas City Energy Company) (steam rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report	Stipulated

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
2014	GR-2014-0007 Coordinated	Missouri Gas Energy division of Laclede Gas Company (natural gas rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report Supplemental Direct-sponsor true-up revenue requirement Rebuttal Surrebuttal- update true-up revenue requirement	Stipulated
2013 2012	HC-2012-0259 Consolidated with HC-2010-0235 Coordinated	KCP&L Greater Missouri Operations Company Ag Processing complaint against GMO's Quarterly Cost Adjustment (industrial steam fuel clause)	Additional Surrebuttal Report Rebuttal- Overview; Natural Gas Hedging Costs	Stipulated
2010	HC-2010-0235	Ag Processing complaint against GMO's Quarterly Cost Adjustment (industrial steam fuel clause)	Deposition	Contested
2007 2008	HR-2007-0028, HR-2007-0399 and HR-2008-0340	Aquila, Inc., d/b/a Aquila Networks- L&P (industrial steam fuel clause review)		
2012	ER-2012-0175 Coordinated	KCPL Greater Missouri Operations Company (electric rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report; Policy; Plant Valuation; Capacity Planning; Jurisdictional Allocation Factors; Rebuttal- Capacity Planning Surrebuttal- Plant Valuation; Capacity True-up Direct- true-up revenue requirement	Contested

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
2012	ER-2012-0174 Coordinated	Kansas City Power & Light Company (electric rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report; Policy; Additional Amortizations Regulatory Plan; Jurisdictional Allocation Factors; Iatan 2 Advanced Coal Credits; Rate Analysis Rebuttal- Iatan 2 Advanced Coal Credits; Interim Energy Charge Surrebuttal- Iatan 2 Advanced Coal Credits; Interim Energy Charge True-up Direct- true-up revenue requirement Deposition	Contested
2011	SA-2010-0219 and SC-2010-0161 Coordinated	Canyon Treatment Facility LLC (sewer certificate and complaint case)	Recommendation Memorandum	Stipulated
2011	HR-2011-0241 Coordinated	Veolia Energy Kansas City Company (former Trigen Kansas City Energy Company) (steam rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report	Stipulated
2010	ER-2010-0356 Coordinated	KCP&L Greater Missouri Operations Company (electric rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report; Policy; Plant Valuation; Capacity Planning; Jurisdictional Allocations; Rebuttal- Capacity Planning Surrebuttal- Plant Valuation; Capacity True-up Direct True-up Rebuttal	Contested

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
2010	ER-2010-0355 Coordinated	Kansas City Power & Light Company (electric rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report; Policy; Additional Amortizations Regulatory Plan; Jurisdictional Allocations Rate Analysis Rebuttal- Jurisdictional Allocation Surrebuttal- True-up Direct True-up Rebuttal	Contested
2010	SR-2010-0110 and WR-2010-0111 Coordinated	Lake Region Water and Sewer Company (water & sewer rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report Surrebuttal- Availability Fees True-up Direct Reports to Commission	Contested
2009	HR-2009-0092 Coordinated	KCPL Greater Missouri Operations Company (former Aquila, Inc. Missouri electric properties) (industrial steam rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report; Policy	Stipulated
2009	ER-2009-0090 Coordinated	KCPL Greater Missouri Operations Company (former Aquila, Inc. Missouri electric properties) (electric rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report; Policy and Jurisdictional Allocations Surrebuttal-Plant Valuation; Capacity Planning	Stipulated
2009	ER-2009-0089 Coordinated	Kansas City Power & Light Company (electric rate increase)	Supervised Case Direct- sponsor Utility Services Cost of Service Report; Policy; Additional Amortizations; Jurisdictional Allocations and Iatan 1 Construction Rebuttal- Jurisdictional Allocations Surrebuttal- Jurisdictional Allocations	Stipulated

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
2008	HR-2008-0300 Coordinated	Trigen Kansas City Energy (steam rate increase)	Supervised Case Direct - sponsor Utility Services portion of the Cost of Service Report, Overview of rate case, Plant Review and Plant Additions, Fuel and Income Taxes	Stipulated
2007	HO-2007-0419 Coordinated	Trigen Kansas City Energy [sale of coal purchase contract] (steam)	Recommendation Memorandum	Stipulated
2007	ER-2007-0004 Coordinated	Aquila, Inc., d/b/a Aquila Networks- MPS and Aquila Networks- L&P (electric rate increase)	Supervised Case Direct - Fuel Clause, Fuel, coal contract dispute- CW Mining Capacity Planning Rebuttal Surrebuttal - Fuel Clause and coal contract dispute- CW Mining	Contested
2006	WR-2006-0425 Coordinated	Algonquin Water Resources (water & sewer rate increases)	Supervised Case Rebuttal - Unrecorded Plant; Contributions In Aid Of Construction Surrebuttal - Unrecorded Plant; Contributions In Aid Of Construction	Contested
2006	ER-2006-0314 Coordinated	Kansas City Power & Light Company (electric rate increase)	Supervised Case Direct - Power plant construction costs- Audits Rebuttal - Jurisdictional Allocations Surrebuttal - Jurisdictional Allocations	Contested
2005	HR-2005-0450 Coordinated	Aquila, Inc., d/b/a Aquila Networks- L&P (industrial steam rate increase)	Supervised Case Direct	Stipulated

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

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2005	ER-2005-0436 Coordinated	Aquila, Inc., d/b/a Aquila Networks- MPS and Aquila Networks- L&P (electric rate increase)	Supervised Case Direct- Interim Energy Charge; Fuel; Plant Construction; Plant Commercial In Service; Capacity Planning, Plant Valuation Rebuttal Surrebuttal	Stipulated
2005	EO-2005-0156 Coordinated	Aquila, Inc., d/b/a Aquila Networks- MPS (electric- South Harper Generating Station asset valuation case)	Supervised Case Rebuttal- power plant valuation Surrebuttal- power plant valuation	Stipulated
2005	HC-2005-0331 Coordinated	Trigen Kansas City Energy [Jackson County Complaint relocation of plant for Sprint Arena] (steam complaint case)	Supervised Case Cross examination- relocation of plant assets	Contested
2004	HM-2004-0618 Coordinated	Trigen- Kansas City Energy purchase by Thermal North America (steam - sale of assets)	Supervised Case -Did not file testimony	Stipulated
2003	GR-2004-0072 Coordinated	Aquila, Inc., d/b/a Aquila Networks-MPS and Aquila Networks-L&P (natural gas rate increase)	Supervised Case Direct- acquisition adjustment; merger savings tracking Rebuttal	Stipulated
2003	ER-2004-0034 and HR-2004-0024 (Consolidated) Coordinated	Aquila, Inc., (formerly UtiliCorp United Inc.) d/b/a Aquila Networks-MPS and Aquila Networks-L&P (predecessor company of KCP&L Greater Missouri Operations) (electric & industrial steam rate increases)	Supervised Case Direct- acquisition adjustment; merger savings tracking Rebuttal Surrebuttal Deposition	Stipulated
2002	ER-2002-424 Coordinated	Empire District Electric Company (electric rate increase)	Direct- fuel-interim energy charge Surrebuttal- fuel-interim energy charge	Stipulated

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
2001	ER-2001-672 and EC-2002-265 Coordinated	UtiliCorp United Inc./Missouri Public Service Company (electric rate increase)	Supervised Case Verified Statement- discovery disputes and support for extension of filing date Direct- capacity purchased power agreement- Aries; Plant Commercial In Service- Aries; plant recovery- Greenwood Generating Units; interchange off-system sales levels Rebuttal Surrebuttal	Stipulated
2001	ER-2001-299 Coordinated	Empire District Electric Company (electric rate increase)	Supervised Case Direct- income taxes including deferred income taxes; cost of removal; power plant construction costs- State Line Combined Cycle; fuel- interim energy charge Surrebuttal True-Up Direct	Contested
2000	EM-2000-369 Coordinated	UtiliCorp United Inc. merger with Empire District Electric Company (electric acquisition/ merger case)	Supervised Case Rebuttal- acquisition adjustment; merger costs/savings tracking	Contested (Merger eventually terminated)
2000	EM-2000-292 Coordinated	UtiliCorp United Inc. merger with St. Joseph Light & Power Company (electric, natural gas and industrial steam acquisition/ merger case)	Supervised Case Rebuttal- acquisition adjustment; merger costs/savings tracking	Contested (Merger closed)
1999	EM-97-515 Coordinated	Kansas City Power & Light Company merger with Western Resources, Inc. (electric acquisition/ merger case)	Supervised Case Rebuttal- acquisition adjustment; merger costs/savings tracking	Stipulated (Merger eventually terminated)
1998	GR-98-140 Coordinated	Missouri Gas Energy Division of Southern Union Company (natural gas rate increase)	Supervised Case Testimony in Support of Stipulation And Agreement	Contested

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SUMMARY OF RATE CASE INVOLVEMENT

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1997	EM-97-395	UtiliCorp United Inc./Missouri Public Service (electric-application to spin-off generating assets to EWG subsidiary)	Rebuttal- plant assets & purchased power agreements	Withdrawn
1997	ER-97-394 and EC-98-126 Coordinated	UtiliCorp United Inc./Missouri Public Service (electric rate increase and rate complaint case)	Direct- fuel and purchased power; fuel inventories; re-organizational costs Rebuttal Surrebuttal	Contested
1997	EC-97-362 and EO-97-144	UtiliCorp United Inc./Missouri Public Service (electric rate complaint case)	Direct- - fuel and purchased power; fuel inventories Verified Statement	Contested Commission Denied Motion (made part of Case No. ER-97-394)
1997	GA-97-133	Missouri Gas Company (natural gas—certificate case)	Rebuttal- natural gas expansion	Contested
1997	GA-97-132	UtiliCorp United Inc./Missouri Public Service Company (natural gas—certificate case)	Rebuttal- natural gas expansion	Contested
1996	ER-97-82	Empire District Electric Company (electric-- interim rate increase case)	Rebuttal- fuel and purchased power	Contested
1996	GR-96-285 Coordinated	Missouri Gas Energy Division of Southern Union Company (natural gas rate increase)	Direct- merger savings recovery; property taxes, customer service issues Rebuttal Surrebuttal	Contested
1996	EM-96-149 Coordinated	Union Electric Company merger with CIPSCO Incorporated (electric and natural gas-- acquisition/merger case)	Rebuttal- acquisition adjustment; merger costs/savings	Stipulated
1996	GA-96-130	UtiliCorp United, Inc./Missouri Pipeline Company (natural gas-- certificate case)	Rebuttal- natural gas expansion	Contested
1995	ER-95-279 Coordinated	Empire District Electric Company (electric rate increase)	Supervised Case Direct- fuel & purchased power; fuel prices and fuel inventories	Stipulated

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
1995	GR-95-160 Coordinated	United Cities Gas Company (natural gas rate increase)	Supervised Case Direct- affiliated transactions; plant in service, accumulated depreciation reserve and depreciation expense	Contested
1994	GA-94-325 Coordinated	UtiliCorp United Inc., expansion of natural gas to City of Rolla, MO (natural gas-- certificate case)	Rebuttal- natural gas expansion	Contested
1994	GM-94-252 Coordinated	UtiliCorp United Inc., acquisition of Missouri Gas Company and Missouri Pipeline Company (natural gas--acquisition case)	Rebuttal- acquisition of assets case	Contested
1994	ER-94-194	Empire District Electric Company (electric rate increase)	Supervised Case -Did not file testimony	Stipulated
1993	GM-94-40	Western Resources, Inc. and Southern Union Company (natural gas-- sale of Missouri property)	Rebuttal- acquisition adjustment; merger costs/savings tracking	Stipulated
1993	TR-93-181	United Telephone Company of Missouri (telephone rate increase)	Direct- directory advertising Surrebuttal	Contested
1993	TC-93-224 and TO-93-192 Coordinated Directory	Southwestern Bell Telephone Company (telephone-- rate complaint case)	Supervised Directory Advertising Case Direct- directory advertising Rebuttal Surrebuttal	Contested
1991	EM-91-290	UtiliCorp United Inc./ Missouri Public Service and Centel acquisition (electric - acquisition/ merger case)	Recommendation Memorandum	Stipulated
1991	GO-91-359 Coordinated	UtiliCorp United Inc., Missouri Public Service Division (natural gas-- accounting authority order)	Recommendation Memorandum- Service Line Replacement Program cost deferral recovery	Stipulated

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
1991	EO-91-358 and EO-91-360 Coordinated	UtiliCorp United Inc., Missouri Public Service Division (electric-- accounting authority orders)	Rebuttal- plant construction cost deferral recovery; purchased power cost deferral recovery	Contested
1991	EM-91-213	Kansas Power & Light - Gas Service Division (natural gas-- acquisition/merger case)	Rebuttal- acquisition adjustment; merger costs/savings tracking	Contested
1990	GR-90-152	Associated Natural Gas Company (natural gas rate increase)	Rebuttal- acquisition adjustment; merger costs/savings	Stipulated
1990	GR-90-198 Coordinated	UtiliCorp United, Inc., Missouri Public Service Division (natural gas rate increase)	Direct- Corporate Costs and Merger and Acquisition Costs	Stipulated
1990	ER-90-101 Coordinated	UtiliCorp United Inc., Missouri Public Service Division (predecessor company of KCP&L Greater Missouri Operations) (electric rate increase- Sibley Generating Station Life Extension Case)	Supervised Case Direct- Corporate Costs and Merger and Acquisition Costs Surrebuttal	Contested
1990	GR-90-50 Coordinated	Kansas Power & Light - Gas Service Division (predecessor company of Missouri Gas Energy, now part of Laclede Gas Company) (natural gas rate increase)	Supervised Case Direct- prudence review of natural gas explosions	Stipulated
1989	TR-89-182 and TC-90-75	GTE North, Incorporated (telephone rate increase)	Supervised Case Direct- directory advertising Rebuttal Surrebuttal	Contested Decided Feb. 9, 1990
1988	TC-89-14 Coordinated Directory	Southwestern Bell Telephone Company (telephone-- rate complaint case)	Supervised Directory Advertising Case Direct- directory Surrebuttal advertising Surrebuttal Deposition	Contested

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
1988	GR-88-115 Coordinated	St. Joseph Light & Power Company (natural gas rate increase)	Supervised Case-- Did not file testimony Deposition	Stipulated
1988	HR-88-116	St. Joseph Light & Power Company (industrial steam rate increase)	Supervised Case-- Did not file testimony Deposition	Stipulated
1987	HO-86-139 Coordinated	Kansas City Power & Light Company (district steam heating-- discontinuance of public utility and rate increase)	Supervised Case Direct- policy testimony on abandonment of steam service and no rate increase recommendation Rebuttal Surrebuttal	Contested
1986	TR-86-117 Coordinated	United Telephone Company of Missouri (telephone rate increase)	Supervised Case Withdrawn prior to filing	Withdrawn
1986	GR-86-76 Coordinated	KPL-Gas Service Company (predecessor company of Missouri Gas Energy, now part of Laclede Gas Company) (natural gas rate increase)	Supervised Case Withdrawn prior to filing	Withdrawn
1986	TR-86-55 Coordinated	Continental Telephone Company of Missouri (telephone rate increase)	Supervised Case-- Did not file testimony	Stipulated
1986	TR-86-63 Coordinated	Webster County Telephone Company (telephone rate increase)	Supervised Case-- Did not file testimony	Stipulated
1986	TR-86-14 Coordinated	ALLTEL Missouri, Inc. (telephone rate increase)	Supervised Case--Did not file testimony	Stipulated
1985	ER-85-128 and EO-85-185 Coordinated	Kansas City Power & Light Company (electric rate increase- Wolf Creek Nuclear Generating Unit Case)	Supervised and coordinated Wolf Creek Nuclear construction audit Case-- Direct- fuel inventories;	Contested

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
1984	EO-84-4	Investigation and Audit of Forecasted Fuel Expense of Kansas City Power & Light Company (electric-- forecasted fuel true-up)	Direct	Contested
1983	TR-83-253	Southwestern Bell Telephone Company (telephone rate increase - ATT Divesture Case)	Direct- revenues and directory advertising	Contested
1983	ER-83-49	Kansas City Power & Light Company (electric rate increase)	Direct- fuel and purchased power; fuel inventories Rebuttal Surrebuttal	Contested
1983	EO-83-9	Investigation and Audit of Forecasted Fuel Expense of Kansas City Power & Light Company (electric-- forecasted fuel true-up)	Direct	Contested
1982	TR-82-199	Southwestern Bell Telephone Company (telephone rate increase)	Direct- revenues and directory advertising	Contested
1982	ER-82-66 and HR-82-67	Kansas City Power & Light Company (electric and district steam heating rate increase)	Direct- fuel and purchased power; fuel inventories Rebuttal Surrebuttal	Contested
1981	TO-82-3	Southwestern Bell Telephone Company Investigation of Equal Life Group and Remaining Life Depreciation Rates (telephone-- depreciation case)	Direct- construction work in progress	Contested
1981	TR-81-302	United Telephone Company of Missouri (telephone rate increase)	Direct- construction work in progress	Stipulated
1981	TR-81-208	Southwestern Bell Telephone Company (telephone rate increase)	Direct-cash working capital; construction work in progress; income taxes-flow-through/normalization Rebuttal Surrebuttal	Contested

CARY G. FEATHERSTONE

SUMMARY OF RATE CASE INVOLVEMENT

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Testimony/Issue</u>	<u>Case</u>
1981	ER-81-42	Kansas City Power & Light Company (electric rate increase)	Direct-payroll and payroll related benefits; cash working capital Rebuttal Surrebuttal cash working capital	Contested
1980	TR-80-235	United Telephone Company of Missouri (telephone rate increase)	Direct- construction work in progress Rebuttal	Contested
1980	GR-80-249 Coordinated	Rich Hill-Hume Gas Company (natural gas rate increase)	No Testimony filed- revenues and rate base	Stipulated
1980	GR-80-173	The Gas Service Company (predecessor company of Missouri Gas Energy, now part of Laclede Gas Company) (natural gas rate increase)	Direct- dues & donations; plant in service and accumulated depreciation reserve and depreciation expense; operation & maintenance expenses; rate case expense Deposition	Stipulated
1980	HR-80-55	St. Joseph Light & Power Company (predecessor company of KCP&L Greater Missouri Operations) (industrial steam rate increase)	Direct	Stipulated
1980	OR-80-54	St. Joseph Light & Power Company (transit rate increase)	Direct	Stipulated
1980	ER-80-53	St. Joseph Light & Power Company (electric rate increase)	Direct	Stipulated

CARY G. FEATHERSTONE
SUMMARY OF CASE INVOLVEMENT
CASES SUPERVISED AND ASSISTED:

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Involvement</u>	<u>Case</u>
2017	WR-2017-0343	Gascony Water Company	Supervised Case	Pending
2017	WR-2017-0139	Stockton Hills Water	Supervised Case	Stipulated
2015	SR-2016-0112	Cannon Homes	Supervised Case	Stipulated
2015	WR-2016-0109 SR-2016-0110	Roy L Utilities	Supervised Case	Stipulated
2014	WR-2015-0104	Spokane Highlands Water	Supervised Case	Stipulated
2014	WR-2015-0020	Gascony Water Company	Supervised Case	withdrawn
2014	SM-2015-0014	Raccoon Creek acquisition of West 16, WPC and Villages (Sewer acquisition case)	Supervised Case	Stipulated
2013	SA-2014-0005	Central Rivers Wastewater (sewer certificate case)	Supervised Case	Stipulated
2013	SC-2013-0332	West 16 th Street (Public Counsel complaint case)	Supervised Case	Stipulated
2013	WR-2013-0326	Woodland Manor (water informal rate increase)	Supervised Case	Stipulated
2013	SR-2013-0053	WPC Sewer	Supervised Case	Stipulated
2013	WM-2013-0329	Bilyean Ridge Water	Supervised Case	Stipulated
2012	WR-2012-0163	Tandy County (water informal rate increase)	Supervised Case Recommendation Memorandum	Stipulated
2011	WO-2012-0328	Algonquin Liberty Water purchase of Noel Water	Supervised Case Recommendation Memorandum	Stipulated
2010	SR-2010-0320 Coordinated	Timber Creek Sewer Company	Supervised Case Did Not File Testimony	Contested

CARY G. FEATHERSTONE
SUMMARY OF CASE INVOLVEMENT
CASES SUPERVISED AND ASSISTED:

<u>Year</u>	<u>Case No.</u>	<u>Utility</u>	<u>Type of Involvement</u>	<u>Case</u>
2010	WR-2010-0202	Stockton Water Company	Recommendation Memorandum	Stipulated
2010	EO-2010-0211	KCP&L Greater Missouri Operations---- Liberty service center sale	Recommendation Memorandum	Stipulated
2009	EO-2010-0060	KCP&L Greater Missouri Operations----- Blue Springs service center sale	Recommendation Memorandum	Withdrawn
2009	WR-2010-0139 SR-2010-0140	Valley Woods Water Company	Recommendation Memorandum	Stipulated
2008	QW-2008-0003	Spokane Highlands Water Company (water- informal rate increase)	Recommendation Memorandum	Stipulated
2007	SR-2008-0080 QS-2007-0008	Timber Creek (sewer- informal rate increase)	Recommendation Memorandum	Stipulated
2006	WR-2006-0250 Coordinated	Hickory Hills Water (water- informal rate increase)	Supervised Case - Did Not File Testimony	Contested
2006	HA-2006-0294 Coordinated	Trigen Kansas City Energy (steam- expansion of service area)	Recommendation Memorandum and Testimony	Contested
2005	WO-2005-0206 Coordinated	Silverleaf sale to Algonquin (water & sewer- sale of assets)	Supervised Case - Did not file testimony	Stipulated
2005	GM-2005-0136 Coordinated	Partnership interest of DTE Enterprises, Inc. and DTE Ozark, Inc in Southern Gas Company purchase by Sendero SMGC LP (natural gas -- sale of assets)	Recommendation Memorandum	Stipulated
2003	QW-2003-016 QS-2003-015	Tandy County (water & sewer informal rate increase)	Recommendation Memorandum	Stipulated

Lisa M. Ferguson

Present Position:

I am a Utility Regulatory Auditor V, Auditing Department, Commission Staff 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.

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.

Lisa M. Ferguson

Past Rate Case Proceedings:

<u>Company Name</u>	<u>Case No.</u>	<u>Issue</u>
Ameren Missouri	EO-2017-0176	Cost Allocation Manual
Ameren Missouri	EO-2017-0127	Asset Sale Case – Mercy Health
Ameren Missouri (ELEC)	ER-2016-0179	Allocations, Coal Refinement, Callaway II Write-Off, Capacity, FAC expense removal, FIN 48, Income Taxes, ADIT, Mark Twain Transmission, MISO revenues & expenses, MISO Transmission revenues & expenses, Sioux Construction Accounting Accounting Schedules/Reconciliation Filed Direct, Rebuttal, Surrebuttal
Rex Deffenderfer Enterprises	WR-2016-0267	Lead Auditor – Oversee All Issues
House Springs Sewer Co.	SM-2016-0204	Sale of Company Assets to Jefferson County Public Sewer District
Missouri American	WR-2015-0301 & SR-2015-0302	Amortizations, Arnold Acquisition, Belleville Labs, Capitalized O&M Depreciation, Regulatory Assets & Liabilities, Regulatory Deferrals, Hickory Hills Receivership Costs Accounting Schedules/Reconciliation
Missouri American	WO-2016-0054	Asset Purchased Case; Missouri American Acquisition of Jaxson Estates

Lisa M. Ferguson

Past Rate Case Proceedings:

<u>Company Name</u>	<u>Case No.</u>	<u>Issue</u>
House Springs Sewer Co.	Earnings Investigation	Operations & Maintenance Contract, Legal Fees, Office Rent & Electric, Plant/Reserve/CIAC, Repairs & Maintenance, Sludge Hauling, City of Byrnes Mill Expense, Garnishment
Ameren Missouri (ELEC)	ER-2014-0258	Fuel, NBEC, Fuel Additives, Fuel Inventory, Off System Sales, Purchased Power, Callaway Refueling, Coal Car Depreciation, Low Level Radioactive Waste Expense Accounting Schedules/Reconciliation Filed Direct, Rebuttal, Surrebuttal
Liberty Gas (MNG)	GR-2014-0152	Board of Directors Fees, Payroll, Employee Benefits, Incentive Compensation, Environmental Expense, Fleet Fuel Expense, Property Tax, Relocation Expense
Terre Du Lac Utility Co.	WR-2014-0104 SR-2014-0105	Revenues, Uncollectibles, Water Loss Adjustment
Laclede Gas Co.	GR-2013-0171	Revenue, Energy Wise and Insulation Revenues and Ratebase, Gas Costs, Gross Receipts Tax, ISRS Revenue, OSS and Capacity Release, Postage Expense, Unbilled Revenues, Uncollectibles
Lincoln County Water & Sewer	SR-2013-0321	Revenues, Bank Fees, Billing Expense, DNR Fees, Office Supplies, Postage Expense, PSC Assessment, SOS Fees, Uncollectibles
Gladlo Water and Sewer Co.	SR-2013-0258 WR-2013-0259	Informal Rate Case – All Issues

Lisa M. Ferguson

Past Rate Case Proceedings:

<u>Company Name</u>	<u>Case No.</u>	<u>Issue</u>
Missouri American	SO-2013-0260	Asset Purchased Case; Missouri American Acquisition of Meramec Sewer Co; Rate Base Determination
Ameren Missouri	EO-2013-0044	Asset Sale Case
Meramec Sewer Co	SR-2012-0309	Rate Base, Revenues, Uncollectibles
Ameren Missouri (ELEC)	ER-2012-0166	Advertising, AMS Allocations, Capitalized O&M Depreciation, Distribution Training, Employee Benefits other than Pensions, Environmental Expense, Incentive Compensation, Legal Expense, Name Change/Branding Expense, Payroll, Payroll Taxes, Production Training Expense, Severance, Underground Training Expense, VSE/ISP Amortization EMS Accounting Schedules Filed Direct and Surrebuttal Testimony Deposed on Severance and Advertising Testified on Severance
Missouri American	SO-2012-0091	Asset Purchased Case; Missouri American Acquisition of Meramec Sewer Co; Rate Base Determination
House Springs Sewer Co.	SR-2011-0274	Revenues, Billing Supplies Expense, Bank Fees, Dues & Donations, Outside Services, Miscellaneous Expense, Rent Expense, Postage Expense, PSC Assessment, Rate Case Expense, Secretary of State Fees, EMS Accounting Schedules

Lisa M. Ferguson

Past Rate Case Proceedings:

<u>Company Name</u>	<u>Case No.</u>	<u>Issue</u>
Missouri American	WO-2011-0106	ISRS Filing; Extending data to Effective Date; Retirements; Deferred Taxes; Accumulated Depreciation
Ameren Missouri (ELEC)	ER-2011-0028	Capitalized O&M Depreciation, Dues & Donations, 900 Account analysis, Property Taxes, Other Rate Base Items, Corporate Franchise Taxes, CWC, Plant and Reserve, PSC Assessment, Rate Case Expense, Advertising, Interest on Customer Deposits, Outside Contractors/Services, Allocations Accounting Schedules/Reconciliation Filed Direct and Surrebuttal Testimony Deposed on Advertising Testified on Property Tax
AmerenUE (GAS)	GR-2010-0363	Capitalized O&M Depreciation, Dues & Donations, 900 Account analysis, Property Taxes, Other Rate Base Items, Corporate Franchise Taxes, CWC, Plant and Reserve, PSC Assessment, Rate Case Expense, Advertising, Interest on Customer Deposits, Outside Contractors/Services Accounting Schedules/Reconciliation Filed Direct Testimony
KMB Utility Corporation	WR-2010-0345 & SR-2010-0346	Revenues, Late Fees, Electric Bills, Lost Water Adjustment, Uncollectibles, Master meter reads Filed Staff Recommendation

Lisa M. Ferguson

Past Rate Case Proceedings:

<u>Company Name</u>	<u>Case No.</u>	<u>Issue</u>
Ameren UE (ELEC)	ER-2010-0036	Advertising, Capitalized O&M Depreciation, Dues & Donations, 900 Account Analysis, Property Taxes, Other Rate Base Items, Corp. Franchise Taxes, Leases, CWC, Plant, Depreciation/ Reserve, PSC Assessment, Rate Case Expense, Interest on Customer Deposits, Insurance Expenses, Accounting Runs, Injuries and Damages Accounting Schedules/Reconciliation Filed Direct and Surrebuttal Testimony
Peaceful Valley	SR-2009-0146 WR-2009-0145	Informal Small Water and Sewer Request for Rate Increase
Cannon Home Association	SR-2009-0144	Informal Small Water Request for Rate Increase
Atmos Energy	GO-2009-0046	Assisted on ISRS Filing; Extending data to Effective Date; Retirements; Deferred Taxes; Accumulated Depreciation; Removal of Meters
Ameren UE (GAS)	GT-2009-0038	Assisted on ISRS Filing; Extending data to Effective Date; Additions/Retirements; Deferred Taxes; Accumulated Depreciation
Laclede Gas Company	GO-2009-0029	Assisted on Abandonment Case – Recommendation Submission
Mill Creek	SR-2005-0116	Quarterly Reviews; Procedural Schedule; A/P Billing Calendar; Conference Calls; Discussion Notes; Revenues

WAYNE HODGES

Utility Regulatory Auditor

I am currently employed as a Utility Regulatory Auditor with the Missouri Public Service Commission where I am responsible for assisting in research and analysis of multiple financial aspects of public utility operations, in addition to analyzing and evaluating management controls, financial data, standard production rates, cost allocations, depreciation issues, fiscal procedures, spending priorities to determine revenue requirements and to promote efficient and economical utilization of resources. I have been employed with the Missouri Public Service Commission as a Utility Regulatory Auditor since November 2016.

I am also employed as an adjunct finance professor at Park University where I am tasked with providing a clear and concise understanding of real estate commerce as it pertains to property valuation, tax assessment, debt-to-income ratios, mortgage lending, fee simple ownership, legalities tied to deed and title transfer, sales agency, parcel identification, real property appraisal, and commercial and residential zoning. I have been employed at Park University as an adjunct professor since June 2011.

Prior to my employment with the Missouri Public Service Commission and Park University, I served ten years as a Commercial Real Estate Appraiser with the Unified Government of Wyandotte County where I was responsible for establishing fair market values in conjunction with setting mill levy assessments on commercial and residential properties for Ad Valorem tax purposes. I was also responsible for identifying market trends associated with rents and expenses in addition to defending county valuations during 'Payment Under Protest' hearings and before the Kansas Board of Tax Appeals.

Education and Background Credentials

In May 2008, I earned a Bachelor of Science degree in Business Administration from the University of Saint Mary in Leavenworth, Kansas. In July 2009, I earned a Master of Business Administration with a concentration in finance from the University of Saint Mary. I also wrote several guest commentaries in 2008 and 2009 as a freelance business journalist for both the Kansas City Star and Kansas City Kansan newspapers.

Case Proceedings Participation

Year	Case Number	Company Name	Testimony Type	Issue(s)
2017	GR-2017-0215, GR-2017-0216	Laclede Gas Company; Missouri Gas Energy (pending)	Direct	Materials and Supplies, Prepayments, Customer Deposits and Interest, Customer Advances, Advertising, Lobbying, Corporate Franchise Tax, Special Deposits, Dues and Donations
2017	WR-2017-0139	Stockton Hills Water Company	Recommendation Memorandum	Rate Base

JASON KUNST, CPA

Utility Regulatory Auditor IV

Educational Background and Experience

I graduated from the University of Missouri – St. Louis with a Bachelor’s of Science degree in Accounting in December 2007. I am a Certified Public Accountant (CPA) licensed in the state of Missouri.

I am currently employed as a Utility Regulatory Auditor IV, Auditing Department, Commission Staff Division of the Missouri Public Service Commission. Prior to joining the Commission in May 2014, I was employed as an Unemployment Insurance Auditor II with the Missouri Department of Labor and Industrial Relations, Division of Employment Security. As an Unemployment Insurance Auditor, I reviewed employer’s books, payroll records, and other related records to determine accuracy and compliance with Missouri Employment Security Law.

CASE PROCEEDING PARTICIPATION

Company Name	Case/File Number	Issue(s)
Ameren Missouri/UE	ER-2014-0258	Formal Rate Case: Advertising, Misc. Expenses, Board of Directors Fees, Dues & Donations, Property Taxes, Property Tax Refund Tracker, Customer Accounting Expense to reflect new full page bill format, Plant in Service, Depreciation Reserve, Materials & Supplies, Prepayments, Customer Deposits, Customer Advances, Interest on Customer Deposits
Laclede Gas Company	GO-2015-0269	ISRS Filing
Missouri American Water Company	WR-2015-0301 SR-2015-0302	Formal Rate Case: Payroll & Related Expenses, Employee Benefits, Tank Painting and Inspection Expense Tracker, Waste Disposal, Transportation Expenses, Leases & Rents, Incentive Compensation, Severance Expense, PSC Assessment
Ameren/UE	ER-2016-0179	Formal Rate Case: Payroll & Related Expenses, Employee Benefits, Incentive Compensation, Severance Expense, Cyber Security Costs, Board of Directors Fees, Dues & Donations, Misc. Expenses, Advertising, Rate Case Expense, Outside Auditor Fees, Scada Revenues & Expenses, Taum Sauk Failure Expenses

Educational and Employment Background and Credentials

of

Karen Lyons

I am currently employed as a Utility Regulatory Auditor V for the Missouri Public Service Commission ("Commission"). I was employed by the Commission in April 2007. Previously, I was employed by AT&T as a Regulatory Complaint Manager from December 1999 to February 2007. In that capacity I was responsible for addressing consumer and business complaints filed with various state and federal regulatory agencies. I earned a Bachelor of Science degree in Management Accounting and a Master's in Business Administration from Park University.

As a Utility Regulatory Auditor V, I perform rate audits and prepare miscellaneous filings as ordered by the Commission. In addition, I review all exhibits and testimony on assigned issues, develop accounting adjustments and issue positions which are supported by workpapers and written and oral testimony. For cases that do not require prepared testimony, I prepare Staff Recommendation Memorandums.

Cases I have been assigned are shown in the following table:

Date Filed	Case/Tracking Number	Company Name - Issue
9/08/2017-Direct	GR-2017-0215 and GR-2017-0216	Laclede Gas and Missouri Gas Energy (Gas Rate Case)-Pending
11/30/2016-Direct 12/30/2016-Rebuttal 1/27/2017-Surrebuttal 3/01/2017-True-Up Direct 3/10/2017-True-Up Rebuttal	ER-2016-0285-Contested	Kansas City Power & Light Company (Electric Rate Case)
7/15/2016-Direct 8/15/2016-Rebuttal 9/02/2016-Surrebuttal	ER-2016-0156-Stipulated	KCP&L Greater Missouri Operations Company (Electric Rate Case)
2/09/2016-Deposition	EA-2015-0256-Contested	KCP&L Greater Missouri Operations Company (Solar CCN)

cont'd Credentials

of

Karen Lyons

Date Filed	Case/Tracking Number	Company Name - Issue
12/29/2015 Staff Memorandum	WO-2016-0098	Missouri American Water Company- Infrastructure Service Replacement Surcharge (ISRS)
4/02/2015-Direct 5/07/2015-Rebuttal 6/05/2015-Surrebuttal 7/15/2015-True Up Rebuttal	ER-2014-0370-Contested	Kansas City Power & Light Company (Electric Rate Case)
5/01/2014-Direct	HR-2014-0066-Stipulated	Veolia Energy Kansas City, Inc. (Steam Rate Case)
1/23/2014-Direct 4/01/2014-Surrebuttal	GR-2014-0007-Stipulated	Missouri Gas Energy Company (Gas Rate Case)
4/09/2013 Staff Memorandum	GO-2013-0391	Missouri Gas Energy - Infrastructure Service Replacement Surcharge (ISRS)
2/01/13 Staff Memorandum	WM-2013-0329	Bilyeu Ridge Water Company, LLC (Water Sale Case)
8/09/2012-Direct 9/12/12-Rebuttal 10/10/12-Surrebuttal	ER-2012-0175-Contested	KCP&L Greater Missouri Operations Company (Electric Rate Case)
8/02/2012-Direct 9/05/2012-Rebuttal 10/08/2012-Surrebuttal	ER-2012-0174-Contested	Kansas City Power & Light Company (Electric Rate Case)
4/20/2012 Staff Memorandum	WM-2012-0288	Valley Woods Water Company, Inc. (Water Sale Case)
1/06/2012 Staff Memorandum	GO-2012-0144	Missouri Gas Energy - Infrastructure Service Replacement Surcharge (ISRS)
8/08/2011-Direct	HR-2011-0241-Stipulated	Veolia Energy Kansas City, Inc. (Steam Rate Case)

cont'd Credentials

of

Karen Lyons

Date Filed	Case/Tracking Number	Company Name - Issue
11/17/2010-Direct 12/15/2010-Rebuttal 1/05/2011-Surrebuttal	ER-2010-0356-Contested	KCP&L Greater Missouri Operations Company (Electric Rate Case)
11/10/2010-Direct 12/08/2010-Rebuttal 1/05/2011-Surrebuttal	ER-2010-0355-Contested	Kansas City Power & Light Company (Electric Rate Case)
12/22/2011 Staff Memorandum	SA-2010-0219	Canyon Treatment Facility, LLC (Certificate Case)
6/07/2010 Staff Memorandum	WR-2010-0202	Stockton Water Company (Water Rate Case)
4/02/2010 Staff Memorandum	SR-2010-0140	Valley Woods Water Company (Water Rate Case)
4/02/2010 Staff Memorandum	WR-2010-0139	Valley Woods Water Company (Sewer Rate Case)
1/14/2010-Direct	SR-2010-0110	Lake Region Water and Sewer (Sewer Rate Case)
1/14/2010-Direct	WR-2010-0111	Lake Region Water and Sewer (Water Rate Case)
8/12/2009-Direct	GR-2009-0355-Stipulated	Missouri Gas Energy (Gas Rate Case)
2/13/2009-Direct 3/13/2009-Rebuttal 4/09/2009-Surrebuttal	ER-2009-0090-Global Settlement	KCP&L Greater Missouri Operations Company (Electric Rate Case)
2/13/2009-Direct 3/13/2009-Rebuttal 4/09/2009-Surrebuttal	HR-2009-0092-Global Settlement	KCP&L Greater Missouri Operations Company (Steam Rate Case)
2/11/2009-Direct 3/11/2009-Rebuttal 4/07/2009-Surrebuttal	ER-2009-0089-Global Settlement	Kansas City Power & Light Company (Electric Rate Case)

cont'd Credentials

of

Karen Lyons

Date Filed	Case/Tracking Number	Company Name - Issue
8/01/2008	HR-2008-0300-Stipulated	Trigen Kansas City Energy Corporation (Steam Rate Case)
4/28/2008	QW-2008-0003	Spokane Highlands Water Company (Water Rate Case)
12/17/2007	GO-2008-0113	Missouri Gas Energy - Infrastructure Service Replacement Surcharge (ISRS)

Keith Majors

Educational and Employment Background and Credentials

I am currently employed as a Utility Regulatory Auditor IV, Auditing Department, Commission Staff Division for the Missouri Public Service Commission (Commission). I was employed by the Commission in June 2007. I earned a Bachelor of Science degree in Accounting from Truman State University in May 2007.

As a Utility Regulatory Auditor, I perform rate audits and prepare miscellaneous filings as ordered by the Commission. In addition, I review all exhibits and testimony on assigned issues, develop accounting adjustments and issue positions which are supported by workpapers and written testimony. For cases that do not require prepared testimony, I prepare Staff Recommendation Memorandums.

Cases I have been assigned are shown in the following table:

Case Name	Case Number	Issues	Exhibit
Laclede Gas and Missouri Gas Energy	GR-2017-0215 and GR-2017-0216	Synergy and Transition Costs Analysis, Corporate Allocations	Staff Report
KCP&L GMO	ER-2016-0156	Income Taxes, Pension & OPEB	Staff Report, Rebuttal, Surrebuttal
KCP&L & KCP&L GMO	EC-2015-0309	Affiliate Transactions, Allocations	Surrebuttal Testimony
KCP&L	ER-2014-0370	Income Taxes, Pension & OPEB, Revenues	Staff Report, Rebuttal, Surrebuttal
KCP&L	EU-2015-0094	DOE Nuclear Waste Fund Fees	Direct Testimony
KCP&L	EU-2014-0255	Construction Accounting	Rebuttal Testimony
Veolia Kansas City	HR-2014-0066	Income Taxes, Revenues, Corporate Allocations	Staff Report
Missouri Gas Energy	GR-2014-0007	Corporate Allocations, Pension & OPEB, Incentive Compensation, Income Taxes	Staff Report, Rebuttal, Surrebuttal
Missouri Gas Energy ISRS	GO-2013-0391	ISRS	Staff Memorandum
KCP&L & KCP&L GMO	ER-2012-0174 & ER-2012-0175	Acquisition Transition Costs, Fuel, Legal and Rate Case Expense	Staff Report, Rebuttal, Surrebuttal
Missouri Gas Energy ISRS	GO-2011-0269	ISRS	Staff Memorandum
Noel Water Sale Case	WO-2011-0328	Sale Case Evaluation	Staff Recommendation
KCP&L & KCP&L GMO	ER-2010-0355 & ER-2010-0356	Acquisition Transition Costs, Rate Case Expense	Staff Report, Rebuttal, Surrebuttal

cont'd Keith Majors

Case Name	Case Number	Issues	Exhibit
KCP&L Construction Audit & Prudence Review	EO-2010-0259	AFUDC, Property Taxes	Staff Report
KCP&L, KCP&L GMO, & KCP&L GMO – Steam	ER-2009-0089, ER-2009-0090, & HR-2009-0092	Payroll, Employee Benefits, Incentive Compensation	Staff Report, Rebuttal, Surrebuttal
Trigen Kansas City	HR-2008-0300	Fuel Inventories, Rate Base Items, Rate Case Expense, Maintenance	Staff Report
Spokane Highlands Water Company	WR-2008-0314	Plant, CIAC	Staff Recommendation
Missouri Gas Energy ISRS	GO-2008-0113	ISRS	Staff Memorandum

Amanda C. McMellen
Utility Regulatory Auditor V

EDUCATION

Bachelors of Science
DeVry Institute of Technology, Kansas City, MO-June 1998

PROFESSIONAL EXPERIENCE

Missouri Public Service Commission
Utility Regulatory Auditor V
February 2013 – Present
Utility Regulatory Auditor IV
November 2006 – February 2013
Utility Regulatory Auditor III
June 2002 – November 2006
Utility Regulatory Auditor II
June 2000 – June 2002
Utility Regulatory Auditor I
June 1999 – June 2000

I am a Utility Regulatory Auditor for the Missouri Public Service Commission (Commission). I graduated from the DeVry Institute of Technology in June 1998 with a Bachelor of Science degree in Accounting. Before coming to work at the Commission, I worked as an accounts receivable clerk. I commenced employment with the Commission Staff in June 1999. As a Utility Regulatory Auditor, I am responsible for assisting in the audits and examinations of the books and records of utility companies operating within the state of Missouri.

Amanda C. McMellen

SUMMARY OF RATE CASE TESTIMONY FILED

<u>COMPANY</u>	<u>CASE NO.</u>	<u>ISSUES</u>
Osage Water Company	SR-2000-556	Plant in Service Depreciation Reserve Depreciation Expense Operation & Maintenance Expense
Osage Water Company	WR-2000-557	Plant in Service Depreciation Reserve Depreciation Expense Operation & Maintenance Expense
Empire District Electric Company	ER-2001-299	Plant in Service Depreciation Reserve Depreciation Expense Cash Working Capital Other Working Capital Rate Case Expense PSC Assessment Advertising Dues, Donations & Contributions
UtiliCorp United, Inc./ d/b/a Missouri Public Service	ER-2001-672	Insurance Injuries and Damages Property Taxes Lobbying Outside Services Maintenance SJLP Related Expenses
BPS Telephone Company	TC-2002-1076	Accounting Schedules Separation Factors Plant in Service Depreciation Reserve Revenues Payroll Payroll Related Benefits Other Expenses

Amanda C. McMellen

SUMMARY OF RATE CASE TESTIMONY FILED

<u>COMPANY</u>	<u>CASE NO.</u>	<u>ISSUES</u>
Aquila, Inc. d/b/a Aquila Networks-MPS & Aquila Networks-L&P	ER-2004-0034	Revenue Annualizations Uncollectibles
Fidelity Telephone Company	IR-2004-0272	Revenue Revenue Related Expenses
Aquila, Inc. d/b/a Aquila Networks-MPS & Aquila Networks-L&P	ER-2005-0436	Revenue Annualizations Uncollectibles
Empire District Electric Company	ER-2006-0315	Payroll Payroll Taxes 401(k) Plan Health Care Costs Incentive Compensation Depreciation Expense Amortization Expense Customer Demand Program Deferred State Income Taxes Income Taxes
Aquila, Inc. d/b/a Aquila Networks-MPS & Aquila Networks-L&P	ER-2007-0004	Revenue Annualizations Uncollectibles Maintenance Expenses Turbine Overhaul Maintenance
Empire District Electric Company	ER-2008-0093	Revenues Bad Debts Employee Benefits Tree Trimming Storm Costs Customer Programs Amortizations Current Income Taxes Deferred Income taxes Jurisdictional Allocations Corporate Allocations

Amanda C. McMellen

SUMMARY OF RATE CASE TESTIMONY FILED

<u>COMPANY</u>	<u>CASE NO.</u>	<u>ISSUES</u>
Missouri Gas Energy, a Division of Southern Union Company	GR-2009-0355	Staff Report Cost of Service Revenues-Customer Growth Corporate Allocations Other Rate Base Items Amortization Expense Interest expense on customer Deposits Rents and Leases
Missouri-American Water Company	WR-2010-0131	Staff Report Cost of Service Corporate and District Allocations Lobbying Costs Net Negative Salvage Amortization of Regulatory Assets Belleville Lab Expenses Comprehensive Planning Study Payroll Payroll Taxes
Kansas City Power & Light Company	ER-2010-0355	Staff Report Cost of Service Revenues-Customer Growth In-Field Service Fees Gross Receipts Taxes Forfeited Discounts Other Revenues Credit Card Acceptance Program Bad Debts
KCP&L Greater Missouri Operations Company	ER-2010-0356	Staff Report Cost of Service Revenues-Customer Growth Other Revenues Credit Card Acceptance Program Bad Debts
Empire District Electric Company	ER-2011-0004	Staff Report Cost of Service Plant in Service Depreciation Reserve Depreciation Expense Pensions & OPEBs Customer Programs Amortizations Carrying Costs Revenue Annualizations

Amanda C. McMellen

SUMMARY OF RATE CASE TESTIMONY FILED

<u>COMPANY</u>	<u>CASE NO.</u>	<u>ISSUES</u>
Empire District Electric Company	ER-2012-0345	Staff Report Cost of Service Plant in Service Depreciation Reserve Depreciation Expense Prepayments Materials and Supplies Customer Demand Programs Amortization of Electric Plant Customer Deposits Customer Advances Carrying Costs Customer Programs Customer Deposit Interest Expense Franchise Taxes Amortizations Banking Fees Lease Expense Pay Station Fees Amortizations
Summit Natural Gas Company of Missouri, Inc.	ER-2014-0086	Corporate Allocations Capitalization Policy MGU Purchase Price SMNG Legacy Asset Valuation Energy Efficiency Programs
Empire District Electric Company	ER-2016-0023	Staff Report Cost of Service Test Year/Update/True-Up Accumulated Deferred Income Taxes SWPA Hydro Reimbursement SPP Revenues and Expenses SPP Transmission Expenses ASM Revenue and Expense Miscellaneous SPP Related Revenues and Expenses Off-System Sales Revenue and Expense Current Income Taxes Deferred Income Taxes Rate Case Expense-Sharing Advertising Dues and Donations SWPA Amortization Tornado AAO Amortization Corporate Expenses Capitalized Depreciation Proposed Acquisition
Terre Du Lac utilities Corporation	WR-2017-0110	Rate Base

Credentials of Byron M. Murray

Education and Employment Background

I am a Regulatory Economist II in the Tariff/Rate Design Unit, Operational Analysis Department, Commission Staff Division of the Missouri Public Service Commission. I have been employed at the Missouri Public Service Commission since October 2013.

I received my Bachelor of Science in Agricultural Business from Lincoln University in Jefferson City, MO in May 1997. I completed my Master of Public Administration from the University of Missouri – Columbia in Columbia, MO in May 2004.

Prior to joining the Commission, I worked as an Energy Planner for the Division of Energy, Department of Economic Development. I was a Unit Chief/Fiscal and Administrative Manager, in the Water Protection Program of the Department of Natural Resources responsible for the management of fee collections. I also worked as a Management Analyst Specialist II in the Administration Division and the Solid Waste Management Program of the Department of Natural Resources. I was employed as a Planner II/State Project Manager for the Scrap Tire Unit in the Solid Waste Management Program of the Department of Natural Resources. I have approximately 21 years of professional regulatory experience with the State of Missouri.

I provided written testimony regarding *Electric Vehicle Clean Charge Network Initiative* and *Tariff Issues* in the Staff Report filed on April 3, 2015, in the Kansas City Power & Light Company case No. ER-2014-0370.

DAVID MURRAY

Educational and Employment Background and Credentials

I am currently the Utility Regulatory Manager of the Financial Analysis Unit, Commission Staff Division 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.

I was authorized in October 2010 to use the Chartered Financial Analyst (CFA) designation. The use of the CFA designation requires the passage of three rigorous examinations addressing many investment related areas such as valuation analysis, portfolio management, statistical analysis, economic analysis, financial statement analysis and ethical standards. In addition to the passage of the examinations a CFA charterholder must have four years of relevant professional work experience.

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.

In April 2007 I passed the test required to be awarded the professional designation Certified Rate of Return Analyst (CRRA) by the Society of Utility and Regulatory Financial Analysts (SURFA). I served as a board member on the SURFA Board of Directors from 2008 through 2016. I am not currently an active member of SURFA.

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
1/27/2017	ER-2016-0285	Kansas City Power & Light Company	Surrebuttal	Capital Structure
1/20/2017	ER-2016-0179	Union Electric Company d/b/a Ameren Missouri	Rebuttal	Capital Structure
12/30/2016	ER-2016-0285	Kansas City Power & Light Company	Rebuttal	Capital Structure/Cost of Debt
12/09/2016	ER-2016-0179	Union Electric Company d/b/a Ameren Missouri	Cost of Service Report	Capital Structure
3/04/2016	WR-2015-0301	Missouri-American Water Company	Surrebuttal	Rate of Return Capital Structure
2/11/2016	WR-2015-0301	Missouri-American Water Company	Rebuttal	Rate of Return Capital Structure
12/23/2015	WR-2015-0301	Missouri-American Water Company	Cost of Service Report	Rate of Return Capital Structure
10/21/2015	EA-2015-0146	Ameren Transmission Company of Illinois	Rebuttal	Financial Ability
8/24/2015	GF-2015-0181	Laclede Gas Company	Rebuttal	Financing
3/20/15	EO-2015-0055	Union Electric Company d/b/a Ameren Missouri	Rebuttal	Demand-Side Programs
2/6/2015	ER-2014-0258	Union Electric Company d/b/a Ameren Missouri	Surrebuttal	Rate of Return Capital Structure
1/16/2015	ER-2014-0258	Union Electric Company d/b/a Ameren Missouri	Rebuttal	Rate of Return Capital Structure
12/5/2014	ER-2014-0258	Union Electric Company d/b/a Ameren Missouri	Cost of Service Report	Rate of Return Capital Structure
9/15/2014	EA-2014-0207	Grain Belt Express Clean Line, LLC	Rebuttal	Financing
8/8/2014	GR-2014-0086	Summit Natural Gas of Missouri	Surrebuttal	Rate of Return Capital Structure
7/11/2014	GR-2014-0086	Summit Natural Gas of Missouri	Rebuttal	Rate of Return Capital Structure

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
5/30/2014	GR-2014-0086	Summit Natural Gas of Missouri	Cost of Service Report	Rate of Return Capital Structure
4/29/2013	SR-2013-0016	Emerald Pointe Utility Company	Surrebuttal	Rate of Return
1/30/2013	EA-2013-0098	KCP&L; KCP&L Greater Missouri Operations; Transource Missouri, LLC	Rebuttal	Financing
11/13/2012	ER-2012-0175	KCP&L Greater Missouri Operations Company	True-up Rebuttal	Rate of Return Capital Structure
11/13/2012	ER-2012-0174	Kansas City Power & Light Company	True-up Rebuttal	Rate of Return Capital Structure
10/10/2012	ER-2012-0175	KCP&L Greater Missouri Operations Company	Surrebuttal	Rate of Return Capital Structure
10/8/2012	ER-2012-0174	Kansas City Power & Light Company	Surrebuttal	Rate of Return Capital Structure
9/12/2012	ER-2012-0175	KCP&L Greater Missouri Operations Company	Rebuttal	Rate of Return Capital Structure
9/7/2012	ER-2012-0166	Union Electric Company d/b/a Ameren Missouri	Surrebuttal	Rate of Return Capital Structure
9/5/2012	ER-2012-0174	Kansas City Power & Light Company	Rebuttal	Rate of Return Capital Structure
8/14/2012	ER-2012-0166	Union Electric Company d/b/a Ameren Missouri	Rebuttal	Rate of Return Capital Structure
8/9/2012	ER-2012-0175	KCP&L Greater Missouri Operations Company	Cost of Service Report	Rate of Return Capital Structure
8/2/2012	ER-2012-0174	Kansas City Power & Light Company	Cost of Service Report	Rate of Return Capital Structure
7/6/2012	ER-2012-0166	Union Electric Company d/b/a Ameren Missouri	Cost of Service Report	Rate of Return Capital Structure
04/15/2011	ER-2011-0028	Union Electric Company d/b/a Ameren Missouri	Surrebuttal	Rate of Return Capital Structure
03/25/2011	ER-2011-0028	Union Electric Company d/b/a Ameren Missouri	Rebuttal	Rate of Return Capital Structure

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
02/28/2011	ER-2010-0356	KCP&L Greater Missouri Operations Company	True-up Rebuttal	Rate of Return Capital Structure
02/28/2011	ER-2010-0355	Kansas City Power & Light Company	True-up Rebuttal	Rate of Return Capital Structure
02/22/2011	ER-2010-0356	KCP&L Greater Missouri Operations Company	True-up Direct	Rate of Return Capital Structure
02/22/2011	ER-2010-0355	Kansas City Power & Light Company	True-up Direct	Rate of Return Capital Structure
02/08/2011	ER-2011-0028	Union Electric Company d/b/a Ameren Missouri	Cost of Service Report	Rate of Return Capital Structure
1/12/2011	ER-2010-0356	KCP&L Greater Missouri Operations Company	Surrebuttal	Rate of Return Capital Structure
1/05/2011	ER-2010-0355	Kansas City Power & Light Company	Surrebuttal	Rate of Return Capital Structure
12/15/2010	ER-2010-0356	KCP&L Greater Missouri Operations Company	Rebuttal	Rate of Return Capital Structure
12/08/2010	ER-2010-0355	Kansas City Power & Light Company	Rebuttal	Rate of Return Capital Structure
11/17/2010	ER-2010-0356	KCP&L Greater Missouri Operations Company	Cost of Service Report	Rate of Return Capital Structure
11/10/2010	ER-2010-0355	Kansas City Power & Light Company	Cost of Service Report	Rate of Return Capital Structure
05/06/2010	WR-2010-0131	Missouri-American Water Company	Surrebuttal	Rate of Return Capital Structure
04/15/2010	WR-2010-0131	Missouri-American Water Company	Rebuttal	Rate of Return Capital Structure
03/09/2010	WR-2010-0131	Missouri-American Water Company	Cost of Service Report	Rate of Return Capital Structure
03/05/2010	ER-2010-0036	Union Electric Company d/b/a AmerenUE	Surrebuttal	Rate of Return Capital Structure
02/11/2010	ER-2010-0036	Union Electric Company d/b/a AmerenUE	Rebuttal	Rate of Return Capital Structure

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
12/18/2009	ER-2010-0036	Union Electric Company d/b/a AmerenUE	Cost of Service Report	Rate of Return Capital Structure
10/14/2009	GR-2009-0355	Missouri Gas Energy	Surrebuttal	Rate of Return Capital Structure
09/28/2009	GR-2009-0355	Missouri Gas Energy	Rebuttal	Rate of Return Capital Structure
08/21/2009	GR-2009-0355	Missouri Gas Energy	Cost of Service Report	Rate of Return Capital Structure
04/09/2009	HR-2009-0092	KCP&L Greater Missouri Operations Company	Surrebuttal	Rate of Return Capital Structure
04/09/2009	ER-2009-0090	KCP&L Greater Missouri Operations Company	Surrebuttal	Rate of Return Capital Structure
04/07/2009	ER-2009-0089	Kansas City Power & Light Company	Surrebuttal	Rate of Return Capital Structure
03/13/2009	HR-2009-0092	KCP&L Greater Missouri Operations Company	Rebuttal	Rate of Return Capital Structure
03/13/2009	ER-2009-0090	KCP&L Greater Missouri Operations Company	Rebuttal	Rate of Return Capital Structure
03/11/2009	ER-2009-0089	Kansas City Power & Light Company	Rebuttal	Rate of Return Capital Structure
02/13/2009	HR-2009-0092	KCP&L Greater Missouri Operations Company	Cost of Service Report	Rate of Return Capital Structure
02/13/2009	ER-2009-0090	KCP&L Greater Missouri Operations Company	Cost of Service Report	Rate of Return Capital Structure
02/11/2009	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

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
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
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

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
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
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

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
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
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

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
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

Antonija Nieto

Educational and Employment Background and Credentials

I am currently employed as a Utility Regulatory Auditor for the Missouri Public Service Commission ("Commission"). Previously, I was employed by Lauterbach, Borschow and Company, P. C. in El Paso, TX as an auditor specializing in financial institutions audits from January 2008 to November 2009. I earned a Bachelor of Accounting from New Mexico State University in December 2006 and a Master of Accounting with minor in Management, also from New Mexico State University in December 2007. I have been employed by the Commission since October 2016.

As a Utility Regulatory Auditor, I perform rate audits and prepare miscellaneous filings for consideration by the Commission. In addition, I review all exhibits and testimony on assigned issues, develop accounting adjustments and issue positions which are supported by workpapers and written testimony. For cases that do not require prepared testimony, I prepare Staff Recommendation Memorandums.

Cases in which I have participated and the scope of my contributions are listed below:

Case/Tracking Number	Company Name- Type of Case; Issues
GR-2017-0215	Laclede Gas and Missouri Gas Energy
GR-2017-0216	Payroll, Payroll Taxes, Employee Benefits, Rents and Leases, Non-Labor Maintenance, A&G and O&M Cost Analysis
WR-2017-0139	Stockton Hills Water Company Payroll, Expenses
ER-2016-0285	Kansas City Power & Light EMS Run, Insurance expense, Amortization, PSC Assessment, Lease expense

KEENAN B. PATTERSON, PE

Education and Employment Background and Credentials

I am currently employed as a Utility Regulatory Engineer for the Missouri Public Service Commission ("Commission"). I have been employed by the Commission in this position since December 2016. From August 2015 to December 2016, I was employed by the commission as a Utility Engineering Specialist.

I am a graduate of the University of Missouri where I earned the degrees of Bachelor of Science in Agricultural Engineering and Master of Public Administration. In addition, I am licensed as a Professional Engineer in Missouri.

Prior to working for the Commission, I was employed as an Environmental, Health and Safety Coordinator by Pittsburgh Corning Corporation from 2013 to 2015. I have also been employed as an Associate at The Cadmus Group from 2010 to 2013, an Environmental Engineer at GREDELL Engineering Resources in 2009, the owner of Infra Consulting LC from 2006 to 2013, and various environmental engineering positions at the Missouri Department of Natural Resources from 1994 to 2006.

Other cases I have been assigned to or that I have participated in are listed below.

Case Number	Company
WM-2018-0023	Liberty Utilities
WM-2018-0018 SM-2018-0017	Seges Partners Mobile Home Park
WR-2018-0001	Environmental Utilities
WR-2017-0259	Indian Hills Utility Operating Company
GR-2017-0216	Missouri Gas Energy
GR-2017-0215	Laclede Gas Company
SM-2017-0187 WM-2017-0186	Lake Region Water & Sewer Company
WA-2017-0181	Missouri-American Water Company
SM-2017-0150	Elm Hills Utility Operating Company, Inc.
WF-2017-0143 WR-2017-0110	Terre Du Lac Utilities Corporation
WR-2017-0139	Stockton Hills Water Company
SR-2017-0130	Gladlo Water and Sewer Company, Inc.
SR-2017-0099	Seges Partners Mobile Home Park, L.L.C.

Case Number	Company
WO-2017-0236 WC-2017-0200 WR-2017-0042	Ridge Creek Water Company LLC
ER-2016-0285	Kansas City Power & Light Company
SR-2016-0202	Raccoon Creek Utility Operating Company, Inc.
EM-2016-0213	Empire District Electric Company
ER-2016-0179	Ameren Missouri
WM-2016-0169	Woodland Manor Water Company, LLC
SR-2016-0110 WR-2016-0109	Roy-L Utilities, Inc.
WM-2016-0094	Foxfire Utilities Company
WA-2016-0054	Missouri-American Water Company
WA-2016-0031 SA-2016-0030	Peaceful Valley Service Company
WR-2015-0301	Missouri-American Water Company

Joseph P. Roling

Present Position:

I am a Regulatory Economist in the Tariff and Rate Design Unit, Operational Analysis Department, Commission Staff Division, of the Missouri Public Service Commission. I have been employed by the Missouri Public Service Commission since March of 2016.

Educational Background and Work Experience:

I have a Bachelor of Science degree in Business Administration, Finance & Banking with a minor in Economics from the University of Missouri – Columbia in 1991, and a Master of Business Administration from Lincoln University in 1995. Prior to joining the Commission, I was employed in the Financial Service Industry.

Additionally, I completed Financial Planning Certificate Program from Bryant University in October, 2015.

Regulatory Training while at PSC:

- 5/19/16 – Carbon Markets 101 – Keys to Effective Design & Management
- 6/27/16 – Evaluation, Measurement & Verification (EM&V) for Energy Efficiency
- 6/29/16 – Long Term Gas Hedging Why and How
- 7/2/16 – Setting Baselines for Planning & Evaluation of Efficiency Programs EMV
- 8/25/16 - Leveraging Power Markets to Achieve a Reliable, Least-Cost Transition to a Low-Carbon Power System Regulatory Assistance Project
- 9/21/16 – FRI Symposium Attendance - "Managing the Triple Threat to Public Utility Profitability: Safety, Reliability & Affordability."
- 10/13/16 - Gas Efficiency Programs – What does it take to pass cost-effectiveness tests?
- 11/3/16 - More is Less - Environmentally Beneficial Electrification

Joseph P. Roling

cont'd Regulatory Training while at PSC:

01-17-17 Harness the Momentum of Power Sector Transformation - Regulatory Assistance Project (RAP) Webinar

01-25-17 New Study on Demand Charge Savings from Residential Solar – Electric Markets & Policy Group, Lawrence Berkeley National Laboratory.

01-31-17 Energy Efficiency - Consistency and Coordination of Energy Efficiency EM&V and Reporting

02-21-17 Assessment of Benefits Derived from Improved Reliability & Resiliency in Utility-owned Microgrid

03-01-17 Flexible & Customizable – Designing Decoupling for your State Regulatory Assistance Project

03-23-17 Part 1 Lessons Learned from Energy Efficiency Programs

03-30-17 Part 2 Lessons Learned from Energy Efficiency Programs

Previous filed Testimony of Joseph P. Roling

Case No.	Company	Type of Filing	Issue
ER-2016-0179	Ameren Missouri	Cost of Service / Revenue Requirement Report	Revenues

David M. Sommerer
Manager Procurement Analysis Unit
Commission Staff Division, Operational Analysis Department

Educational Background and Work Experience

In May 1983, I received a Bachelor of Science degree in Business and Administration with a major in Accounting from Southern Illinois University at Carbondale, Illinois. In May 1984, I received a Master of Accountancy degree from the same university. Also, in May 1984, I sat for and passed the Uniform Certified Public Accountants examination. I am currently a licensed CPA in Missouri. Upon graduation, I accepted employment with the Commission.

From 1984 to 1990 I assisted with audits and examinations of the books and records of public utilities operating within the state of Missouri. In 1988, the responsibility for conducting the Actual Cost Adjustment (ACA) audits of natural gas utilities was given to the Accounting Department. I assumed responsibility for planning and implementing these audits and trained available Staff on the requirements and conduct of the audits. I participated in most of the ACA audits from early 1988 to early 1990. On November 1, 1990, I transferred to the Commission's Energy Department. Until November of 1993, my duties consisted of reviews of various tariff proposals by electric and gas utilities, Purchased Gas Adjustment (PGA) reviews, and tariff reviews as part of a rate case. In November of 1993, I assumed my present duties of managing a newly created department called the Procurement Analysis Department (now known as the Procurement Analysis Unit). This Department was created to more fully address the emerging changes in the gas industry especially as they impacted the utilities' recovery of gas costs. My duties have included managing the Procurement Analysis staff, reviewing ACA audits and recommendations, participating in the gas integrated resource planning project, serving on the gas project team, serving on the natural gas commodity price task force, and participating in matters relating to natural gas service in the state of Missouri. In July of 2006, the Federal Issues/Policy Analysis Section was transferred to the Procurement Analysis Unit. That group analyzes filings made before the Federal Energy Regulatory Commission (FERC). During the reorganization in August 2011, the Federal Issues/Policy Analysis Section was transferred to the Secretary/ General Counsel Division. In 2015, I assumed the responsibility for the rate design aspects of the Gas Infrastructure System Replacement Surcharge (ISRS) process. The Gas ISRS allows for a more expedited process of including eligible pipeline replacements in rates prior to general rate cases.

CASES WHERE TESTIMONY

WAS FILED

DAVID M. SOMMERER

COMPANY	CASE NO.	ISSUES
Laclede Gas Company	GO-2016-0333	ISRS rates
Missouri Gas Energy	GO-2016-0332	ISRS rates
Laclede Gas Company (MGE)	GO-2016-0197	ISRS rates
Laclede Gas Company	GO-2016-0196	ISRS rates
Liberty Utilities (Midstates Natural Gas) Corp d/b/a Liberty Utilities	GR-2014-0152	Special Contact Customers Gas Contract
Missouri Gas Energy	GR-2014-0007	Gas Supply Incentive Plan Property Tax PGA Recovery
Laclede Gas Company	GR-2010-0171	Bad Debt in PGA, CAM
Atmos Energy Corporation	GR-2009-0417	Affiliated Transactions
Atmos Energy Corporation	GR-2008-0364	Affiliated Transactions
Missouri Gas Energy	GR-2009-0355	PGA tariff
Laclede Gas Company	GT-2009-0026	Tariff Proposal, ACA Process
Missouri Gas Utility	GR-2008-0060	Carrying Costs
Laclede Gas Company	GR-2007-0208	Gas Supply Incentive Plan, Off-system Sales, Capacity Release
Laclede Gas Company	GR-2005-0284	Off-System Sales/GSIP
Laclede Gas Company	GR-2004-0273	Demand Charges
AmerenUE	EO-2004-0108	Transfer of Gas Services
Aquila, Inc.	EF-2003-0465	PGA Process, Deferred Gas Cost
Missouri Gas Energy	GM-2003-0238	Pipeline Discounts, Gas Supply
Laclede Gas Company	GT-2003-0117	Low-Income Program
Laclede Gas Company	GR-2002-356	Inventory, Off-System Sales
Laclede Gas Company	GR-2001-629	Inventory, Off-System Sales

COMPANY	CASE NO.	ISSUES
Laclede Gas Company	GR-2001-387	ACA Price Stabilization
Missouri Gas Energy	GR-2001-382	ACA Hedging/Capacity Release
Laclede Gas Company	GT-2001-329	Incentive Plan
Laclede Gas Company	GO-2000-394	Price Stabilization
Laclede Gas Company	GT-99-303	Incentive Plan
Laclede Gas Company	GC-99-121	Complaint PGA
Laclede Gas Company	GR-98-297	ACA Gas Cost
Laclede Gas Company	GO-98-484	Price Stabilization
Laclede Gas Company	GR-98-374	PGA Clause
Missouri Gas Energy	GC-98-335	Complaint Gas Costs
United Cities Gas Company	GO-97-410	PGA Clause
Missouri Gas Energy	GO-97-409	PGA Clause
Missouri Gas Energy	GR-96-450	ACA Gas Costs
Missouri Public Service	GA-95-216	Cost of Gas
Missouri Gas Energy	GO-94-318	Incentive Plan
Western Resources Inc.	GR-93-240	PGA tariff, Billing Adjustments
Union Electric Company	GR-93-106	ACA Gas Costs
United Cities Gas Company	GR-93-47	PGA tariff, Billing Adjustments
Laclede Gas Company	GR-92-165	PGA tariff
United Cities Gas Company	GR-91-249	PGA tariff
United Cities Gas Company	GR-90-233	PGA tariff
Associated Natural Gas Company	GR-90-152	Payroll
KPL Gas Service Company	GR-90-50	Service Line Replacement
KPL Gas Service Company	GR-90-16	ACA Gas Costs
KPL Gas Service Company	GR-89-48	ACA Gas Costs
Great River Gas Company	GM-87-65	Lease Application

cont'd David M. Sommerer

COMPANY	CASE NO.	ISSUES
Grand River Mutual Tel. Company	TR-87-25	Plant, Revenues
Empire District Electric Company	WR-86-151	Revenues
Associated Natural Gas Company	GR-86-86	Revenues, Gas Cost
Grand River Mutual Telephone	TR-85-242	Cash Working Capital
Great River Gas Company	GR-85-136	Payroll, Working Capital
Missouri-American Water Company	WR-85-16	Payroll

Michael Jason Taylor

Educational and Employment Background and Credentials

I am currently employed as a Utility Regulatory Auditor for the Missouri Public Service Commission (Commission). I was employed by the Commission in April 2016. I earned a Bachelor of Science degree; dual majored in Accounting and Finance from Missouri Western State University in May 2007.

As a Utility Regulatory Auditor, I perform rate audits and prepare miscellaneous filings as ordered by the Commission. In addition, I review all exhibits and testimony on assigned issues, develop accounting adjustments and issue positions which are supported by work papers and written testimony. For cases that do not require prepared testimony, I prepare Staff Recommendation Memorandums.

Cases I have been assigned are shown in the following table:

Date Filed	Case/Tracking Number	Company Name - Issues
April 11, 2017	GR-2017-0215 GR-2017-0216	Laclede Gas Company Missouri Gas Energy <ul style="list-style-type: none">• Plant in Service• Depreciation Reserve• Relocation of Mains Contributions• Capitalized Depreciation• Insurance• Rate Case Expense• PSC Assessment• Injuries and Damages• Legal Expense• Property Taxes
November 14, 2016	WR-2017-0139	Stockton Hills Water Company (Rate Case) <ul style="list-style-type: none">• Revenues

Michael Jason Taylor

cont'd Credentials

Date Filed	Case/Tracking Number	Company Names – Issues
July 1, 2016	ER-2016-0285	Kansas City Power & Light Company (Rate Case) <ul style="list-style-type: none">• Accounts Receivable Bank Fees• Customer Advances• Customer Deposits• Debit/Credit Card Acceptance Program• Dues and Donations• Material and Supplies• Prepayments• Injuries and Damages• Maintenance – Iatan 2 O&M Expenses/Tracker• Maintenance – Wolf Creek Mid-Cycle Outage• Maintenance – Wolf Creek Nuclear Refueling Outage• Maintenance – Meter Replacement O&M• Maintenance – Generation, Transmission, Distribution, Nuclear, Normalization adjustments
February 23, 2016	ER-2016-0156	KCP&L Greater Missouri Operations (Rate Case) <ul style="list-style-type: none">• Advertising• Dues & Donations• Leases• Plant Amortizations• PSC Assessment

Credentials and Background of

Seoung Joun Won

I am currently employed as a Regulatory Economist III in the Tariff/Rate Design Unit of the Operational Analysis Department, Commission Staff Division of the Missouri Public Service Commission. I have been employed at the Missouri Public Service Commission since May 2010.

I received my Bachelor of Arts, Master of Arts, and Doctor of Philosophy in Mathematics from Yonsei University in Seoul, South Korea, and earned my Doctor of Philosophy in Economics from the University of Missouri - Columbia. Also, I passed several certificate examinations for Finance Specialist in South Korea such as Enterprise Resource Planning Consultant, Financial Risk Management, Derivatives Consultant, and Financial Planner.

Prior to joining the Commission, I taught both undergraduate and graduate level mathematics at the Korean Air Force Academy and Yonsei University for 13 years. I served as the director of the Education and Technology Research Center in NeoEdu for 5 years.

My duties at the Commission include managing weather data, calculating normal weather, weather normalization and analyzing revenues and developing rate designs.

List of Previous Testimony Filed

Seoung Joun Won

Case/File Number	Company	Issue
ER-2010-0355	Kansas City Power & Light Co.	Weather Variables Revenue
ER-2010-0356	KCP&L Greater Missouri Operations Co.	Weather Variables
GR-2010-0363	Union Electric Co., d/b/a Ameren Missouri	Weather Variables
ER-2011-0028	Union Electric Co., d/b/a Ameren Missouri	Weather Variables Revenue
ER-2011-0004	Empire District Electric Co.	Weather Variables Revenue
HR-2011-0028	Veolia Energy Kansas City, Inc.	Weather Variables
ER-2012-0166	Union Electric Co., d/b/a Ameren Missouri	Weather Variables Revenue
ER-2012-0174	Kansas City Power & Light Co.	Weather Variables Revenue
ER-2012-0175	KCP&L Greater Missouri Operations Co.	Weather Variables
ER-2012-0345	Empire District Electric Co.	Weather Variables Revenue
GR-2013-0171	Laclede Gas Co.	Weather Variables
HR-2014-0066	Veolia Energy Kansas City, Inc.	Weather Variables Weather Normalization

cont'd List of Previous Testimony Filed

Seoung Joun Won

Case/File Number	Company	Issue
GR-2014-0086	Summit Natural Gas of Missouri, Inc.	Weather Variables
GR-2014-0152	Liberty Utilities (Midstates Natural Gas) Corp.	Weather Variables
EC-2014-0223	Noranda Aluminum, Inc., et al, Complaint v. Union Electric Co., d/b/a Ameren Missouri	Weather Variables
ER-2014-0258	Union Electric Co., d/b/a Ameren Missouri	Weather & Normalization Net System Input
ER-2014-0351	Empire District Electric Co.	Weather & Normalization Net System Input
ER-2014-0370	Kansas City Power & Light Co	Weather & Normalization Net System Input
ER-2016-0023	Empire District Electric Co.	Weather & Normalization Net System Input
ER-2016-0156	KCP&L Greater Missouri Operations Co.	Weather & Normalization Net System Input
ER-2016-0179	Union Electric Co., d/b/a Ameren Missouri	Weather & Normalization Net System Input
ER-2016-0285	Kansas City Power & Light Co	Weather & Normalization Net System Input

Work Related Publication

Won, Seoung Joun, X. Henry Wang, and Henry E. Warren. "Climate normals and weather normalization for utility regulation." *Energy Economics* (2016).

Matthew R. Young

Educational and Employment Background and Credentials

I am employed as a Utility Regulatory Auditor for the Missouri Public Service Commission (“Commission”). I earned a Bachelor of Liberal Arts from The University of Missouri – Kansas City in May 2009 and a Master of Science in Accounting, also from The University of Missouri – Kansas City, in December 2011. I have been employed by the Commission since July 2013.

As a Utility Regulatory Auditor, I perform rate audits and prepare miscellaneous filings for consideration by the Commission. In addition, I review exhibits and testimony on assigned issues, develop accounting adjustments and issue positions which are supported by workpapers and written testimony. For cases that do not require prepared testimony, I prepare Staff Recommendation Memorandums.

Cases in which I have participated and the scope of my contributions are listed below:

Case/Tracking Number	Company Name- Type of Case; Issues
WR-2017-0139	Stockton Hills Water Company – Rate Case; Revenue, Expenses, Rate Base
ER-2016-0285	Kansas City Power & Light – Rate Case; Forfeited Discounts, Bad Debt Expense, Customer Growth, Cash Working Capital, Payroll and Payroll Related Costs, Incentive Compensation, Rate Case Expense, Renewable Energy Standards Cost Recovery, Property Taxes
SR-2016-0202	Raccoon Creek Utility Operating Company – Rate Case; Rate Base.
ER-2016-0156	KCP&L Greater Missouri Operations – Rate Case; Payroll, Payroll Benefits, Payroll Taxes, Incentive Compensation, Injuries and Damages, Insurance Expense, Property Tax Expense, Rate Case Expense.
SR-2016-0112	Cannon Home Association – Rate Case; Revenues and Expenses, Rate Base.
WR-2016-0109 SR-2016-0110	Roy-L Utilities – Rate Case; Revenues and Expenses, Rate Base.

Matthew R. Young
cont'd Credentials

Case/Tracking Number	Company Name- Type of Case; Issues
WO-2016-0098	Missouri American Water Company – ISRS; ISRS Revenues.
WR-2015-0246	Raytown Water Company – Rate Case; Revenues and Expenses, Rate Base.
SC-2015-0152	Central Rivers Wastewater Utility – Complaint; Verification of amounts identified in Complaint.
WR-2015-0104	Spokane Highlands Water Company – Rate Case; Revenues and Expenses, Rate Base.
GR-2015-0026	Laclede Gas Company – ISRS; Plant Additions and Retirements, Contributions in Aid of Construction.
GR-2015-0025	Missouri Gas Energy – ISRS; Plant Additions and Retirements, Contributions in Aid of Construction.
WR-2015-0020	Gascony Water Company – Rate Case; Revenues and Expenses, Rate Base.
SM-2015-0014	Raccoon Creek Utility Operating Company – Sale Case; Rate Base, Acquisition Premium.
ER-2014-0370	Kansas City Power & Light – Rate Case; Injuries & Damages, Insurance, Payroll, Payroll Benefits, Payroll Taxes, Property Taxes, Rate Case Expense.
SR-2014-0247	Central Rivers Wastewater Utility – Rate Case; Revenues and Expenses, Rate Base, Affiliated Transactions.
HR-2014-0066	Veolia Energy Kansas City – Rate Case; Payroll, Payroll Benefits, Payroll Taxes, Bonus Compensation, Property Taxes, Insurance Expense, Injuries & Damages Expense, Outside Services, Rate Case Expense.
GO-2014-0179	Missouri Gas Energy – ISRS; Plant Additions, Contributions in Aid of Construction.

Matthew R. Young
cont'd Credentials

Case/Tracking Number	Company Name- Type of Case; Issues
GR-2014-0007	Missouri Gas Energy – Rate Case; Advertising & Promotional Items, Dues and Donations, Lobbying Expense, Miscellaneous Expenses, PSC Assessment, Plant in Service, Depreciation Expense, Depreciation Reserve, Prepayments, Materials & Supplies, Customer Advances, Customer Deposits, Interest on Customer Deposits.
SA-2014-0005	Central Rivers Wastewater Utility – Certificate Case; Revenue and Expenses, Plant in Service, Depreciation Reserve. Other Rate Base Items.

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 2

**Support for Staff
Cost of
Capital Recommendations**

SPIRE MISSOURI, INC., d/b/a SPIRE

**LACLEDE GAS COMPANY and MISSOURI GAS ENERGY
GENERAL RATE CASE**

**CASE NOS. GR-2017-0215
and GR-2017-0216**

*Jefferson City, Missouri
September 2017*

LAC and MGE
GR-2017-0215 GR-2017-0216

List of Schedules

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LAC and MGE
GR-2017-0215 GR-2017-0216

Federal Reserve Discount Rates Changes and Federal Reserve Funds Rates Changes

Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate	Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate
01/01/83	8.50%		08/30/99	4.50%	5.00%
12/31/83	8.50%		08/24/99	4.75%	5.25%
04/08/84	9.00%		11/18/99	5.00%	5.50%
11/21/84	8.50%		02/02/00	5.25%	5.75%
12/24/84	8.00%		03/21/00	5.50%	6.00%
05/20/85	7.50%		05/19/00	6.00%	6.50%
03/07/85	7.00%		01/03/01	5.75%	6.00%
04/21/85	6.50%		01/04/01	5.50%	6.00%
07/11/85	6.00%		01/31/01	5.00%	5.50%
08/21/85	5.50%		03/20/01	4.50%	5.00%
09/04/87	6.00%		04/18/01	4.00%	4.50%
08/09/88	6.50%		05/15/01	3.50%	4.00%
02/24/89	7.00%		06/27/01	3.25%	3.75%
07/13/90		6.00%	08/21/01	3.00%	3.50%
10/29/90		7.75%	09/17/01	2.50%	3.00%
11/13/90		7.50%	10/02/01	2.00%	2.50%
12/07/90		7.25%	11/06/01	1.50%	2.00%
12/18/90		7.00%	12/11/01	1.25%	1.75%
12/18/90	6.50%		11/08/02	0.75%	1.25%
01/09/91		6.75%	01/09/03	2.25%**	1.25%
02/01/91	6.00%	6.25%	06/25/03	2.00%	1.00%
03/08/91		6.00%	06/30/04	2.25%	1.25%
04/30/91	5.50%	5.75%	08/10/04	2.50%	1.50%
08/08/91		5.50%	09/21/04	2.75%	1.75%
09/13/91	5.00%	5.25%	11/10/04	3.00%	2.00%
10/31/91		5.00%	12/14/04	3.25%	2.25%
11/06/91	4.50%	4.75%	02/02/05	3.50%	2.50%
12/08/91		4.50%	03/22/05	3.75%	2.75%
12/20/91	3.50%	4.00%	05/03/05	4.00%	3.00%
04/09/92		3.75%	06/30/05	4.25%	3.25%
07/02/92	3.00%	3.25%	08/06/05	4.50%	3.50%
09/04/92		3.00%	09/20/05	4.75%	3.75%
01/01/93			11/01/05	5.00%	4.00%
12/31/93	No Changes	No Changes	12/13/05	5.25%	4.25%
02/04/94		3.25%	01/31/06	5.50%	4.50%
03/22/94		3.50%	03/28/06	5.75%	4.75%
04/18/94		3.75%	05/10/06	6.00%	5.00%
05/17/94	3.50%	4.25%	08/29/06	6.25%	5.25%
08/10/94	4.00%	4.75%	08/17/07	5.75%	5.25%
11/15/94	4.75%	5.50%	09/18/07	5.25%	4.75%
02/01/95	5.25%	6.00%	10/31/07	5.00%	4.50%
07/06/95		5.75%	12/11/07	4.75%	4.25%
12/19/95		5.50%	01/22/08	4.00%	3.50%
01/31/96	5.00%	5.25%	01/30/08	3.50%	3.00%
03/23/97		5.50%	03/18/08	3.25%	
12/12/97	5.00%		03/18/08	2.50%	2.25%
01/09/98	5.00%		04/30/08	2.25%	2.00%
03/06/98	5.00%		10/08/08	1.75%	1.50%
08/29/98		5.25%	10/29/08	1.25%	1.00%
10/15/98	4.75%	5.00%	12/16/08	0.50%	0% - .25%
11/17/98	4.50%	4.75%	02/19/10	0.75%	
			12/17/15	1.00%	0.25% - 0.50%
			12/15/16	1.25%	0.50% - 0.75%
			03/16/17	1.50%	0.75% - 1.00%

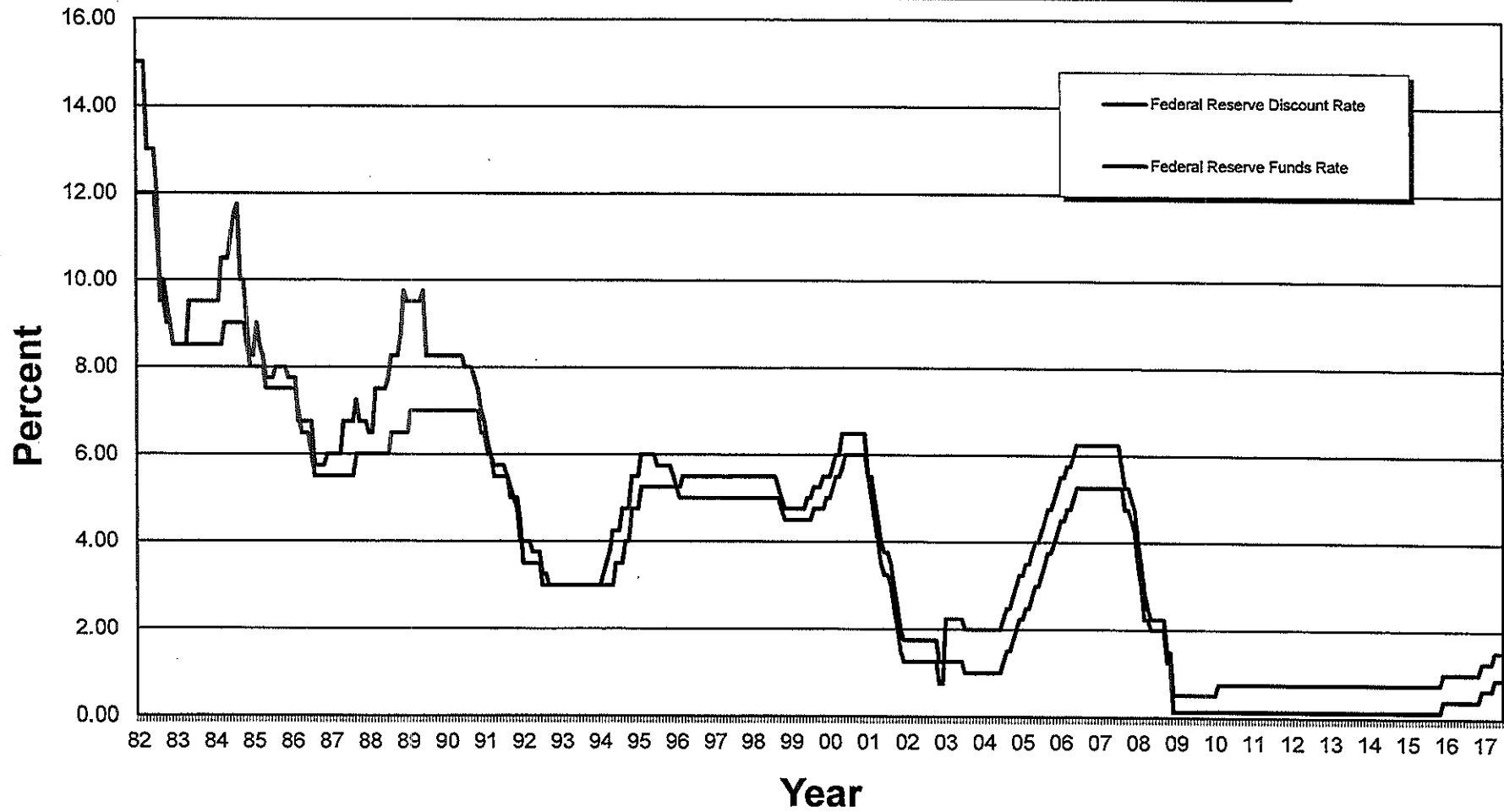
* Staff began tracking the Federal Funds Rate.

**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: <http://www.federalreserve.gov>

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

Federal Reserve Discount Rates and Federal Funds Rates
1982 - 2017



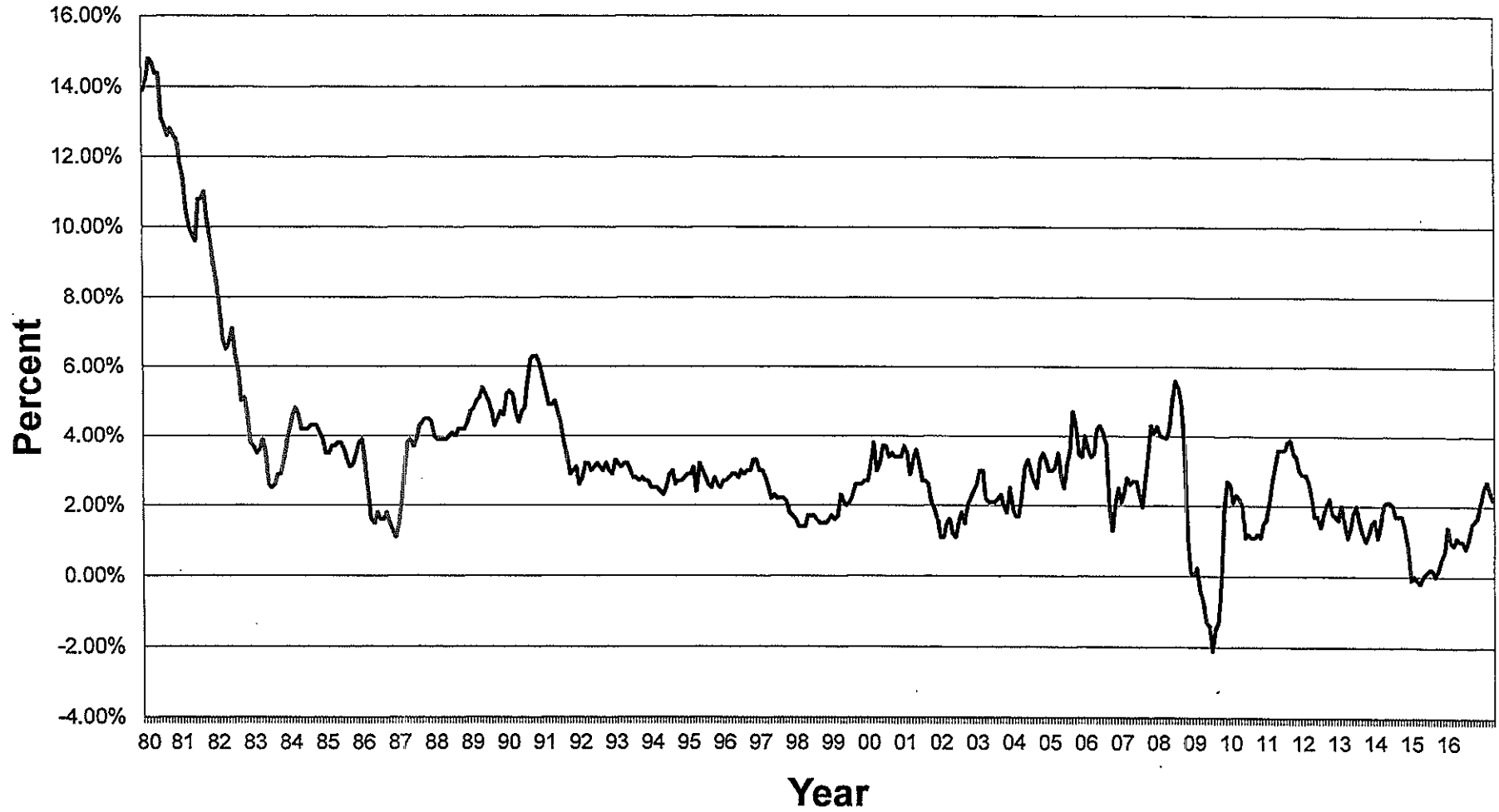
LAC and MGE
GR-2017-0215 GR-2017-0216

Rate of Inflation

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	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	Jan 1996	2.70	Jan 2000	2.70	Jan 2004	1.90	Jan 2008	4.30	Jan 2012	2.90	Jan 2016	1.40		
Feb	14.20	Feb	4.60	Feb	3.90	Feb	Feb	2.70	Feb	3.20	Feb	1.70	Feb	4.00	Feb	2.90	Feb	1.00		
Mar	14.80	Mar	4.80	Mar	3.90	Mar	Mar	2.80	Mar	3.70	Mar	1.70	Mar	4.00	Mar	2.70	Mar	0.90		
Apr	14.70	Apr	4.60	Apr	3.90	Apr	Apr	2.90	Apr	3.00	Apr	2.30	Apr	3.90	Apr	2.30	Apr	1.10		
May	14.40	May	4.20	May	3.90	May	May	2.90	May	3.20	May	3.10	May	4.20	May	1.70	May	1.00		
Jun	14.40	Jun	4.20	Jun	4.00	Jun	Jun	2.80	Jun	3.70	Jun	3.30	Jun	5.00	Jun	1.70	Jun	1.00		
Jul	13.10	Jul	4.20	Jul	4.10	Jul	Jul	3.00	Jul	3.70	Jul	3.00	Jul	5.60	Jul	1.40	Jul	0.80		
Aug	12.90	Aug	4.30	Aug	4.00	Aug	Aug	2.90	Aug	3.40	Aug	2.70	Aug	5.40	Aug	1.70	Aug	1.10		
Sep	12.60	Sep	4.30	Sep	4.20	Sep	Sep	3.00	Sep	3.50	Sep	2.50	Sep	4.90	Sep	2.00	Sep	1.50		
Oct	12.80	Oct	4.30	Oct	4.20	Oct	Oct	3.00	Oct	3.40	Oct	3.30	Oct	3.70	Oct	2.20	Oct	1.60		
Nov	12.60	Nov	4.10	Nov	4.20	Nov	Nov	3.30	Nov	3.40	Nov	3.50	Nov	1.10	Nov	1.80	Nov	1.70		
Dec	12.50	Dec	3.90	Dec	4.40	Dec	Dec	3.30	Dec	3.40	Dec	3.30	Dec	0.10	Dec	1.70	Dec	2.10		
Jan 1981	11.80	Jan 1985	3.50	Jan 1989	4.70	Jan 1993	Jan 1997	3.00	Jan 2001	3.70	Jan 2005	3.00	Jan 2009	0.00	Jan 2013	1.60	Jan 2017	2.50		
Feb	11.40	Feb	3.50	Feb	4.80	Feb	Feb	3.00	Feb	3.50	Feb	3.00	Feb	0.20	Feb	2.00	Feb	2.70		
Mar	10.50	Mar	3.70	Mar	5.00	Mar	Mar	2.80	Mar	2.80	Mar	3.10	Mar	-0.40	Mar	1.50	Mar	2.40		
Apr	10.00	Apr	3.70	Apr	5.10	Apr	Apr	2.50	Apr	3.30	Apr	3.50	Apr	-0.70	Apr	1.10	Apr	2.20		
May	9.80	May	3.80	May	5.40	May	May	2.20	May	3.60	May	2.80	May	-1.28	May	1.40				
Jun	9.60	Jun	3.80	Jun	5.20	Jun	Jun	2.30	Jun	3.20	Jun	2.50	Jun	-1.40	Jun	1.80				
Jul	10.80	Jul	3.60	Jul	5.00	Jul	Jul	2.20	Jul	2.70	Jul	3.20	Jul	-2.10	Jul	2.00				
Aug	10.80	Aug	3.30	Aug	4.70	Aug	Aug	2.20	Aug	2.70	Aug	3.60	Aug	-1.50	Aug	1.50				
Sep	11.00	Sep	3.10	Sep	4.30	Sep	Sep	2.20	Sep	2.80	Sep	4.70	Sep	-1.30	Sep	1.20				
Oct	10.10	Oct	3.20	Oct	4.50	Oct	Oct	2.10	Oct	2.10	Oct	4.30	Oct	-0.20	Oct	1.00				
Nov	9.60	Nov	3.50	Nov	4.70	Nov	Nov	1.80	Nov	1.90	Nov	3.50	Nov	1.80	Nov	1.20				
Dec	8.90	Dec	3.80	Dec	4.60	Dec	Dec	1.70	Dec	1.60	Dec	3.40	Dec	2.70	Dec	1.50				
Jan 1982	8.40	Jan 1986	3.90	Jan 1990	5.20	Jan 1994	Jan 1998	1.60	Jan 2002	1.10	Jan 2006	4.00	Jan 2010	2.60	Jan 2014	1.60				
Feb	7.60	Feb	3.10	Feb	5.30	Feb	Feb	1.40	Feb	1.10	Feb	3.60	Feb	2.10	Feb	1.10				
Mar	6.80	Mar	2.30	Mar	5.20	Mar	Mar	1.40	Mar	1.50	Mar	3.40	Mar	2.30	Mar	1.50				
Apr	6.50	Apr	1.60	Apr	4.70	Apr	Apr	1.40	Apr	1.60	Apr	3.50	Apr	2.20	Apr	2.00				
May	6.70	May	1.50	May	4.40	May	May	1.70	May	1.20	May	4.20	May	2.00	May	2.10				
Jun	7.10	Jun	1.80	Jun	4.70	Jun	Jun	1.70	Jun	1.10	June	4.30	Jun	1.10	Jun	2.10				
Jul	8.40	Jul	1.60	Jul	4.80	Jul	Jul	1.70	Jul	1.50	July	4.10	Jul	1.20	Jul	2.00				
Aug	5.90	Aug	1.60	Aug	5.60	Aug	Aug	1.60	Aug	1.80	Aug	3.80	Aug	1.10	Aug	1.70				
Sep	5.00	Sep	1.80	Sep	6.20	Sep	Sep	1.50	Sep	1.50	Sep	2.10	Sep	1.10	Sep	1.70				
Oct	5.10	Oct	1.50	Oct	6.30	Oct	Oct	1.50	Oct	2.00	Oct	2.10	Oct	1.20	Oct	1.70				
Nov	4.60	Nov	1.30	Nov	6.30	Nov	Nov	1.50	Nov	2.20	Nov	2.00	Nov	1.10	Nov	1.30				
Dec	3.80	Dec	1.10	Dec	6.10	Dec	Dec	1.60	Dec	2.40	Dec	2.50	Dec	1.50	Dec	0.80				
Jan 1983	3.70	Jan 1987	1.50	Jan 1991	5.70	Jan 1995	Jan 1999	1.70	Jan 2003	2.60	Jan 2007	2.10	Jan 2011	1.60	Jan 2015	-0.10				
Feb	3.50	Feb	2.10	Feb	5.30	Feb	Feb	1.80	Feb	3.00	Feb	2.40	Feb	2.10	Feb	0.00				
Mar	3.60	Mar	3.00	Mar	4.90	Mar	Mar	1.70	Mar	3.00	Mar	2.80	Mar	2.70	Mar	-0.10				
Apr	3.90	Apr	3.80	Apr	4.90	Apr	Apr	2.30	Apr	2.20	Apr	2.60	Apr	3.20	Apr	-0.20				
May	3.50	May	3.90	May	5.00	May	May	2.10	May	2.10	May	2.70	May	3.60	May	0.00				
Jun	2.60	Jun	3.70	Jun	4.70	Jun	Jun	2.00	Jun	2.10	Jun	2.70	Jun	3.60	Jun	0.10				
Jul	2.50	Jul	3.90	Jul	4.40	Jul	Jul	2.10	Jul	2.10	Jul	2.40	Jul	3.60	Jul	0.20				
Aug	2.80	Aug	4.30	Aug	3.80	Aug	Aug	2.30	Aug	2.20	Aug	2.00	Aug	3.80	Aug	0.20				
Sep	2.90	Sep	4.40	Sep	3.40	Sep	Sep	2.60	Sep	2.30	Sep	2.80	Sep	3.90	Sep	0.00				
Oct	2.90	Oct	4.50	Oct	2.90	Oct	Oct	2.60	Oct	2.00	Oct	3.50	Oct	3.50	Oct	0.20				
Nov	3.30	Nov	4.50	Nov	3.00	Nov	Nov	2.60	Nov	1.80	Nov	4.30	Nov	3.40	Nov	0.50				
Dec	3.80	Dec	4.40	Dec	3.10	Dec	Dec	2.70	Dec	1.80	Dec	4.10	Dec	3.00	Dec	0.70				

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/cpl_nc.htm

Rate of Inflation
1980 - 2017



LAC and MGE
GR-2017-0215 GR-2017-0216

Average Yields on AA, A and BBB 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 (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	12.12	Jan 1984	13.40	Jan 1988	10.75	Jan 1992	7.20	Jan 1996	8.22	Jan 2000	8.22	Jan 2004	8.23	Jan 2008	6.08	Jan 2012	4.48	Jan 2016	4.62
Feb	13.48	Feb	13.50	Feb	10.11	Feb	7.37	Feb	8.10	Feb	8.17	Feb	6.17	Feb	6.28	Feb	4.47	Feb	4.44
Mar	14.33	Mar	14.03	Mar	10.11	Mar	7.72	Mar	8.14	Mar	8.14	Mar	6.01	Mar	6.29	Mar	4.59	Mar	4.4
Apr	13.50	Apr	14.30	Apr	10.53	Apr	7.88	Apr	8.14	Apr	8.38	Apr	6.38	Apr	6.38	Apr	4.54	Apr	4.16
May	12.17	May	14.95	May	10.75	May	7.99	May	8.55	May	6.68	May	6.68	May	6.38	May	4.36	May	4.08
Jun	11.87	Jun	15.16	Jun	10.71	Jun	8.07	Jun	8.22	Jun	6.53	Jun	6.53	Jun	6.50	Jun	4.26	Jun	3.93
Jul	12.12	Jul	14.82	Jul	10.96	Jul	8.02	Jul	8.17	Jul	6.24	Jul	6.24	Jul	6.50	Jul	4.12	Jul	3.70
Aug	12.82	Aug	14.29	Aug	11.09	Aug	7.84	Aug	8.05	Aug	6.18	Aug	6.18	Aug	6.48	Aug	4.18	Aug	3.73
Sep	13.29	Sep	14.04	Sep	10.58	Sep	8.01	Sep	8.16	Sep	6.01	Sep	6.01	Sep	6.50	Sep	4.17	Sep	3.80
Oct	13.53	Oct	13.68	Oct	9.82	Oct	7.76	Oct	8.08	Oct	5.85	Oct	5.85	Oct	7.70	Oct	4.04	Oct	3.60
Nov	14.07	Nov	13.15	Nov	9.89	Nov	7.48	Nov	8.03	Nov	5.97	Nov	5.97	Nov	7.80	Nov	3.95	Nov	4.21
Dec	14.48	Dec	12.96	Dec	10.02	Dec	7.58	Dec	7.79	Dec	5.93	Dec	5.93	Dec	6.87	Dec	4.10	Dec	4.39
Jan 1981	14.22	Jan 1985	12.88	Jan 1989	10.02	Jan 1993	7.79	Jan 1997	7.79	Jan 2001	7.76	Jan 2005	5.80	Jan 2009	6.77	Jan 2013	4.24	Jan 2017	4.24
Feb	14.84	Feb	13.00	Feb	10.02	Feb	7.68	Feb	7.68	Feb	7.89	Feb	5.84	Feb	6.72	Feb	4.29	Feb	4.25
Mar	14.66	Mar	13.68	Mar	10.16	Mar	7.92	Mar	7.59	Mar	5.86	Mar	5.86	Mar	6.85	Mar	4.29	Mar	4.30
Apr	15.32	Apr	13.42	Apr	10.14	Apr	8.08	Apr	7.81	Apr	5.72	Apr	5.72	Apr	6.90	Apr	4.08	Apr	4.19
May	15.84	May	12.89	May	9.92	May	7.94	May	7.88	May	5.69	May	5.69	May	6.83	May	4.24	May	4.19
Jun	15.27	Jun	11.91	Jun	9.49	Jun	7.77	Jun	7.75	Jun	5.39	Jun	5.39	Jun	6.54	Jun	4.63	Jun	4.01
Jul	15.87	Jul	11.88	Jul	9.34	Jul	7.52	Jul	7.71	Jul	5.50	Jul	5.50	Jul	6.15	Jul	4.78		
Aug	16.33	Aug	11.93	Aug	9.37	Aug	7.57	Aug	7.57	Aug	5.51	Aug	5.51	Aug	5.80	Aug	4.85		
Sep	16.89	Sep	11.95	Sep	9.43	Sep	7.50	Sep	7.73	Sep	5.54	Sep	5.54	Sep	5.60	Sep	4.90		
Oct	16.76	Oct	11.64	Oct	9.37	Oct	7.37	Oct	7.64	Oct	5.79	Oct	5.79	Oct	5.64	Oct	4.78		
Nov	15.50	Nov	11.33	Nov	9.33	Nov	7.24	Nov	7.61	Nov	5.88	Nov	5.88	Nov	5.71	Nov	4.86		
Dec	15.77	Dec	10.82	Dec	9.31	Dec	7.16	Dec	7.88	Dec	5.83	Dec	5.83	Dec	5.88	Dec	4.88		
Jan 1982	16.73	Jan 1986	10.66	Jan 1990	9.44	Jan 1994	7.03	Jan 1998	7.69	Jan 2002	5.77	Jan 2006	5.77	Jan 2010	5.83	Jan 2014	4.72		
Feb	16.72	Feb	10.16	Feb	9.66	Feb	7.09	Feb	7.62	Feb	5.83	Feb	5.83	Feb	5.94	Feb	4.64		
Mar	16.07	Mar	9.33	Mar	9.75	Mar	7.13	Mar	7.83	Mar	5.98	Mar	5.98	Mar	5.90	Mar	4.64		
Apr	15.82	Apr	9.02	Apr	9.87	Apr	7.12	Apr	7.74	Apr	6.28	Apr	6.28	Apr	5.87	Apr	4.52		
May	15.60	May	9.52	May	9.89	May	7.11	May	7.76	May	6.39	May	6.39	May	5.59	May	4.37		
Jun	16.18	Jun	9.51	Jun	9.69	Jun	6.99	Jun	7.87	Jun	6.39	Jun	6.39	Jun	5.82	Jun	4.42		
Jul	16.04	Jul	9.19	Jul	9.66	Jul	6.99	Jul	7.54	Jul	6.37	Jul	6.37	Jul	5.41	Jul	4.35		
Aug	15.22	Aug	9.15	Aug	9.84	Aug	6.96	Aug	7.34	Aug	6.20	Aug	6.20	Aug	5.10	Aug	4.28		
Sep	14.58	Sep	9.42	Sep	10.01	Sep	6.88	Sep	7.23	Sep	6.03	Sep	6.03	Sep	5.10	Sep	4.40		
Oct	13.98	Oct	9.39	Oct	9.94	Oct	6.88	Oct	7.43	Oct	6.01	Oct	6.01	Oct	5.20	Oct	4.24		
Nov	13.58	Nov	9.15	Nov	9.78	Nov	6.96	Nov	7.31	Nov	5.82	Nov	5.82	Nov	5.45	Nov	4.29		
Dec	13.55	Dec	8.98	Dec	9.57	Dec	6.84	Dec	7.20	Dec	5.83	Dec	5.83	Dec	5.84	Dec	4.18		
Jan 1983	13.46	Jan 1987	8.77	Jan 1991	9.58	Jan 1995	6.87	Jan 1999	6.87	Jan 2003	7.13	Jan 2007	5.96	Jan 2011	5.84	Jan 2015	3.83		
Feb	13.60	Feb	8.81	Feb	9.31	Feb	7.00	Feb	6.92	Feb	5.91	Feb	5.91	Feb	5.73	Feb	3.91		
Mar	13.28	Mar	8.75	Mar	9.39	Mar	7.18	Mar	6.80	Mar	5.87	Mar	5.87	Mar	5.82	Mar	3.97		
Apr	13.03	Apr	9.30	Apr	9.30	Apr	7.16	Apr	6.88	Apr	6.01	Apr	6.01	Apr	5.82	Apr	3.96		
May	13.00	May	9.82	May	9.29	May	7.42	May	6.35	May	6.03	May	6.03	May	5.38	May	4.38		
Jun	13.17	Jun	9.87	Jun	9.44	Jun	7.70	Jun	6.21	Jun	6.34	Jun	6.34	Jun	5.32	Jun	4.60		
Jul	13.28	Jul	10.01	Jul	9.40	Jul	7.66	Jul	6.54	Jul	6.28	Jul	6.28	Jul	5.34	Jul	4.63		
Aug	13.50	Aug	10.33	Aug	9.16	Aug	7.86	Aug	6.78	Aug	6.28	Aug	6.28	Aug	4.78	Aug	4.54		
Sep	13.35	Sep	11.00	Sep	9.03	Sep	7.87	Sep	6.58	Sep	6.24	Sep	6.24	Sep	4.81	Sep	4.69		
Oct	13.19	Oct	11.32	Oct	9.99	Oct	8.02	Oct	6.50	Oct	6.17	Oct	6.17	Oct	4.66	Oct	4.63		
Nov	13.33	Nov	10.82	Nov	9.93	Nov	7.88	Nov	6.44	Nov	6.04	Nov	6.04	Nov	4.37	Nov	4.73		
Dec	13.48	Dec	10.99	Dec	8.76	Dec	8.04	Dec	6.36	Dec	6.23	Dec	6.23	Dec	4.47	Dec	4.69		

Source:
Morgent Bond Record

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

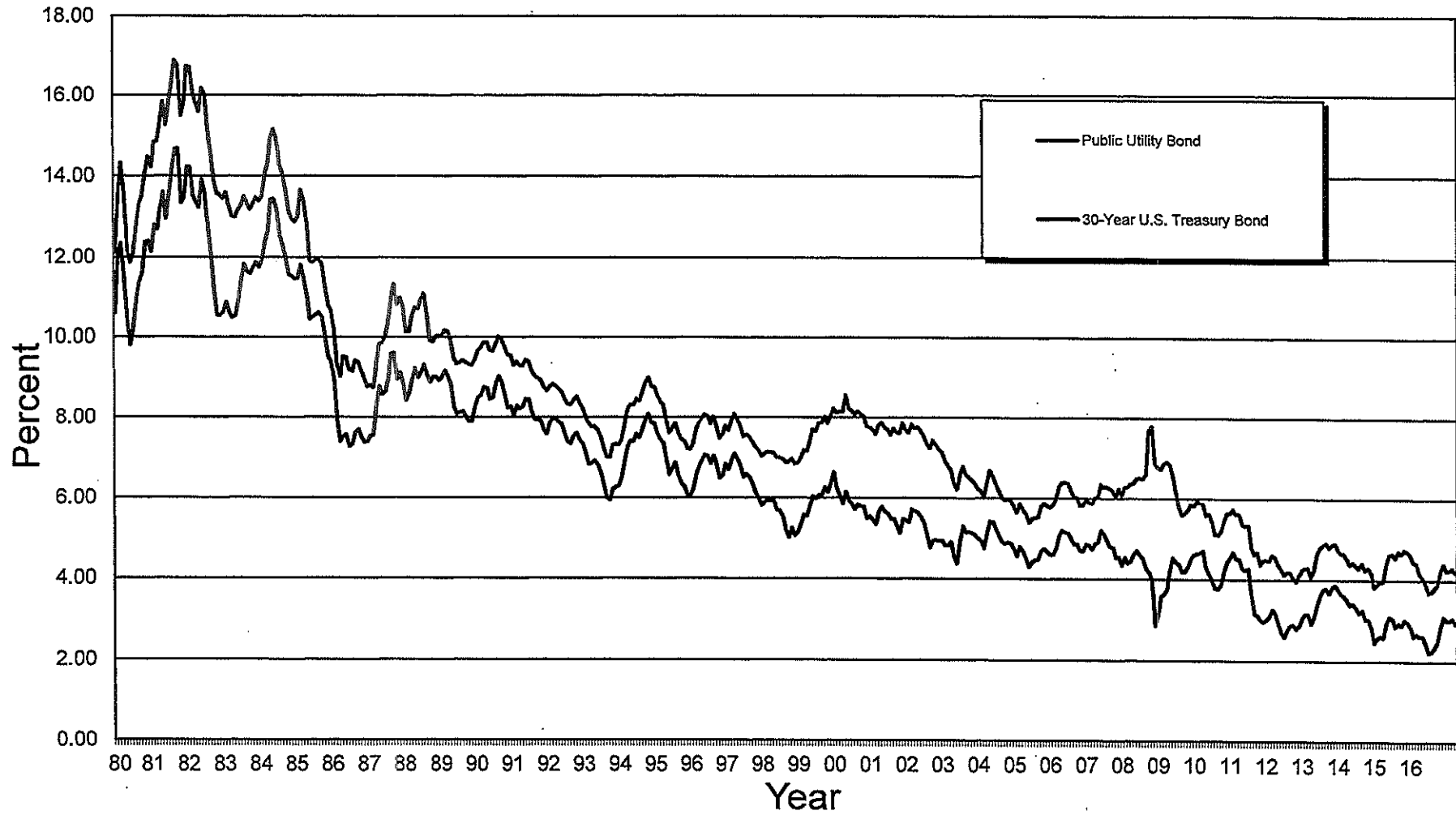
Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	10.60	Jan 1984	11.75	Jan 1988	8.83	Jan 1992	7.58	Jan 1996	6.05	Jan 2000	6.63	Jan 2004	4.89	Jan 2008	4.33	Jan 2012	3.03	Jan 2016	2.66
Feb	12.13	Feb	11.95	Feb	8.43	Feb	7.85	Feb	6.24	Feb	6.23	Feb	4.93	Feb	4.52	Feb	3.11	Feb	2.62
Mar	12.34	Mar	12.38	Mar	8.63	Mar	7.97	Mar	6.60	Mar	6.05	Mar	4.74	Mar	4.39	Mar	3.28	Mar	2.68
Apr	11.40	Apr	12.65	Apr	8.95	Apr	7.96	Apr	6.79	Apr	5.85	Apr	5.14	Apr	4.44	Apr	3.18	Apr	2.62
May	10.38	May	13.43	May	9.23	May	7.89	May	6.83	May	6.15	May	5.42	May	4.69	May	2.83	May	2.63
Jun	8.61	Jun	13.44	Jun	9.00	Jun	7.84	Jun	7.06	Jun	5.93	Jun	5.41	Jun	4.69	Jun	2.70	Jun	2.45
Jul	10.24	Jul	13.21	Jul	9.14	Jul	7.80	Jul	7.03	Jul	5.85	Jul	5.22	Jul	4.57	Jul	2.59	Jul	2.23
Aug	11.00	Aug	12.64	Aug	9.32	Aug	7.39	Aug	6.64	Aug	5.72	Aug	5.06	Aug	4.50	Aug	2.77	Aug	2.29
Sep	11.34	Sep	12.29	Sep	9.06	Sep	7.34	Sep	7.03	Sep	5.83	Sep	4.90	Sep	4.27	Sep	2.68	Sep	2.35
Oct	11.59	Oct	11.99	Oct	8.89	Oct	7.53	Oct	6.61	Oct	5.80	Oct	4.86	Oct	4.17	Oct	2.90	Oct	2.50
Nov	12.37	Nov	11.50	Nov	9.02	Nov	7.61	Nov	6.48	Nov	5.78	Nov	4.89	Nov	4.00	Nov	2.80	Nov	2.88
Dec	12.40	Dec	11.52	Dec	9.01	Dec	7.44	Dec	6.55	Dec	5.49	Dec	4.88	Dec	2.87	Dec	2.88	Dec	3.11
Jan 1981	12.14	Jan 1985	11.45	Jan 1989	8.03	Jan 1993	7.34	Jan 1997	6.83	Jan 2001	5.54	Jan 2005	4.73	Jan 2009	3.13	Jan 2013	3.08	Jan 2017	3.02
Feb	12.60	Feb	11.47	Feb	9.01	Feb	7.09	Feb	6.89	Feb	5.45	Feb	4.55	Feb	3.59	Feb	3.17	Feb	3.03
Mar	12.69	Mar	11.81	Mar	8.17	Mar	6.82	Mar	6.93	Mar	5.34	Mar	4.78	Mar	3.64	Mar	3.16	Mar	3.08
Apr	13.20	Apr	11.47	Apr	9.03	Apr	6.85	Apr	7.09	Apr	5.65	Apr	4.65	Apr	3.76	Apr	2.93	Apr	2.94
May	13.60	May	11.05	May	8.83	May	6.92	May	6.94	May	5.78	May	4.49	May	4.23	May	3.11	May	2.80
Jun	12.98	Jun	10.44	Jun	8.27	Jun	6.81	Jun	6.77	Jun	5.67	Jun	4.29	Jun	4.52	Jun	3.40	June	2.80
Jul	13.59	Jul	10.50	Jul	8.08	Jul	6.83	Jul	6.51	Jul	5.61	Jul	4.41	Jul	4.41	Jul	3.61		
Aug	14.17	Aug	10.58	Aug	8.12	Aug	6.32	Aug	6.58	Aug	5.48	Aug	4.48	Aug	4.37	Aug	3.78		
Sep	14.67	Sep	10.61	Sep	8.15	Sep	6.00	Sep	6.50	Sep	5.48	Sep	4.47	Sep	4.19	Sep	3.79		
Oct	14.68	Oct	10.50	Oct	8.00	Oct	5.94	Oct	6.33	Oct	5.32	Oct	4.67	Oct	4.19	Oct	3.68		
Nov	13.35	Nov	10.06	Nov	7.80	Nov	6.21	Nov	6.11	Nov	5.12	Nov	4.73	Nov	4.31	Nov	3.80		
Dec	13.45	Dec	9.54	Dec	7.90	Dec	6.25	Dec	5.89	Dec	5.40	Dec	4.66	Dec	4.49	Dec	3.89		
Jan 1982	14.22	Jan 1986	0.40	Jan 1990	8.28	Jan 1994	6.29	Jan 1998	5.81	Jan 2002	5.44	Jan 2006	4.50	Jan 2010	4.60	Jan 2014	3.77		
Feb	14.22	Feb	6.93	Feb	8.50	Feb	6.49	Feb	5.89	Feb	5.39	Feb	4.58	Feb	4.62	Feb	3.66		
Mar	13.53	Mar	7.96	Mar	8.58	Mar	6.91	Mar	5.85	Mar	5.71	Mar	4.73	Mar	4.64	Mar	3.62		
Apr	13.37	Apr	7.39	Apr	8.78	Apr	7.27	Apr	5.82	Apr	5.67	Apr	5.08	Apr	4.69	Apr	3.52		
May	13.24	May	7.52	May	8.73	May	7.41	May	5.83	May	5.64	May	5.20	May	4.29	May	3.39		
Jun	13.62	Jun	7.57	Jun	8.46	Jun	7.40	Jun	5.70	Jun	5.52	Jun	5.16	Jun	4.13	Jun	3.42		
Jul	13.55	Jul	7.27	Jul	8.50	Jul	7.58	Jul	5.68	Jul	5.38	July	5.13	July	3.99	Jul	3.33		
Aug	12.77	Aug	7.33	Aug	8.86	Aug	7.49	Aug	5.54	Aug	5.08	Aug	5.00	Aug	3.85	Aug	3.20		
Sep	12.07	Sep	7.62	Sep	0.03	Sep	7.71	Sep	5.20	Sep	4.78	Sep	4.85	Sep	3.77	Sep	3.26		
Oct	11.17	Oct	7.70	Oct	8.88	Oct	7.94	Oct	5.01	Oct	4.93	Oct	4.85	Oct	3.67	Oct	3.04		
Nov	10.54	Nov	7.52	Nov	8.54	Nov	8.08	Nov	5.25	Nov	4.95	Nov	4.69	Nov	4.19	Nov	3.04		
Dec	10.54	Dec	7.37	Dec	8.24	Dec	7.87	Dec	5.06	Dec	4.92	Dec	4.68	Dec	4.42	Dec	2.83		
Jan 1983	10.83	Jan 1987	7.39	Jan 1991	8.27	Jan 1995	7.85	Jan 1999	5.18	Jan 2003	4.04	Jan 2007	4.85	Jan 2011	4.52	Jan 2015	2.46		
Feb	10.88	Feb	7.64	Feb	8.03	Feb	7.81	Feb	5.37	Feb	4.81	Feb	4.82	Feb	4.65	Feb	2.57		
Mar	10.63	Mar	7.55	Mar	8.29	Mar	7.45	Mar	5.58	Mar	4.80	Mar	4.72	Mar	4.51	Mar	2.63		
Apr	10.48	Apr	8.25	Apr	8.21	Apr	7.36	Apr	5.55	Apr	4.90	Apr	4.86	Apr	4.50	Apr	2.59		
May	10.33	May	8.78	May	8.27	May	6.05	May	5.81	May	4.53	May	4.90	May	4.29	May	2.96		
Jun	10.93	Jun	8.57	Jun	8.47	Jun	6.57	Jun	6.04	Jun	4.37	Jun	5.20	Jun	4.23	Jun	3.11		
Jul	11.40	Jul	8.64	Jul	8.45	Jul	6.72	Jul	5.98	Jul	4.93	July	5.11	Jul	4.27	Jul	3.07		
Aug	11.82	Aug	8.97	Aug	8.14	Aug	6.88	Aug	6.07	Aug	5.30	Aug	4.93	Aug	3.65	Aug	2.85		
Sep	11.83	Sep	9.59	Sep	7.95	Sep	6.55	Sep	6.07	Sep	5.14	Sep	4.79	Sep	3.18	Sep	2.95		
Oct	11.58	Oct	8.61	Oct	7.03	Oct	6.37	Oct	6.26	Oct	5.16	Oct	4.77	Oct	3.13	Oct	2.89		
Nov	11.75	Nov	8.95	Nov	7.02	Nov	6.26	Nov	6.15	Nov	5.13	Nov	4.52	Nov	3.02	Nov	3.03		
Dec	11.88	Dec	8.12	Dec	7.70	Dec	6.06	Dec	6.35	Dec	5.08	Dec	4.53	Dec	2.88	Dec	2.97		

Sources:

<http://finance.yahoo.com/q/hp?e=TYX>
<http://research.stlouisfed.org/fred2/data/GS30.txt>

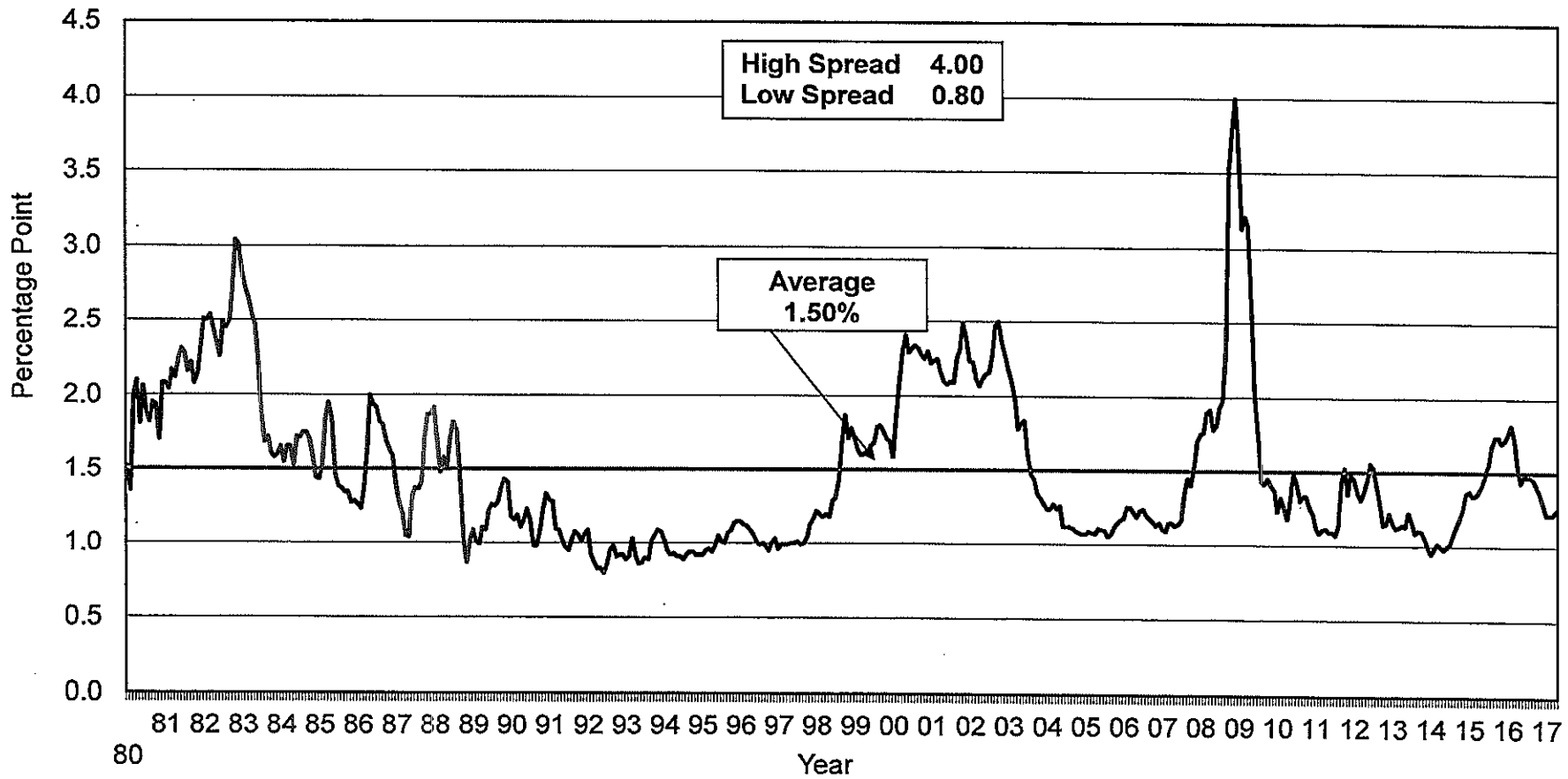
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GR-2017-0215 GR-2017-0216

Average Yields on Public Utility Bonds and
Thirty-Year U.S. Treasury Bonds (1980 - 2016)

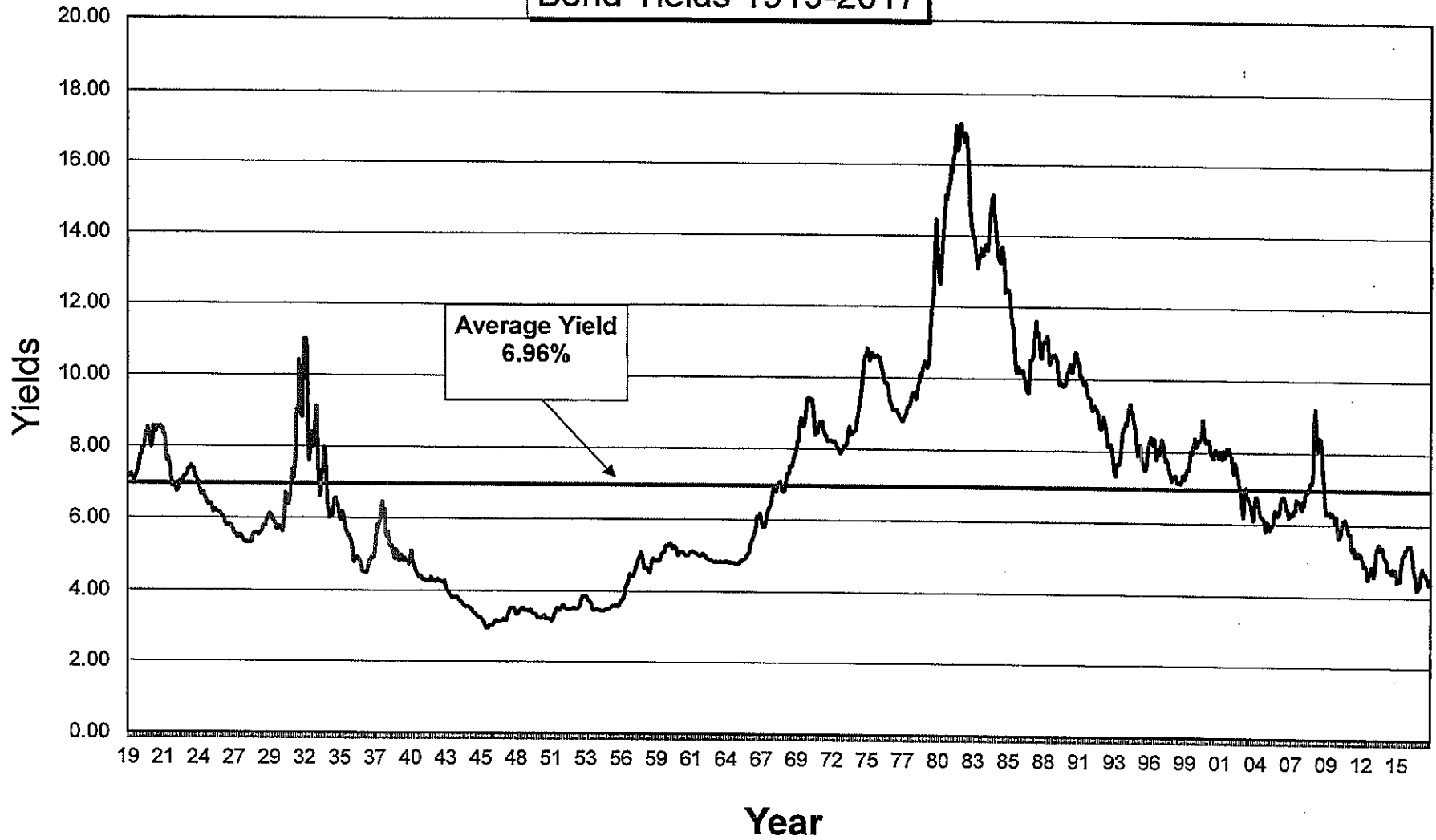


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Monthly Spreads Between Yields on Public Utility Bonds and
Thirty-Year U.S. Treasury Bonds (1980 - 2016)



Moody's Baa Corporate
Bond Yields 1919-2017



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**Historical Capital Structures for Spire Inc. and
Laclede Gas Company (Including Short-Term Debt)**

SPIRE INC. TOTAL CAPITALIZATION

(in thousands)

Capital Components	2012	2013	2014	2015	2016	June 30, 2017 Update Period
Common Equity	\$601,611	\$1,046,282	\$1,508,400	\$1,573,600	\$1,768,200	\$2,028,200
Long-Term Debt ¹	\$364,416	\$912,712	\$1,851,100	\$1,851,500	\$2,083,700	\$1,925,300
Short-Term Debt ²	\$40,100	\$74,000	\$287,100	\$338,000	\$398,700	\$450,700
Total	\$1,006,127	\$2,032,994	\$3,646,600	\$3,763,100	\$4,250,600	\$4,404,200

Capital Structure	2012	2013	2014	2015	2016	June 30, 2017 Update Period	Average for 2012 - 2016
Common Equity	59.79%	51.47%	41.36%	41.82%	41.60%	46.05%	47.21%
Long-Term Debt ¹	36.22%	44.89%	50.76%	49.20%	49.02%	43.72%	46.02%
Short-Term Debt ²	3.99%	3.64%	7.87%	8.98%	9.38%	10.23%	6.77%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

LACLEDE GAS COMPANY TOTAL CAPITALIZATION

(in thousands)

Capital Components	2012	2013	2014	2015	2016	June 30, 2017 Update Period
Common Equity	\$491,328	\$973,930	\$1,007,800	\$1,037,800	\$1,068,500	\$1,167,500
Long-Term Debt ¹	\$364,416	\$887,712	\$807,900	\$808,100	\$808,300	\$804,500
Short-Term Debt ²	\$40,100	\$74,000	\$238,600	\$233,000	\$243,700	\$260,200
Total	\$895,844	\$1,935,642	\$2,054,300	\$2,078,900	\$2,120,500	\$2,232,200

Capital Structure	2012	2013	2014	2015	2016	June 30, 2017 Update Period	Average for 2012 - 2016
Common Equity	54.85%	50.32%	49.06%	49.92%	50.39%	52.30%	50.91%
Long-Term Debt ¹	40.68%	45.86%	39.33%	38.87%	38.12%	36.04%	40.57%
Short-Term Debt ²	4.48%	3.82%	11.61%	11.21%	11.49%	11.66%	8.52%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

SPREAD BETWEEN SPIRE INC. AND LACLEDE GAS COMPANY EQUITY RATIOS

	2012	2013	2014	2015	2016	June 30, 2017 Update Period
Spire Equity Ratio	59.79%	51.47%	41.36%	41.82%	41.60%	46.05%
Laclede Equity Ratio	54.85%	50.32%	49.06%	49.92%	50.39%	52.30%
Equity Spreads	4.95%	1.15%	-7.69%	-8.10%	-8.79%	-6.25%

1. Long-term debt includes current or maturing portion of long-term debt
2. Short-term debt excludes current or maturing portion of long-term debt
Spire Inc.'s September 30, 2012, 2013, 2014, 2015 and 2016 SEC 10-K filings.

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**Historical Capital Structures for Spire Inc. and
Laclede Gas Company (Excluding Short-Term Debt)**

SPIRE INC. TOTAL CAPITALIZATION						
<i>(in thousands)</i>						June 30, 2017
Capital Components	2012	2013	2014	2015	2016	Update Period
Common Equity	\$601,611	\$1,046,282	\$1,508,400	\$1,573,600	\$1,768,200	\$2,028,200
Long-Term Debt ¹	\$364,416	\$912,712	\$1,851,100	\$1,851,500	\$2,083,700	\$1,925,300
Short-Term Debt ²	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$966,027	\$1,958,994	\$3,359,500	\$3,425,100	\$3,851,900	\$3,953,500

Capital Structure	2012	2013	2014	2015	2016	June 30, 2017	Average for
						Update Period	2012 - 2016
Common Equity	62.28%	53.41%	44.90%	45.94%	45.90%	51.30%	50.49%
Long-Term Debt ¹	37.72%	46.59%	55.10%	54.06%	54.10%	48.70%	49.51%
Short-Term Debt ²	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

LACLEDE GAS COMPANY TOTAL CAPITALIZATION						
<i>(in thousands)</i>						June 30, 2017
Capital Components	2012	2013	2014	2015	2016	Update Period
Common Equity	\$491,328	\$973,930	\$1,007,800	\$1,037,800	\$1,068,500	\$1,167,500
Long-Term Debt ¹	\$364,416	\$887,712	\$807,900	\$808,100	\$808,300	\$804,500
Short-Term Debt ²	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$855,744	\$1,861,642	\$1,815,700	\$1,845,900	\$1,876,800	\$1,972,000

Total Debt	\$364,416	\$887,712	\$807,900	\$808,100	\$808,300	
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Capital Structure	2012	2013	2014	2015	2016	June 30, 2017	Average for
						Update Period	2012 - 2016
Common Equity	57.42%	52.32%	55.50%	56.22%	56.93%	59.20%	55.68%
Long-Term Debt ¹	42.58%	47.68%	44.50%	43.78%	43.07%	40.80%	44.32%
Short-Term Debt ²	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

SPREAD BETWEEN SPIRE INC. AND LACLEDE GAS COMPANY EQUITY RATIOS						
	2012	2013	2014	2015	2016	June 30, 2017
						Update Period
Spire Equity Ratio	62.28%	53.41%	44.90%	45.94%	45.90%	51.30%
Laclede Equity Ratio	57.42%	52.32%	55.50%	56.22%	56.93%	59.20%
Equity Spreads	4.86%	1.09%	-10.61%	-10.28%	-11.03%	-7.90%

1. Long-term debt includes current or maturing portion of long-term debt
2. Short-term debt excludes current or maturing portion of long-term debt
Spire Inc.'s September 30, 2012, 2013, 2014, 2015 and 2016 SEC 10-K filings.

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Capital Structure Scenarios as of June 30, 2017

Spire Capital Structure

<u>All dollar amounts are in thousands</u>	Dollar	Percentage
<u>Capital Component</u>	<u>Amount</u>	<u>of Capital</u>
Common Stock Equity	\$ 2,028,200	48.84%
Long-Term Debt	\$ 1,925,300	46.36%
Short-Term Debt	\$ 199,439 ¹	4.80%
Total Capitalization	\$ 4,152,939	100.00%

Source: SNL Financial - Amounts are Amounts Reported on Balance Sheet (not adjusted)

Notes:

1. Short-term debt based on average balance since September 30, 2013 less average construction work in progress balances over same period.

Laclede Capital structure

<u>All dollar amounts are in thousands</u>	Dollar	Percentage
<u>Capital Component</u>	<u>Amount</u>	<u>of Capital</u>
Common Stock Equity	\$ 1,167,500	54.74%
Long-Term Debt	\$ 804,500	37.72%
Short-Term Debt	\$ 160,722 ¹	7.54%
Total Capitalization	\$ 2,132,722	100.00%

Source: SNL Financial - Amounts are Amounts Reported on Balance Sheet (not adjusted)

Notes:

1. Short-term debt based on average balance since September 30, 2013 less average construction work in progress balances over same period.

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Criteria for Selecting Comparable Local Gas Distribution Utility Companies

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
SNL Financial Gas Utility Companies	Ticker	Stock Publicly Traded	At least 80% of Assets are Regulated	At Least 80% of Income from Regulated Utility Operations	No Reduced Dividend Since 2014	At Least Investment Grade Credit Rating (2 of 3 agencies)	L- T Growth Coverage from at least 2 equity analysts in last 90 days and Current L-T Growth Available	No Pending Merger or Acquisition	Comparabl Company Met All Criteria
Atmos Energy Corporation	ATO	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Delta Natural Gas Company, Inc.	DGAS	Yes	Yes	Yes	Yes	NR			
Gas Natural Inc.	EGAS	Yes	No						
National Fuel Gas Company	NFG	Yes	No						
New Jersey Resources Corporation	NJR	Yes	No						
Northwest Natural Gas Company	NWN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ONE Gas, Inc.	OGS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RGC Resources, Inc.	RGCO	Yes	Yes	Yes	Yes	NR			
South Jersey Industries, Inc.	SJI	Yes	No						
Southwest Gas Holdings, Inc.	SWX	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Spire Inc.	SR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
WGL Holdings, Inc.	WGL	Yes	Yes	Yes	Yes	Yes	Yes	No	

Source: SNL Financial and SEC 10-Ks if additional information was needed for more detail.

NA = Not available.

NR = Not rated.

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Comparable Natural Gas Distribution Companies

Number	Ticker Symbol	Company Name
1	ATO	Atmos Energy Corporation.
2	NWN	Northwest Natural Gas
3	OGS	OneGas
4	SWX	Southwestgas
5	SR	Spire

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**Dividends Per Share
for the Comparable Natural Gas Utility Companies**

Company Name	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Atmos Energy Corporation	2.05	1.93	1.81	1.68	1.56	1.48	1.40	1.38	1.36	1.34	1.32	1.30	1.28	1.26	1.24	1.22
Northwest Natural Gas Company	1.93	1.89	1.88	1.87	1.86	1.85	1.83	1.79	1.75	1.68	1.60	1.52	1.44	1.39	1.32	1.30
ONE Gas, Inc.	1.98	1.81	1.68	1.40	1.20	0.84	--	--	--	--	--	--	--	--	--	--
Southwest Gas Holdings, Inc.	2.30	2.15	1.99	1.80	1.62	1.46	1.32	1.18	1.06	1.00	0.95	0.90	0.86	1.03	0.82	0.82
Spire Inc.	2.33	2.22	2.10	1.96	1.84	1.76	1.70	1.66	1.62	1.58	1.54	1.50	1.46	1.41	1.38	1.36

	<u>10-Year Historical</u>	<u>5-Year Historical</u>	<u>3-Year Projected</u>
Atmos Energy Corporation	2.41%	3.26%	6.92%
Northwest Natural Gas Company	3.36%	2.10%	0.97%
ONE Gas, Inc.	--	--	12.23%
Southwest Gas Holdings, Inc.	6.24%	10.15%	8.57%
Spire Inc.	2.99%	3.24%	5.99%
Average	3.75%	4.69%	6.94%

Note: OneGas completed spinoff in 2014.

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**Earnings Per Share
for the Comparable Natural Gas Utility Companies**

Company Name	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Atmos Energy Corporation	4.08	3.82	3.59	3.33	3.00	2.96	2.54	2.12	2.08	2.14	2.08	2.00	1.94	1.83	1.75	1.60
Northwest Natural Gas Company	2.51	2.30	2.16	2.13	1.96	2.16	2.24	2.19	2.36	2.73	2.83	2.63	2.78	2.30	2.11	1.87
ONE Gas, Inc.	3.23	3.10	2.98	2.67	2.26	2.10	1.90	--	--	--	--	--	--	--	--	--
Southwest Gas Holdings, Inc.	3.72	3.61	3.37	3.20	2.94	3.04	3.14	2.89	2.45	2.29	1.95	1.40	1.97	2.07	1.15	1.61
Spirit Inc.	3.78	3.66	3.52	3.26	3.16	2.36	2.03	2.80	2.87	2.43	2.90	2.64	2.13	2.31	1.90	1.82

	<u>10-Year Historical</u>	<u>5-Year Historical</u>	<u>3-Year Projected</u>
Atmos Energy Corporation	6.06%	8.08%	6.98%
Northwest Natural Gas Company	-0.05%	-4.63%	5.57%
ONE Gas, Inc.	--	--	6.54%
Southwest Gas Holdings, Inc.	6.63%	6.53%	5.15%
Spirit Inc.	<u>3.83%</u>	<u>1.38%</u>	<u>5.09%</u>
Average	4.12%	2.84%	5.87%

Note: OneGas completed spinoff in 2014.

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Book Value Per Share
for the Comparable Natural Gas Utility Companies

Company Name	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Atmos Energy Corporation	42.52	39.30	36.82	33.32	31.48	30.74	28.47	26.14	24.98	24.16	23.52	22.60	22.01	20.16	19.90	18.05
Northwest Natural Gas Company	33.71	32.08	30.80	29.71	28.47	28.12	27.77	27.11	26.62	25.99	24.88	23.71	22.52	21.97	21.28	20.64
ONE Gas, Inc.	39.89	38.24	36.98	36.12	35.24	34.45	--	--	--	--	--	--	--	--	--	--
Southwest Gas Holdings, Inc.	39.77	38.28	36.86	35.03	33.65	32.00	30.51	28.39	26.68	25.60	24.44	23.49	22.98	21.58	19.10	19.18
Spire Inc.	45.02	42.61	41.24	38.73	36.31	34.93	32.00	26.69	25.56	24.02	23.32	22.12	19.79	18.85	17.31	16.96

	<u>10-Year Historical</u>	<u>5-Year Historical</u>	<u>3-Year Projected</u>
Atmos Energy Corporation	5.10%	5.63%	8.46%
Northwest Natural Gas Company	3.05%	2.18%	4.30%
ONE Gas, Inc.	--	--	3.37%
Southwest Gas Holdings, Inc.	5.34%	5.59%	4.32%
Spire Inc.	<u>7.55%</u>	<u>8.57%</u>	<u>5.14%</u>
Average	5.26%	5.49%	5.12%

Note: OneGas completed spinoff in 2014.

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**Historical and Projected Growth Rates for the
Comparable Natural Gas Utility Companies**

Company Name	(1)	(2)	(3)
	10-Year Historical Growth Rate (DPS, EPS and BVPS)	5-Year Historical Growth Rate (DPS, EPS and BVPS)	Projected 5-Year EPS Growth S&P IQ (Mean) (%)
Atmos Energy Corporation	4.52%	5.66%	7.00%
Northwest Natural Gas Company	2.12%	-0.12%	4.67%
ONE Gas, Inc.	--	--	5.37%
Southwest Gas Holdings, Inc.	6.07%	7.42%	4.95%
Spire Inc.	4.79%	4.40%	3.96%
Average	4.38%	4.34%	5.19%

Sources: Column 1 = DPS, EPS, BVPS -- 10 & 5 yr Historical Growth

Column 2 = DPS, EPS, BVPS -- 10 & 5 yr Historical Growth

Column 3 = SNL Financial

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Long-Term Gas Proxy Group
DPS, EPS, BVPS & GDP
10-Year Compound Growth Rate Averages (1968-2016)

DPS		EPS		BVPS		Average	GDP	CSPS		
Years	10 yr compound growth rate avgs	Years	10 yr compound growth rate avgs	Years	10 yr compound growth rate avgs	DPS, EPS and BVPS	Years	10 yr compound growth rate avgs	Years	10 yr compound growth rate avgs
1968-70 to 1978-80	3.82%	1968-70 to 1978-80	5.16%	1968-70 to 1978-80	4.59%	4.52%	1968-70 to 1978-80	9.96%	1968-70 to 1978-80	3.30%
1969-71 to 1979-81	4.13%	1969-71 to 1979-81	5.07%	1969-71 to 1979-81	4.62%	4.61%	1969-71 to 1979-81	10.31%	1969-71 to 1979-81	4.76%
1970-72 to 1980-82	4.69%	1970-72 to 1980-82	4.75%	1970-72 to 1980-82	4.51%	4.65%	1970-72 to 1980-82	10.32%	1970-72 to 1980-82	4.85%
1971-73 to 1981-83	5.10%	1971-73 to 1981-83	4.10%	1971-73 to 1981-83	4.30%	4.50%	1971-73 to 1981-83	10.15%	1971-73 to 1981-83	3.90%
1972-74 to 1982-84	5.50%	1972-74 to 1982-84	5.20%	1972-74 to 1982-84	4.11%	4.94%	1972-74 to 1982-84	9.98%	1972-74 to 1982-84	5.06%
1973-75 to 1983-85	5.98%	1973-75 to 1983-85	5.87%	1973-75 to 1983-85	4.08%	5.31%	1973-75 to 1983-85	9.93%	1973-75 to 1983-85	7.35%
1974-76 to 1984-86	6.51%	1974-76 to 1984-86	5.91%	1974-76 to 1984-86	4.11%	5.51%	1974-76 to 1984-86	9.76%	1974-76 to 1984-86	9.67%
1975-77 to 1985-87	6.91%	1975-77 to 1985-87	5.28%	1975-77 to 1985-87	4.15%	5.44%	1975-77 to 1985-87	9.34%	1975-77 to 1985-87	10.74%
1976-78 to 1986-88	6.99%	1976-78 to 1986-88	5.37%	1976-78 to 1986-88	4.24%	5.54%	1976-78 to 1986-88	8.82%	1976-78 to 1986-88	9.61%
1977-79 to 1987-89	7.06%	1977-79 to 1987-89	5.07%	1977-79 to 1987-89	4.23%	5.45%	1977-79 to 1987-89	8.35%	1977-79 to 1987-89	8.22%
1978-80 to 1988-90	6.79%	1978-80 to 1988-90	3.85%	1978-80 to 1988-90	4.16%	4.93%	1978-80 to 1988-90	7.96%	1978-80 to 1988-90	6.28%
1979-81 to 1989-91	6.37%	1979-81 to 1989-91	2.39%	1979-81 to 1989-91	3.81%	4.19%	1979-81 to 1989-91	7.42%	1979-81 to 1989-91	4.20%
1980-82 to 1990-92	5.72%	1980-82 to 1990-92	2.16%	1980-82 to 1990-92	3.66%	3.85%	1980-82 to 1990-92	7.10%	1980-82 to 1990-92	3.07%
1981-83 to 1991-93	5.23%	1981-83 to 1991-93	2.86%	1981-83 to 1991-93	3.63%	3.91%	1981-83 to 1991-93	6.75%	1981-83 to 1991-93	3.21%
1982-84 to 1992-94	5.04%	1982-84 to 1992-94	2.59%	1982-84 to 1992-94	3.98%	3.87%	1982-84 to 1992-94	6.52%	1982-84 to 1992-94	4.02%
1983-85 to 1993-95	4.40%	1983-85 to 1993-95	2.36%	1983-85 to 1993-95	3.93%	3.56%	1983-85 to 1993-95	6.15%	1983-85 to 1993-95	3.46%
1984-86 to 1994-96	3.75%	1984-86 to 1994-96	2.94%	1984-86 to 1994-96	3.91%	3.53%	1984-86 to 1994-96	5.92%	1984-86 to 1994-96	1.91%
1985-87 to 1995-97	3.39%	1985-87 to 1995-97	3.94%	1985-87 to 1995-97	3.92%	3.75%	1985-87 to 1995-97	5.85%	1985-87 to 1995-97	1.52%
1986-88 to 1996-98	3.02%	1986-88 to 1996-98	3.44%	1986-88 to 1996-98	3.61%	3.36%	1986-88 to 1996-98	5.78%	1986-88 to 1996-98	0.98%
1987-89 to 1997-99	2.71%	1987-89 to 1997-99	2.29%	1987-89 to 1997-99	3.25%	2.75%	1987-89 to 1997-99	5.66%	1987-89 to 1997-99	0.64%
1988-90 to 1998-00	2.44%	1988-90 to 1998-00	2.27%	1988-90 to 1998-00	3.16%	2.63%	1988-90 to 1998-00	5.57%	1988-90 to 1998-00	0.15%
1989-91 to 1999-01	2.19%	1989-91 to 1999-01	4.07%	1989-91 to 1999-01	3.46%	3.24%	1989-91 to 1999-01	5.55%	1989-91 to 1999-01	-0.16%
1990-92 to 2000-02	2.07%	1990-92 to 2000-02	4.73%	1990-92 to 2000-02	3.67%	3.49%	1990-92 to 2000-02	5.48%	1990-92 to 2000-02	-0.03%
1991-93 to 2001-03	2.01%	1991-93 to 2001-03	4.89%	1991-93 to 2001-03	4.03%	3.64%	1991-93 to 2001-03	5.39%	1991-93 to 2001-03	0.30%
1992-94 to 2002-04	2.05%	1992-94 to 2002-04	4.50%	1992-94 to 2002-04	4.48%	3.68%	1992-94 to 2002-04	5.31%	1992-94 to 2002-04	0.75%
1993-95 to 2003-05	2.19%	1993-95 to 2003-05	5.00%	1993-95 to 2003-05	4.98%	4.06%	1993-95 to 2003-05	5.37%	1993-95 to 2003-05	1.05%
1994-96 to 2004-06	2.42%	1994-96 to 2004-06	5.08%	1994-96 to 2004-06	5.41%	4.30%	1994-96 to 2004-06	5.45%	1994-96 to 2004-06	1.61%
1995-97 to 2005-07	2.66%	1995-97 to 2005-07	4.84%	1995-97 to 2005-07	5.69%	4.40%	1995-97 to 2005-07	5.45%	1995-97 to 2005-07	1.55%
1996-98 to 2006-08	2.91%	1996-98 to 2006-08	5.35%	1996-98 to 2006-08	5.98%	4.75%	1996-98 to 2006-08	5.25%	1996-98 to 2006-08	1.47%
1997-99 to 2007-09	3.18%	1997-99 to 2007-09	6.29%	1997-99 to 2007-09	6.18%	5.22%	1997-99 to 2007-09	4.77%	1997-99 to 2007-09	1.80%
1998-00 to 2008-10	3.47%	1998-00 to 2008-10	6.81%	1998-00 to 2008-10	6.23%	5.50%	1998-00 to 2008-10	4.27%	1998-00 to 2008-10	3.56%
1999-01 to 2009-11	3.78%	1999-01 to 2009-11	6.28%	1999-01 to 2009-11	6.25%	5.43%	1999-01 to 2009-11	3.92%	1999-01 to 2009-11	4.97%
2000-02 to 2010-12	4.02%	2000-02 to 2010-12	5.75%	2000-02 to 2010-12	6.29%	5.35%	2000-02 to 2010-12	3.88%	2000-02 to 2010-12	7.07%
2001-03 to 2011-13	4.08%	2001-03 to 2011-13	4.56%	2001-03 to 2011-13	5.98%	4.87%	2001-03 to 2011-13	3.86%	2001-03 to 2011-13	8.22%
2002-04 to 2012-14	4.28%	2002-04 to 2012-14	4.37%	2002-04 to 2012-14	5.89%	4.85%	2002-04 to 2012-14	3.75%	2002-04 to 2012-14	8.81%
2003-05 to 2013-15	4.44%	2003-05 to 2013-15	3.74%	2003-05 to 2013-15	5.80%	4.66%	2003-05 to 2013-15	3.52%	2003-05 to 2013-15	9.57%
2004-06 to 2014-16	4.57%	2004-06 to 2014-16	3.83%	2004-06 to 2014-16	5.56%	4.65%	2004-06 to 2014-16	3.25%	2004-06 to 2014-16	9.48%
Average	4.21%	Average	4.40%	Average	4.59%	4.40%	Average	6.54%	Average	4.24%

Average of 10-year Rolling Averages EPS, DPS and BVPS 4.40%

Source: Value Line Investment Survey

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Long-Term Gas Proxy Group Excluding Atmos
DPS, EPS, BVPS & GDP
10-Year Compound Growth Rate Averages (1968-2016)

<u>DPS</u>		<u>EPS</u>		<u>BVPS</u>		<u>Average</u>	<u>GDP</u>	
<u>Years</u>	<u>10 yr compound growth rate avgs</u>	<u>Years</u>	<u>10 yr compound growth rate avgs</u>	<u>Years</u>	<u>10 yr compound growth rate avgs</u>	<u>DPS, EPS and BVPS</u>	<u>Years</u>	<u>10 yr compound growth rate avgs</u>
1968-70 to 1978-80	3.27%	1968-70 to 1978-80	5.16%	1968-70 to 1978-80	4.59%	4.34%	1968-70 to 1978-80	9.96%
1969-71 to 1979-81	3.54%	1969-71 to 1979-81	5.07%	1969-71 to 1979-81	4.62%	4.41%	1969-71 to 1979-81	10.31%
1970-72 to 1980-82	4.02%	1970-72 to 1980-82	4.75%	1970-72 to 1980-82	4.51%	4.43%	1970-72 to 1980-82	10.32%
1971-73 to 1981-83	4.37%	1971-73 to 1981-83	4.10%	1971-73 to 1981-83	4.30%	4.26%	1971-73 to 1981-83	10.15%
1972-74 to 1982-84	4.71%	1972-74 to 1982-84	5.20%	1972-74 to 1982-84	4.11%	4.67%	1972-74 to 1982-84	9.98%
1973-75 to 1983-85	5.12%	1973-75 to 1983-85	5.87%	1973-75 to 1983-85	4.08%	5.02%	1973-75 to 1983-85	9.93%
1974-76 to 1984-86	5.69%	1974-76 to 1984-86	5.91%	1974-76 to 1984-86	4.11%	5.24%	1974-76 to 1984-86	9.76%
1975-77 to 1985-87	6.05%	1975-77 to 1985-87	5.28%	1975-77 to 1985-87	4.15%	5.16%	1975-77 to 1985-87	9.34%
1976-78 to 1986-88	6.12%	1976-78 to 1986-88	5.37%	1976-78 to 1986-88	4.24%	5.24%	1976-78 to 1986-88	8.82%
1977-79 to 1987-89	6.18%	1977-79 to 1987-89	5.07%	1977-79 to 1987-89	4.23%	5.16%	1977-79 to 1987-89	8.35%
1978-80 to 1988-90	5.94%	1978-80 to 1988-90	3.85%	1978-80 to 1988-90	4.16%	4.65%	1978-80 to 1988-90	7.96%
1979-81 to 1989-91	5.57%	1979-81 to 1989-91	2.39%	1979-81 to 1989-91	3.81%	3.92%	1979-81 to 1989-91	7.42%
1980-82 to 1990-92	5.00%	1980-82 to 1990-92	2.16%	1980-82 to 1990-92	3.66%	3.61%	1980-82 to 1990-92	7.10%
1981-83 to 1991-93	4.57%	1981-83 to 1991-93	2.86%	1981-83 to 1991-93	3.63%	3.69%	1981-83 to 1991-93	6.75%
1982-84 to 1992-94	4.41%	1982-84 to 1992-94	2.59%	1982-84 to 1992-94	3.98%	3.66%	1982-84 to 1992-94	6.52%
1983-85 to 1993-95	3.85%	1983-85 to 1993-95	2.36%	1983-85 to 1993-95	3.93%	3.38%	1983-85 to 1993-95	6.15%
1984-86 to 1994-96	3.28%	1984-86 to 1994-96	2.94%	1984-86 to 1994-96	3.91%	3.38%	1984-86 to 1994-96	5.92%
1985-87 to 1995-97	2.84%	1985-87 to 1995-97	3.93%	1985-87 to 1995-97	3.80%	3.52%	1985-87 to 1995-97	5.85%
1986-88 to 1996-98	2.50%	1986-88 to 1996-98	3.30%	1986-88 to 1996-98	3.49%	3.09%	1986-88 to 1996-98	5.78%
1987-89 to 1997-99	2.18%	1987-89 to 1997-99	2.34%	1987-89 to 1997-99	3.14%	2.55%	1987-89 to 1997-99	5.66%
1988-90 to 1998-00	1.92%	1988-90 to 1998-00	2.48%	1988-90 to 1998-00	3.09%	2.50%	1988-90 to 1998-00	5.57%
1989-91 to 1999-01	1.71%	1989-91 to 1999-01	4.34%	1989-91 to 1999-01	3.38%	3.14%	1989-91 to 1999-01	5.55%
1990-92 to 2000-02	1.60%	1990-92 to 2000-02	4.88%	1990-92 to 2000-02	3.59%	3.36%	1990-92 to 2000-02	5.48%
1991-93 to 2001-03	1.56%	1991-93 to 2001-03	4.93%	1991-93 to 2001-03	3.91%	3.47%	1991-93 to 2001-03	5.39%
1992-94 to 2002-04	1.62%	1992-94 to 2002-04	4.54%	1992-94 to 2002-04	4.35%	3.50%	1992-94 to 2002-04	5.31%
1993-95 to 2003-05	1.78%	1993-95 to 2003-05	5.14%	1993-95 to 2003-05	4.79%	3.90%	1993-95 to 2003-05	5.37%
1994-96 to 2004-06	2.04%	1994-96 to 2004-06	5.28%	1994-96 to 2004-06	5.24%	4.19%	1994-96 to 2004-06	5.45%
1995-97 to 2005-07	2.32%	1995-97 to 2005-07	5.06%	1995-97 to 2005-07	5.52%	4.30%	1995-97 to 2005-07	5.45%
1996-98 to 2006-08	2.61%	1996-98 to 2006-08	5.78%	1996-98 to 2006-08	5.89%	4.76%	1996-98 to 2006-08	5.25%
1997-99 to 2007-09	2.91%	1997-99 to 2007-09	6.62%	1997-99 to 2007-09	6.10%	5.21%	1997-99 to 2007-09	4.77%
1998-00 to 2008-10	3.24%	1998-00 to 2008-10	7.03%	1998-00 to 2008-10	6.16%	5.47%	1998-00 to 2008-10	4.27%
1999-01 to 2009-11	3.56%	1999-01 to 2009-11	6.21%	1999-01 to 2009-11	6.21%	5.33%	1999-01 to 2009-11	3.92%
2000-02 to 2010-12	3.82%	2000-02 to 2010-12	5.83%	2000-02 to 2010-12	6.27%	5.31%	2000-02 to 2010-12	3.88%
2001-03 to 2011-13	3.85%	2001-03 to 2011-13	4.64%	2001-03 to 2011-13	5.98%	4.83%	2001-03 to 2011-13	3.86%
2002-04 to 2012-14	4.04%	2002-04 to 2012-14	4.32%	2002-04 to 2012-14	5.90%	4.75%	2002-04 to 2012-14	3.75%
2003-05 to 2013-15	4.17%	2003-05 to 2013-15	3.51%	2003-05 to 2013-15	5.90%	4.53%	2003-05 to 2013-15	3.52%
2004-06 to 2014-16	4.22%	2004-06 to 2014-16	3.56%	2004-06 to 2014-16	5.64%	4.47%	2004-06 to 2014-16	3.25%
Average	3.68%	Average	4.45%	Average	4.55%	4.23%	Average	6.54%
Average of 10-year Rolling Averages EPS, DPS and BVPS			4.23%					

Source: Value Line Investment Survey

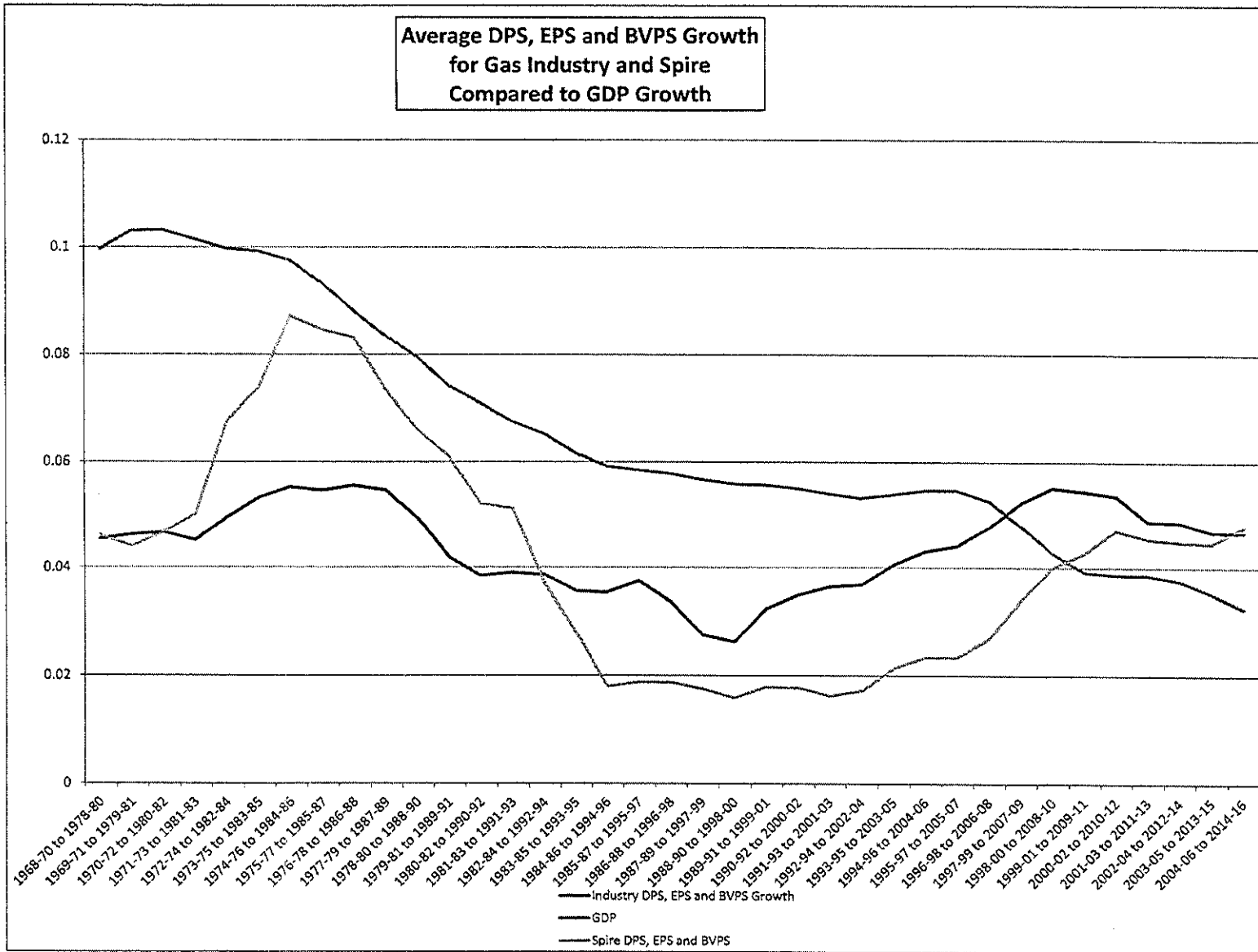
LAC and MGE
GR-2017-0215 GR-2017-0216

Spire Inc.
DPS, EPS, BVPS & GDP
10-Year Compound Growth Rate Averages (1968-2016)

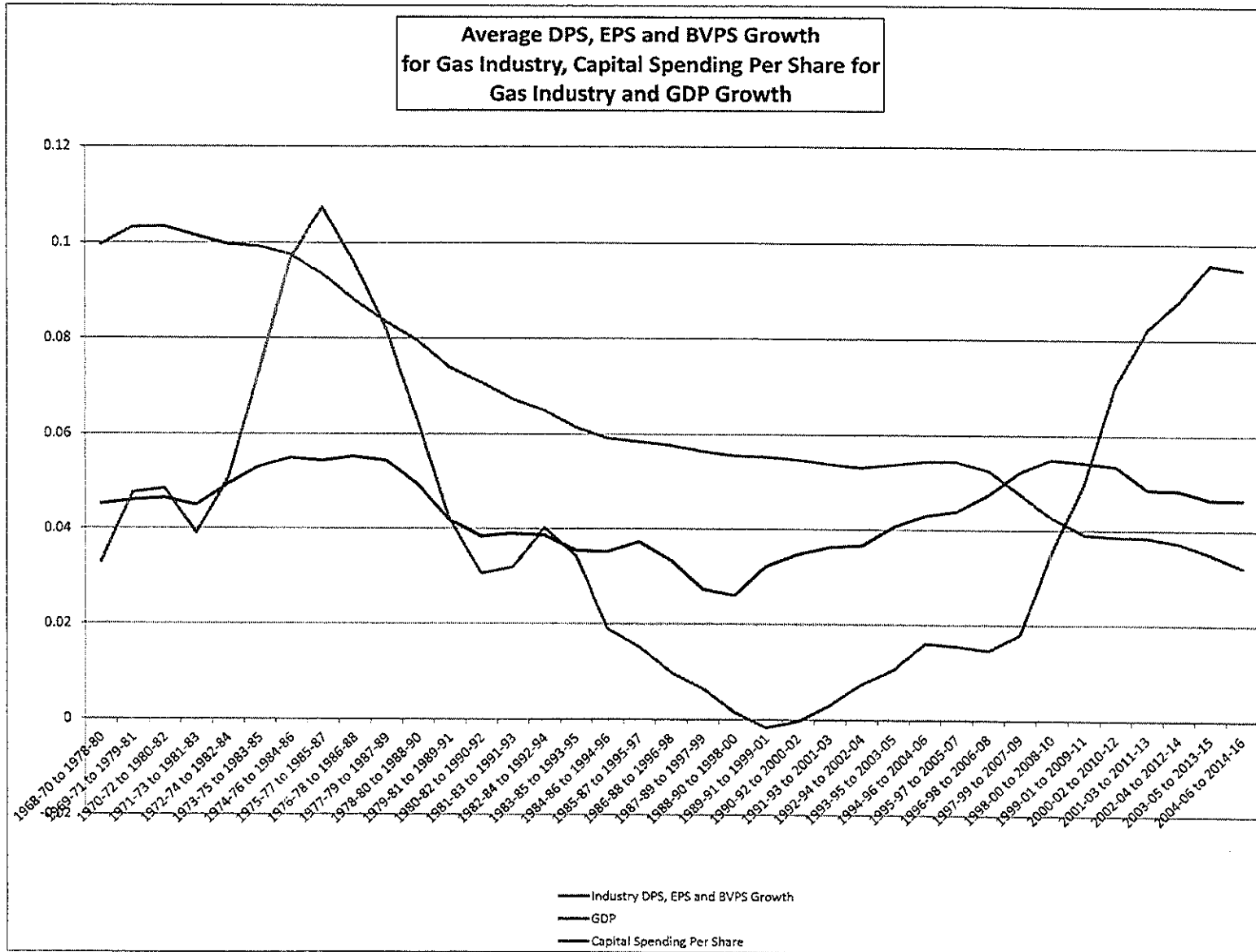
<u>DPS</u>		<u>EPS</u>		<u>BVPS</u>		<u>Average</u>		<u>GDP</u>		<u>CSPS</u>	
Years	10 yr compound growth rate avgs	Years	10 yr compound growth rate avgs	Years	10 yr compound growth rate avgs	DPS, EPS and BVPS	Years	10 yr compound growth rate avgs	Years	10 yr compound growth rate avgs	
1968-70 to 1978-80	3.08%	1968-70 to 1978-80	5.61%	1968-70 to 1978-80	5.09%	4.59%	1968-70 to 1978-80	9.96%	1968-70 to 1978-80	3.83%	
1969-71 to 1979-81	3.49%	1969-71 to 1979-81	4.55%	1969-71 to 1979-81	5.13%	4.39%	1969-71 to 1979-81	10.31%	1969-71 to 1979-81	4.17%	
1970-72 to 1980-82	4.01%	1970-72 to 1980-82	4.82%	1970-72 to 1980-82	5.13%	4.65%	1970-72 to 1980-82	10.32%	1970-72 to 1980-82	4.15%	
1971-73 to 1981-83	4.91%	1971-73 to 1981-83	5.01%	1971-73 to 1981-83	5.10%	5.01%	1971-73 to 1981-83	10.15%	1971-73 to 1981-83	4.30%	
1972-74 to 1982-84	5.83%	1972-74 to 1982-84	8.96%	1972-74 to 1982-84	5.48%	6.77%	1972-74 to 1982-84	9.98%	1972-74 to 1982-84	2.74%	
1973-75 to 1983-85	6.85%	1973-75 to 1983-85	9.41%	1973-75 to 1983-85	5.89%	7.38%	1973-75 to 1983-85	9.93%	1973-75 to 1983-85	2.78%	
1974-76 to 1984-86	7.83%	1974-76 to 1984-86	11.92%	1974-76 to 1984-86	6.43%	8.72%	1974-76 to 1984-86	9.76%	1974-76 to 1984-86	3.85%	
1975-77 to 1985-87	8.80%	1975-77 to 1985-87	10.05%	1975-77 to 1985-87	6.58%	8.48%	1975-77 to 1985-87	9.34%	1975-77 to 1985-87	5.40%	
1976-78 to 1986-88	9.46%	1976-78 to 1986-88	8.98%	1976-78 to 1986-88	6.53%	8.32%	1976-78 to 1986-88	8.82%	1976-78 to 1986-88	5.71%	
1977-79 to 1987-89	9.71%	1977-79 to 1987-89	6.17%	1977-79 to 1987-89	6.19%	7.36%	1977-79 to 1987-89	8.35%	1977-79 to 1987-89	5.38%	
1978-80 to 1988-90	9.73%	1978-80 to 1988-90	4.36%	1978-80 to 1988-90	5.70%	6.60%	1978-80 to 1988-90	7.96%	1978-80 to 1988-90	5.81%	
1979-81 to 1989-91	9.19%	1979-81 to 1989-91	3.88%	1979-81 to 1989-91	5.23%	6.10%	1979-81 to 1989-91	7.42%	1979-81 to 1989-91	5.71%	
1980-82 to 1990-92	8.39%	1980-82 to 1990-92	2.55%	1980-82 to 1990-92	4.69%	5.21%	1980-82 to 1990-92	7.10%	1980-82 to 1990-92	7.06%	
1981-83 to 1991-93	7.33%	1981-83 to 1991-93	3.67%	1981-83 to 1991-93	4.34%	5.11%	1981-83 to 1991-93	6.75%	1981-83 to 1991-93	7.88%	
1982-84 to 1992-94	6.17%	1982-84 to 1992-94	1.17%	1982-84 to 1992-94	3.77%	3.70%	1982-84 to 1992-94	6.52%	1982-84 to 1992-94	9.11%	
1983-85 to 1993-95	5.04%	1983-85 to 1993-95	0.00%	1983-85 to 1993-95	3.31%	2.78%	1983-85 to 1993-95	6.15%	1983-85 to 1993-95	8.52%	
1984-86 to 1994-96	3.85%	1984-86 to 1994-96	-1.32%	1984-86 to 1994-96	2.86%	1.79%	1984-86 to 1994-96	5.92%	1984-86 to 1994-96	6.54%	
1985-87 to 1995-97	2.88%	1985-87 to 1995-97	0.06%	1985-87 to 1995-97	2.70%	1.88%	1985-87 to 1995-97	5.85%	1985-87 to 1995-97	5.36%	
1986-88 to 1996-98	2.24%	1986-88 to 1996-98	0.81%	1986-88 to 1996-98	2.59%	1.88%	1986-88 to 1996-98	5.78%	1986-88 to 1996-98	4.08%	
1987-89 to 1997-99	1.81%	1987-89 to 1997-99	0.92%	1987-89 to 1997-99	2.51%	1.75%	1987-89 to 1997-99	5.66%	1987-89 to 1997-99	3.86%	
1988-90 to 1998-00	1.55%	1988-90 to 1998-00	0.75%	1988-90 to 1998-00	2.46%	1.59%	1988-90 to 1998-00	5.57%	1988-90 to 1998-00	3.65%	
1989-91 to 1999-01	1.31%	1989-91 to 1999-01	1.56%	1989-91 to 1999-01	2.50%	1.79%	1989-91 to 1999-01	5.55%	1989-91 to 1999-01	2.48%	
1990-92 to 2000-02	1.17%	1990-92 to 2000-02	1.66%	1990-92 to 2000-02	2.51%	1.78%	1990-92 to 2000-02	5.48%	1990-92 to 2000-02	1.16%	
1991-93 to 2001-03	1.05%	1991-93 to 2001-03	1.28%	1991-93 to 2001-03	2.53%	1.62%	1991-93 to 2001-03	5.39%	1991-93 to 2001-03	0.04%	
1992-94 to 2002-04	1.02%	1992-94 to 2002-04	1.39%	1992-94 to 2002-04	2.73%	1.71%	1992-94 to 2002-04	5.31%	1992-94 to 2002-04	-0.09%	
1993-95 to 2003-05	0.99%	1993-95 to 2003-05	2.57%	1993-95 to 2003-05	2.85%	2.14%	1993-95 to 2003-05	5.37%	1993-95 to 2003-05	0.27%	
1994-96 to 2004-06	1.03%	1994-96 to 2004-06	2.94%	1994-96 to 2004-06	3.08%	2.35%	1994-96 to 2004-06	5.45%	1994-96 to 2004-06	1.00%	
1995-97 to 2005-07	1.05%	1995-97 to 2005-07	2.83%	1995-97 to 2005-07	3.15%	2.34%	1995-97 to 2005-07	5.45%	1995-97 to 2005-07	1.40%	
1996-98 to 2006-08	1.13%	1996-98 to 2006-08	3.30%	1996-98 to 2006-08	3.63%	2.68%	1996-98 to 2006-08	5.25%	1996-98 to 2006-08	1.01%	
1997-99 to 2007-09	1.22%	1997-99 to 2007-09	4.87%	1997-99 to 2007-09	4.07%	3.39%	1997-99 to 2007-09	4.77%	1997-99 to 2007-09	-0.07%	
1998-00 to 2008-10	1.39%	1998-00 to 2008-10	6.10%	1998-00 to 2008-10	4.55%	4.01%	1998-00 to 2008-10	4.27%	1998-00 to 2008-10	-0.69%	
1999-01 to 2009-11	1.60%	1999-01 to 2009-11	6.32%	1999-01 to 2009-11	4.89%	4.27%	1999-01 to 2009-11	3.92%	1999-01 to 2009-11	0.10%	
2000-02 to 2010-12	1.87%	2000-02 to 2010-12	6.86%	2000-02 to 2010-12	5.33%	4.69%	2000-02 to 2010-12	3.88%	2000-02 to 2010-12	2.57%	
2001-03 to 2011-13	2.14%	2001-03 to 2011-13	5.22%	2001-03 to 2011-13	6.23%	4.53%	2001-03 to 2011-13	3.86%	2001-03 to 2011-13	4.03%	
2002-04 to 2012-14	2.42%	2002-04 to 2012-14	4.04%	2002-04 to 2012-14	6.97%	4.48%	2002-04 to 2012-14	3.75%	2002-04 to 2012-14	4.91%	
2003-05 to 2013-15	2.70%	2003-05 to 2013-15	3.12%	2003-05 to 2013-15	7.54%	4.45%	2003-05 to 2013-15	3.52%	2003-05 to 2013-15	6.28%	
2004-06 to 2014-16	3.04%	2004-06 to 2014-16	3.69%	2004-06 to 2014-16	7.55%	4.76%	2004-06 to 2014-16	3.25%	2004-06 to 2014-16	7.52%	
Average	3.98%	Average	4.06%	Average	4.54%	Average	Average	6.54%	Average	3.83%	

Average of 10-year Rolling Averages EPS, DPS and BVPS 4.19%

Source: Value Line Investment Survey



LAC and MGE
 GR-2017-0215 GR-2017-0216



LAC and MGE
GR-2017-0215 GR-2017-0216

**Constant-Growth Discounted Cash Flow (DCF) Estimated Costs of Common Equity
for the Comparable Natural Gas Utility Companies**

Company Name	(1) Expected Annual Dividend	(2) Average 3-Month Stock Price	(3) Projected Dividend Yield
Atmos Energy Corporation	\$1.89	\$82.041	2.31%
Northwest Natural Gas Company	\$1.89	\$60.458	3.13%
ONE Gas, Inc.	\$1.76	\$69.731	2.52%
Southwest Gas Holdings, Inc.	\$2.03	\$79.886	2.53%
Spire Inc.	\$2.15	\$69.850	3.07%
Average			<u>2.71%</u>

Proposed Dividend Yield: 2.70%

Proposed Range of Growth: 4.20% - 5.00%

Estimated Proxy Cost of Common Equity: 6.90% - 7.70%

Notes: Column 1 = Expected Annual Dividend based on the sum of equity analysts' expected next four quarters of DPS.
Column 3 = (Column 1 / Column 2).

Sources: Columns 1 and 2 = SNL Financial

LAC and MGE
GR-2017-0215 GR-2017-0216

**Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates
for the Comparable Natural Gas Distribution Companies**

	(1)	(2)	(3)	(4)	(5)	(6)
			Arithmetic Average Market Risk Premium (1926-2016)	Geometric Average Market Risk Premium (1926-2016)	Arithmetic CAPM Cost of Common Equity (1926-2016)	Geometric CAPM Cost of Common Equity (1926-2016)
Company Name	Risk Free Rate	Company's Value Line Beta				
Atmos Energy Corporation	2.90%	0.71	6.00%	4.50%	7.17%	6.10%
Northwest Natural Gas Company	2.90%	0.66	6.00%	4.50%	6.89%	5.89%
ONE Gas, Inc.	2.90%	0.77	6.00%	4.50%	7.53%	6.37%
Southwest Gas Holdings, Inc.	2.90%	0.71	6.00%	4.50%	7.17%	6.10%
Spire Inc.	2.90%	0.67	6.00%	4.50%	6.93%	5.92%
Average		<u>0.71</u>			<u>7.14%</u>	<u>6.08%</u>

Sources:

Column 1 = The appropriate yield is equal to the average 30-year U.S. Treasury Bond yield for April, May and June 2017, 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 generate by the SNL Beta Stock Generator June 30, 2012 through June 30, 2017.

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 - 2016 was determined to be 6.00% based on an arithmetic average as calculated in Valuation Handbook by Duff & Phelps.

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 - 2016 was determined to be 4.50% based on a geometric average as calculated in Valuation Handbook by Duff & Phelps.

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

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

LAC and MGE
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**Weighted Rate of Return
for LAC and MGE**

Spire Capital Structure

Capital Component	Percentage of Capital	Cost	Weighted Rate of Return Using Return on Common Equity of:		
			9.00%	9.25%	9.50%
Common Stock Equity	48.84%	---	4.40%	4.52%	4.64%
Long-Term Debt	46.36%	4.13%	1.92%	1.92%	1.92%
Short-Term Debt	4.80%	1.38%	0.07%	0.07%	0.07%
	100.00%		6.38%	6.50%	6.62%

Laclede Capital structure

Capital Component	Percentage of Capital	Cost	Weighted Rate of Return Using Return on Common Equity of:		
			9.00%	9.25%	9.50%
Common Stock Equity	54.74%	---	4.93%	5.06%	5.20%
Long-Term Debt	37.72%	4.20%	1.58%	1.58%	1.58%
Short-Term Debt	7.54%	1.13%	0.09%	0.09%	0.09%
	100.00%		6.60%	6.73%	6.87%

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 3

Other Staff Schedules

SPIRE MISSOURI, INC., d/b/a SPIRE

**LACLEDE GAS COMPANY and MISSOURI GAS ENERGY
GENERAL RATE CASE**

**CASE NOS. GR-2017-0215
and GR-2017-0216**

*Jefferson City, Missouri
September 2017*

SYSTEM: LAGLEDE		CLASS: RES			
Normalized Sales per Customer					
Billing Month	Therm Actual	Therm Adjustment	Therm Normal	Customers	Normal Usage per Customer
Jan	86,236,769	12,332,998	98,569,767	606,759	162.4530
Feb	84,061,374	5,777,296	89,838,670	610,454	147.1669
Mar	59,222,012	14,314,026	73,536,038	610,705	120.4117
Apr	35,719,328	11,049,001	46,768,329	606,995	77.0489
May	16,233,018	1,469,027	17,702,046	604,325	29.2923
Jun	12,174,274	-87,951	12,086,323	600,950	20.1120
Jul	8,680,030	110,663	8,790,694	596,058	14.7481
Aug	7,880,829	12,304	7,893,133	594,430	13.2785
Sep	9,082,950	429,747	9,512,697	594,173	16.0100
Oct	9,983,935	7,697,302	17,681,237	594,178	29.7575
Nov	19,844,411	11,607,973	31,452,384	595,525	52.8145
Dec	69,199,086	6,865,140	76,064,226	602,472	126.2536
	418,318,015	71,577,529	489,895,544	7,217,023	814.5666
		17.11%			

Billing Month	DAYS	HOO	SUMMED
	Adjustment	Adjustment	Adjustment
Jan	0	12,332,998	12,332,998
Feb	0	5,777,296	5,777,296
Mar	0	14,314,026	14,314,026
Apr	-39,774	11,088,776	11,049,001
May	13,218	1,455,810	1,469,027
Jun	-34,925	-53,025	-87,951
Jul	0	110,663	110,663
Aug	0	12,304	12,304
Sep	0	429,747	429,747
Oct	0	7,697,302	7,697,302
Nov	0	11,607,973	11,607,973
Dec	0	6,865,140	6,865,140
	-61,482	71,639,011	71,577,529
	-0.01%	17.13%	17.11%

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016
RES
Actual Volumes

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	606,759	17,728,891	68,507,878	86,236,769
Feb	610,454	17,862,234	66,199,140	84,061,374
Mar	610,705	17,695,684	41,526,328	59,222,012
Apr	606,995	16,877,300	18,842,028	35,719,328
May	604,325	12,994,023	3,238,931	16,233,018
Jun	600,950	10,619,091	1,555,183	12,174,274
Jul	596,058	8,097,288	582,742	8,680,030
Aug	594,430	7,482,063	398,766	7,880,829
Sep	594,173	8,196,228	886,723	9,082,950
Oct	594,178	8,867,520	1,116,415	9,983,935
Nov	595,525	12,270,831	6,574,379	19,844,411
Dec	602,472	17,367,885	51,931,201	69,199,086
ANNUAL	7,217,023	157,058,302	361,259,713	418,318,015
%		38%	62%	

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016
RES
NORMAL VOLUMES

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	606,759	17,728,891	80,840,876	98,569,767
Feb	610,454	17,862,234	71,976,436	89,838,670
Mar	610,705	17,695,684	55,840,354	73,526,038
Apr	606,995	16,877,300	29,891,030	46,768,329
May	604,325	13,878,908	3,823,138	17,702,046
Jun	600,950	10,555,632	1,530,691	12,086,323
Jul	596,058	8,196,380	604,313	8,799,694
Aug	594,430	7,482,227	400,907	7,893,133
Sep	594,173	8,535,758	978,929	9,512,697
Oct	594,178	14,061,490	3,619,747	17,681,227
Nov	595,525	16,381,766	15,070,818	31,452,384
Dec	602,472	17,641,831	58,422,395	76,064,226
ANNUAL	7,217,023	166,898,100	322,997,444	489,895,544
%		34%	66%	

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016
RES
ADJUSTMENTS TO VOLUMES

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	606,759	0	12,332,998	12,332,998
Feb	610,454	0	5,777,296	5,777,296
Mar	610,705	0	14,314,026	14,314,026
Apr	606,995	0	11,049,001	11,049,001
May	604,325	284,820	584,207	1,469,027
Jun	600,950	(63,459)	(24,491)	(87,951)
Jul	596,058	89,052	21,571	110,663
Aug	594,430	10,164	2,141	12,304
Sep	594,173	339,530	90,217	429,747
Oct	594,178	5,193,970	2,503,332	7,697,302
Nov	595,525	3,111,735	8,496,238	11,607,973
Dec	602,472	273,946	6,591,194	6,865,140
ANNUAL	7,217,023	9,839,798	61,737,731	71,577,529
%		14%	86%	

SYSTEM: LACLEDE

CLASS: G1

Normalized Sales per Customer

Billing Month	Therm Actual	Therm Adjustment	Therm Normal	Customers	Normal Usage per Customer
Jan	8,541,577	1,036,641	9,578,218	31,089	308.0857
Feb	9,208,571	586,003	9,794,574	31,448	311.4527
Mar	6,483,199	1,467,596	7,950,795	31,561	251.9182
Apr	3,220,143	1,208,239	4,428,382	31,284	141.5553
May	1,509,777	177,043	1,686,820	30,757	54.8438
Jun	1,113,421	-20,009	1,093,411	30,479	35.8747
Jul	887,462	15,326	902,789	30,280	29.8147
Aug	851,229	1,195	852,424	30,095	28.3247
Sep	990,208	41,245	1,031,452	29,949	34.4398
Oct	954,049	739,364	1,693,412	29,940	56.5602
Nov	1,579,416	1,206,379	2,785,794	30,261	92.0582
Dec	6,239,688	756,148	6,995,836	30,667	228.1219
	41,578,737	7,215,170	48,793,907	367,810	1591.9274
		17.35%			

Billing Month	DAYS	HDD	SUMMED
	Adjustment	Adjustment	Adjustment
Jan	0	1,036,641	1,036,641
Feb	0	586,003	586,003
Mar	0	1,467,596	1,467,596
Apr	-4,147	1,212,386	1,208,239
May	1,019	176,024	177,043
Jun	-4,462	-15,547	-20,009
Jul	0	15,326	15,326
Aug	0	1,195	1,195
Sep	0	41,245	41,245
Oct	0	739,364	739,364
Nov	0	1,206,379	1,206,379
Dec	0	756,148	756,148
	-7,590	7,222,760	7,215,170
	-0.02%	17.37%	17.35%

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C1
Actual Volumes

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	31,089	1,362,436	7,179,140	8,541,577
Feb	31,448	1,399,527	7,809,045	9,208,571
Mar	31,561	1,319,579	5,163,620	6,483,199
Apr	31,284	1,042,644	2,177,499	3,220,143
May	30,757	594,962	914,815	1,509,777
Jun	30,479	404,210	709,210	1,113,421
Jul	30,280	305,700	581,763	887,462
Aug	30,095	295,910	555,319	851,229
Sep	29,949	313,074	677,134	990,208
Oct	29,940	340,401	613,648	954,049
Nov	30,261	591,367	988,048	1,579,416
Dec	30,667	1,242,293	4,997,395	6,239,688
ANNUAL	367,810	9,212,102	32,366,626	41,578,737
%		22%	78%	

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C1
NORMAL VOLUMES

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	31,089	1,362,436	6,215,781	9,578,218
Feb	31,448	1,399,527	8,395,047	9,794,574
Mar	31,561	1,319,579	6,631,216	7,950,795
Apr	31,284	1,262,368	3,166,014	4,428,382
May	30,757	657,581	1,029,239	1,686,820
Jun	30,479	397,133	696,278	1,093,411
Jul	30,280	311,120	591,668	902,789
Aug	30,095	296,332	556,091	852,424
Sep	29,949	327,662	703,791	1,031,452
Oct	29,940	601,910	1,091,503	1,693,412
Nov	30,261	946,055	1,839,739	2,785,794
Dec	30,667	1,244,303	5,751,533	6,995,836
ANNUAL	367,810	10,126,006	38,667,901	48,793,907
%		21%	79%	

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C1
ADJUSTMENTS TO VOLUMES

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	31,029	0	1,036,641	1,036,641
Feb	31,448	0	586,003	586,003
Mar	31,561	0	1,467,596	1,467,596
Apr	31,284	219,725	988,515	1,208,239
May	30,757	62,619	114,424	177,043
Jun	30,479	(7,077)	(12,932)	(20,009)
Jul	30,280	5,421	9,905	15,326
Aug	30,095	423	772	1,195
Sep	29,949	14,583	26,657	41,245
Oct	29,940	261,509	477,655	739,364
Nov	30,261	354,688	851,691	1,206,379
Dec	30,667	2,010	754,138	756,148
ANNUAL	367,810	913,905	6,301,265	7,215,170
%		13%	87%	

SYSTEM: LACLEDE

CLASS : C2

Normalized Sales per Customer

Billing Month	Therm Actual	Therm Adjustment	Therm Normal	Customers	Normal Usage per Customer
Jan	16,590,766	1,146,367	17,737,133	9,072	1955.0565
Feb	18,212,456	1,014,853	19,227,309	9,148	2101.8942
Mar	14,205,778	2,550,658	16,756,436	9,132	1834.9262
Apr	8,322,949	2,234,267	10,557,216	9,062	1164.9445
May	5,028,530	370,788	5,399,317	9,013	599.0289
Jun	3,888,783	-73,855	3,814,928	8,982	424.7351
Jul	3,192,289	33,348	3,225,638	8,960	360.0006
Aug	3,015,403	2,071	3,017,474	8,943	337.4201
Sep	3,321,806	69,591	3,391,397	8,950	378.9444
Oct	3,462,535	1,269,173	4,731,708	8,918	530.5795
Nov	4,624,471	2,205,582	6,830,053	8,943	763.7565
Dec	12,184,449	1,479,588	13,664,036	9,051	1509.6681
	96,050,214	12,302,431	108,352,645	108,174	12019.8231
		12.81%			

Billing Month	DAYS Adjustment	HDD Adjustment	SUMMED Adjustment
Jan	0	1,146,367	1,146,367
Feb	0	1,014,853	1,014,853
Mar	0	2,550,658	2,550,658
Apr	-18,973	2,253,240	2,234,267
May	3,986	366,801	370,788
Jun	-28,260	-45,595	-73,855
Jul	0	33,348	33,348
Aug	0	2,071	2,071
Sep	0	69,591	69,591
Oct	0	1,269,173	1,269,173
Nov	0	2,205,582	2,205,582
Dec	0	1,479,588	1,479,588
	-43,246	12,345,677	12,302,431
	-0.05%	12.85%	12.81%

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C2
Actual Volumes

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	9,072	4,176,034	12,414,732	16,590,766
Feb	9,148	4,202,593	14,009,863	18,212,456
Mar	9,132	4,096,149	10,109,629	14,205,778
Apr	9,062	3,572,059	4,750,890	8,322,949
May	9,013	2,614,740	2,413,789	5,028,530
Jun	8,982	2,065,630	1,823,154	3,888,783
Jul	8,960	1,735,115	1,457,174	3,192,289
Aug	8,943	1,665,279	1,350,124	3,015,403
Sep	8,950	1,760,266	1,561,520	3,321,806
Oct	8,918	1,661,156	1,601,380	3,462,535
Nov	8,943	2,414,139	2,210,332	4,624,471
Dec	9,051	3,852,788	8,331,660	12,184,449
ANNUAL	108,174	34,015,968	62,034,246	96,050,214
%		35%	65%	

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C2
NORMAL VOLUMES

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	9,072	4,176,034	13,561,099	17,737,133
Feb	9,148	4,202,593	15,024,716	19,227,309
Mar	9,132	4,096,149	12,660,287	16,756,436
Apr	9,062	4,007,008	6,550,208	10,557,216
May	9,013	2,755,749	2,643,568	5,399,317
Jun	8,982	2,033,115	1,781,613	3,814,928
Jul	8,960	1,750,742	1,474,696	3,225,638
Aug	8,943	1,666,267	1,351,207	3,017,474
Sep	8,950	1,792,423	1,598,974	3,391,397
Oct	8,918	2,404,356	2,327,351	4,731,708
Nov	8,943	3,198,129	3,631,923	6,830,053
Dec	9,051	3,911,805	9,752,231	13,664,036
ANNUAL	108,174	35,994,371	72,358,275	108,352,645
%		33%	67%	

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C2
ADJUSTMENTS TO VOLUMES

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	9,072	0	1,146,267	1,146,267
Feb	9,148	0	1,014,853	1,014,853
Mar	9,132	0	2,550,658	2,550,658
Apr	9,062	434,949	1,799,318	2,234,267
May	9,013	141,008	229,779	370,786
Jun	8,982	(32,514)	(41,340)	(73,855)
Jul	8,960	15,627	17,722	33,348
Aug	8,943	988	1,083	2,071
Sep	8,950	32,138	37,454	69,591
Oct	8,918	543,201	725,972	1,269,173
Nov	8,943	783,990	1,421,591	2,205,582
Dec	9,051	59,017	1,420,571	1,479,588
ANNUAL	108,174	1,978,403	10,324,028	12,302,431
%		16%	84%	

SYSTEM: LACLEDE		CLASS: C3			
Normalized Sales per Customer					
Billing Month	Therm Actual	Therm Adjustment	Therm Normal	Customers	Normal Usage per Customer
Jan	6,987,228	838,106	7,825,334	616	12707.1775
Feb	7,580,140	403,348	7,983,488	598	13342.9505
Mar	6,347,486	1,009,721	7,357,207	592	12434.0163
Apr	4,224,131	911,452	5,135,583	610	8413.0572
May	2,641,249	153,472	2,794,721	604	4626.0263
Jun	2,200,198	-31,451	2,168,747	610	3557.2480
Jul	1,700,546	12,185	1,712,731	609	2810.5200
Aug	1,649,323	774	1,650,097	607	2720.2394
Sep	1,828,575	29,952	1,858,526	616	3015.3262
Oct	2,105,189	522,053	2,627,241	601	4370.5044
Nov	2,812,886	881,346	3,694,232	586	6299.8491
Dec	6,144,629	608,039	6,752,668	608	11102.1617
	46,221,579	5,338,997	51,560,576	7,258	85245.2269
		11.55%			

Billing Month	DAYS Adjustment	HDD Adjustment	SUMMED Adjustment
Jan	0	838,106	838,106
Feb	0	403,348	403,348
Mar	0	1,009,721	1,009,721
Apr	-10,621	922,073	911,452
May	2,046	151,426	153,472
Jun	-13,707	-17,744	-31,451
Jul	0	12,185	12,185
Aug	0	774	774
Sep	0	29,952	29,952
Oct	0	522,053	522,053
Nov	0	881,346	881,346
Dec	0	608,039	608,039
	-22,282	5,361,279	5,338,997
	-0.05%	11.60%	11.55%

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C3
Actual Volumes

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	616	1,744,560	5,242,668	6,987,228
Feb	598	1,673,930	5,906,210	7,580,140
Mar	592	1,655,910	4,691,576	6,347,486
Apr	610	1,599,365	2,624,765	4,224,131
May	604	1,342,336	1,298,914	2,641,249
Jun	610	1,101,538	1,098,660	2,200,198
Jul	609	917,517	783,029	1,700,546
Aug	607	890,705	758,618	1,649,323
Sep	616	955,924	872,651	1,828,575
Oct	601	1,052,983	1,052,206	2,105,189
Nov	586	1,315,372	1,497,514	2,812,886
Dec	608	1,645,191	4,499,438	6,144,629
ANNUAL	7,258	15,895,329	30,326,249	46,221,579
%		34%	65%	

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C3
NORMAL VOLUMES

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	616	1,744,560	6,080,774	7,825,334
Feb	598	1,673,930	6,309,558	7,983,488
Mar	592	1,655,910	5,701,297	7,357,207
Apr	610	1,708,770	3,426,812	5,135,583
May	604	1,391,629	1,403,093	2,794,721
Jun	610	1,089,607	1,079,141	2,168,747
Jul	609	922,744	789,986	1,712,731
Aug	607	891,106	758,991	1,650,097
Sep	616	968,412	890,114	1,858,526
Oct	601	1,239,314	1,387,928	2,627,241
Nov	586	1,539,714	2,154,518	3,694,232
Dec	608	1,645,191	5,107,477	6,752,668
ANNUAL	7,258	16,470,887	35,089,689	51,560,576
%		32%	68%	

LACLEDE GAS
CASE NO. GR-2017-0215

LACLEDE
2016

C3
ADJUSTMENTS TO VOLUMES

Month	Customer Meters	1st Block <30 Therms	Tail Block >30 Therms	Total Therms
Jan	616	0	838,106	838,106
Feb	598	0	403,348	403,348
Mar	592	0	1,009,721	1,009,721
Apr	610	109,405	802,047	911,452
May	604	49,293	104,179	153,472
Jun	610	(11,931)	(19,520)	(31,451)
Jul	609	5,228	6,957	12,185
Aug	607	402	373	774
Sep	616	12,488	17,463	29,952
Oct	601	186,331	335,722	522,053
Nov	586	224,342	657,004	881,346
Dec	608	0	608,039	608,039
ANNUAL	7,258	575,557	4,763,439	5,338,997
%		11%	89%	

SYSTEM: LACLEDE		CLASS: LV			
Normalized Sales per Customer					
Billing Month	Therm Actual	Therm Adjustment	Therm Normal	Customers	Normal Usage per Customer
Jan	1,202,851	18,961	1,221,812	67	18236.0033
Feb	1,205,354	39,386	1,244,741	68	18305.0129
Mar	1,084,216	98,463	1,182,679	67	17651.9247
Apr	877,660	88,861	966,521	67	14425.6857
May	723,272	16,394	739,666	67	11039.7929
Jun	713,502	-9,747	703,755	67	10503.8046
Jul	651,906	1,480	653,386	67	9752.0362
Aug	617,889	71	617,960	67	9223.2778
Sep	700,274	2,028	702,302	67	10482.1161
Oct	690,447	48,158	738,604	67	11023.9463
Nov	708,478	89,289	797,767	67	11906.9634
Dec	1,098,845	63,050	1,161,895	68	17086.6900
	10,274,693	456,394	10,731,088	806	159768.0552
		4.44%			

Billing Month	DAYS	HDD	SUMMED
	Adjustment	Adjustment	Adjustment
Jan	0	18,961	18,961
Feb	0	39,386	39,386
Mar	0	98,463	98,463
Apr	-3,517	92,378	88,861
May	639	15,755	16,394
Jun	-7,673	-2,073	-9,747
Jul	0	1,480	1,480
Aug	0	71	71
Sep	0	2,028	2,028
Oct	0	48,158	48,158
Nov	0	89,289	89,289
Dec	0	63,050	63,050
	-10,551	466,945	456,394
	-0.10%	4.54%	4.44%

SYSTEM: LAGLEDE

GLASS: Transportation

Normalized Sales per Customer

Billing Month	Therm Actual	Therm Adjustment	Therm Normal	Customers	Normal Usage per Customer
Jan	17,713,830	-6,335,161	11,378,668	145	78473.5756
Feb	21,109,224	370,574	21,479,798	146	147121.9052
Mar	19,188,231	1,011,934	20,200,165	145	139311.4849
Apr	16,832,400	1,701,860	18,534,260	145	127822.4860
May	14,902,781	465,278	15,368,058	145	105986.6095
Jun	13,750,700	-537,381	13,213,319	145	91126.3381
Jul	12,635,379	46,231	12,681,610	145	87459.3796
Aug	12,634,261	1,503	12,635,764	145	87143.1968
Sep	13,187,318	3,895	13,191,214	145	90973.8876
Oct	12,775,892	331,045	13,106,937	145	90392.6659
Nov	14,075,852	1,227,498	15,303,350	145	105540.3472
Dec	15,752,564	1,238,988	16,991,551	145	117183.1136
	184,558,432	-473,736	184,084,695	1,741	1268820.4167
		-0.26%			

Billing Month	DAYS Adjustment	HDD Adjustment	SUMMED Adjustment
Jan	0	-6,335,161	-6,335,161
Feb	0	370,574	370,574
Mar	0	1,011,934	1,011,934
Apr	0	1,701,860	1,701,860
May	0	465,278	465,278
Jun	-418,448	-118,934	-537,381
Jul	0	46,231	46,231
Aug	0	1,503	1,503
Sep	0	3,895	3,895
Oct	0	331,045	331,045
Nov	0	1,227,498	1,227,498
Dec	0	1,238,988	1,238,988
	-418,448	-55,289	-473,736
	-0.23%	-0.03%	-0.26%

MGE Revenue Schedule

DISTRICT: KANSAS CITY		CLASS : Residential			
Normalized Sales per Customer					
Billing Month	Ccf Actual	Ccf Adjustment	Ccf Normal	Customers	Normal Usage per Customer
Jan	66,646,786	7,004,976	73,651,762	454,922	161.8997
Feb	59,377,000	4,583,565	63,960,565	454,299	140.7896
Mar	36,527,564	10,321,620	46,849,183	454,156	103.1566
Apr	23,433,914	8,092,525	31,526,439	451,743	69.7884
May	11,232,260	529,619	11,761,879	447,879	26.2613
Jun	7,881,254	-136,584	7,744,670	444,827	17.4105
Jul	5,569,821	73,646	5,643,467	440,688	12.8060
Aug	5,071,792	21,932	5,093,724	436,893	11.6590
Sep	5,780,449	618,933	6,399,381	442,384	14.4657
Oct	6,665,332	5,721,898	12,387,230	440,102	28.1463
Nov	12,059,480	8,640,114	20,699,594	443,516	46.6716
Dec	44,651,813	4,432,520	49,084,333	450,412	108.9765
	284,897,464	49,904,764	334,802,228	5,361,821	749.3027
		17.52%			

DISTRICT: KANSAS CITY		CLASS : Small General			
Normalized Sales per Customer					
Billing Month	Ccf Actual	Ccf Adjustment	Ccf Normal	Customers	Normal Usage per Customer
Jan	15,711,356	1,696,735	17,408,091	56,326	309.06026
Feb	14,401,004	1,035,803	15,436,807	56,310	274.13999
Mar	8,867,887	2,451,462	11,319,349	56,410	200.66171
Apr	5,325,401	1,921,631	7,247,032	55,210	131.26235
May	2,750,862	143,792	2,894,655	54,250	53.35732
Jun	2,061,348	-49,454	2,011,894	53,082	37.90156
Jul	1,620,752	19,999	1,640,751	51,981	31.56415
Aug	1,503,165	4,874	1,508,039	51,774	29.12714
Sep	1,729,402	133,420	1,862,822	51,832	35.93949
Oct	1,788,735	1,208,470	2,997,205	50,370	59.50420
Nov	2,631,935	1,867,259	4,499,193	50,597	88.92215
Dec	10,119,354	998,940	11,118,294	51,059	217.75193
	68,511,200	11,432,931	79,944,131	639,203	1,500.82196
		16.69%			

MGE Revenue Schedule

DISTRICT: KANSAS CITY		CLASS : Large General			
Normalized Sales per Customer					
Billing Month	Ccf Actual	Ccf Adjustment	Ccf Normal	Customers	Normal Usage per Customer
Jan	10,747,638	1,230,867	11,978,504	3,619	3,309.61909
Feb	13,350,892	691,564	14,042,456	3,793	3,702.59359
Mar	7,256,771	1,769,571	9,026,342	3,764	2,397.89965
Apr	5,283,367	1,461,805	6,745,172	3,747	1,799.97498
May	3,241,923	129,066	3,370,989	3,722	905.80001
Jun	2,620,029	-54,559	2,565,471	3,684	696.33650
Jul	2,092,705	18,621	2,111,326	3,651	578.33937
Aug	2,098,780	3,441	2,102,221	3,656	574.96182
Sep	2,206,653	84,006	2,290,659	3,404	672.90385
Oct	2,474,122	864,645	3,338,766	3,531	945.46453
Nov	3,370,629	1,642,649	5,013,278	4,082	1,228.13946
Dec	8,284,582	780,895	9,065,477	3,772	2,403.13151
	63,028,091	8,622,571	71,650,662	44,426	19,353.64521
		13.68%			

DISTRICT: KANSAS CITY		CLASS : Large Volume and Transportation			
Normalized Sales per Customer					
Billing Month	Ccf Actual	Ccf Adjustment	Ccf Normal	Customers	Normal Usage per Customer
Jan	26,010,927	2,160,042	28,170,969	395	71,318.90830
Feb	30,341,335	80,478	30,421,813	393	77,409.19332
Mar	25,617,720	1,671,169	27,288,889	395	69,085.79463
Apr	23,077,332	1,850,143	24,927,475	394	63,267.70183
May	20,203,797	666,616	20,870,413	393	53,105.37613
Jun	18,518,799	-880,733	17,638,066	388	45,458.93401
Jul	18,307,357	67,119	18,374,476	371	49,526.88914
Aug	18,859,512	4,368	18,863,880	370	50,983.45833
Sep	19,919,884	20,278	19,940,162	371	53,747.06864
Oct	17,675,398	537,121	18,212,519	377	48,309.06989
Nov	19,595,805	1,279,410	20,875,215	387	53,941.12279
Dec	21,935,832	1,938,261	23,874,093	388	61,531.16871
	260,063,698	9,394,272	269,457,970	4,622	699,587.97823
		3.61%			

Laclede Gas Company
GR-2017-0215
Staff-Recommended Depreciation Rates

Account Number	Description	Depreciation Rate	Average Service Life (years)	Net Salvage (%)
<i>Manufactured Gas Plant - LPG</i>				
305	Structures and improvements	1.64%	70	-15%
307	Other power equipment	2.00%	55	-10%
311	Equipment	2.75%	40	-10%
311.1	Storage caverns	1.11%	90	0%
<i>Underground Storage Plant</i>				
351.2	Compressor station structures	2.44%	45	-10%
351.4	Other structures	2.18%	55	-20%
352	Wells - underground storage	1.22%	90	-10%
352.1	Storage, leaseholds and rights	1.22%	Amortization	
352.2	Reservoirs	1.22%	90	-10%
352.3	Non-recoverable gas	1.11%	90	0%
352.4	Wells - oil and vent gas	1.22%	90	-10%
353	Lines	1.17%	90	-5%
354	Compressor station equipment	1.22%	90	-10%
355	Measuring and regulating equipment	1.79%	56	0%
356	Purification equipment	2.38%	42	0%
357	Other equipment	5.00%	20	0%
<i>Transmission Plant</i>				
367	Mains - Monat	1.06%	80	15%
371	Other equipment - Monat	2.33%	45	-5%
<i>Distribution Plant</i>				
375	Structures and improvements	2.30%	50	-15%
375.2	Service centers	2.25%	60	-35%
375.3	Garage	2.00%	60	-20%
375.4	Other small structures	2.20%	50	-10%
376.1	Mains - steel	1.50%	90	-35%
376.2	Mains - cast iron	3.13%	80	-150%
376.3	Mains - plastic and copper	1.71%	70	-20%
378	Measuring and regulating station equip. (general)	3.71%	35	-30%
379	Measuring and regulating station equip. (CGCS)	3.71%	35	-30%
380.1	Services - steel	4.17%	48	-100%
380.2	Services - plastic and copper	3.70%	46	-70%
381	Meters	2.77%	35	3%
383	House regulators	1.67%	60	0%
385	Industrial meas. and regulating equipment	2.45%	47	-15%
386	Other property on customers' premises	7.14%	14	0%
387	Other equipment	2.44%	45	-10%

General Plant				
390	Structures and improvements	2.86%	35	0%
391	Office furniture and equipment	3.33%	30	0%
391.1	Data processing systems	20.00%	5	0%
391.2	Mechanical office equipment	10.00%	10	0%
391.3	Data processing software	20.00%	Amortization	
391.4	Data processing equipment	10.00%	10	0%
391.5	Enterprise Information Management System	7.00%	15	-5%
392.1	Transportation Equipment - automobiles	14.17%	6	15%
392.2	Transportation Equipment - trucks	8.18%	11	10%
393	Stores equipment	2.22%	45	0%
394	Tools, shop and garage equipment	2.63%	38	0%
395	Laboratory equipment	3.57%	28	0%
396	Power operated equipment	6.43%	14	10%
397	Communication equipment	5.00%	20	0%
398	Miscellaneous equipment	3.45%	29	0%

Missouri Gas Energy
GR-2017-0216
Staff Recommended Depreciation Rates

Account Number	Description	Depreciation Rate	Average Service Life (Years)	Net Salvage (%)
<i>Distribution</i>				
374.2	Land Rights	2.08%	48.0	0%
375.0	Structures and Improvements	3.00%	35.0	-5%
376.0	Mains	1.29%	69.0	11%
378.0	Measuring and Regulating Eq.	2.12%	52.0	-10%
379.0	Measuring and Regulating Eq.-City Gate	2.33%	45.0	-5%
380.1	Services - Steel	5.00%	40.0	-100%
380.2	Services - Plastic/Copper	3.59%	39.0	-40%
381.0	Meters	3.43%	28.0	4%
382.0	Meter Installation	1.62%	65.0	-5%
383.0	House Regulators	2.86%	35.0	0%
385.0	Measuring and Regulating Eq.-Industrial	3.33%	30.0	0%
<i>General (Including Corporate)</i>				
390.0	Structures and Improvements	2.13%	47.0	0%
391.0	Office Furniture and Eq.	9.09%	11.0	0%
391.3	Data Processing Software	20.00%	5.0	0%
391.5	Enterprise Information Management System	7.00%	15.0	-5%
392.1	Transportation Eq. [Cars & Small Trucks]	8.00%	10.0	20%
392.2	Transportation Eq. [Large Trucks]	6.25%	12.0	25%
393.0	Stores Eq.	3.57%	28.0	0%
394.0	Tool, Shop, and Garage Eq.	5.26%	19.0	0%
396.0	Power Operated Eq.	7.50%	10.0	25%
397.0	Communication Eq.	6.25%	16.0	0%
397.1	Electronic Reading - ERT	5.26%	19.0	0%
398.0	Miscellaneous Eq.	4.35%	23.0	0%