

MISSOURI PUBLIC SERVICE COMMISSION

**STAFF REPORT
COST OF SERVICE
APPENDICES**

EMPIRE DISTRICT GAS COMPANY

CASE NO. GR-2009-0434

*Jefferson City, Missouri
August 2009*

MISSOURI PUBLIC SERVICE COMMISSION

**STAFF REPORT
COST OF SERVICE**

**APPENDIX 1
Staff Credentials**

EMPIRE DISTRICT GAS COMPANY

CASE NO. GR-2009-0434

APPENDIX 1

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SHANA ATKINSON

Educational and Employment Background and Credentials

I am currently employed as a Utility Regulatory Auditor I for the Missouri Public Service Commission (Commission). I accepted the position of Utility Regulatory Auditor I in December 2008.

In May 2007, I earned a Bachelor of Science in Accountancy and a Master of Accountancy degree from the University of Missouri-Columbia. My accounting degree required an understanding of financial concepts, including the cost of capital.

I assisted with the preparation of schedules in the Missouri Gas Energy rate case, Case No. GR-2009-0355. I sponsored recommendations in two finance cases, Case Nos. GF-2009-0331 and EF-2009-0266. I have developed rate of return recommendations for numerous small water and sewer rate cases and have assisted as needed in small water and sewer certificate cases.

**CASE PARTICIPATION
OF
KIMBERLY K. BOLIN**

| <u>Company Name</u> | <u>Case Number</u> | <u>Testimony/Issues</u> | <u>Contested or Settled</u> |
|---------------------------------|-----------------------------------|--|------------------------------------|
| Laclede Gas Company | GT-2009-0056 | <u>Surrebuttal Testimony</u> – Tariff | Contested |
| Missouri-American Water Company | WR-2008-0311 & SR-2008-0312 | <u>Report on Cost of Service</u> – Tank Painting Tracker, Lobbying Costs, PSC Assessment <u>Direct</u> – Overview of Staff’s Filing <u>Rebuttal</u> – True-Up Items, Unamortized Balance of Security AAO, Tank Painting Expense, Fire Hydrant Painting Expense <u>Surrebuttal</u> – Unamortized Balance of Security AAO, Cedar Hill Waste Water Plant, Tank Painting Expense, Fire Hydrant Painting Expense | Settled |
| Missouri Gas Utility, Inc. | GR-2008-0060 | <u>Report on Cost of Service</u> – Plant-in Service/Capitalization Policy, Plant-in Service/Purchase Price Valuation, Depreciation Reserve, Revenues, Uncollectible Expense | Settled |
| Laclede Gas Company | GR-2007-0208 | <u>Direct</u> - Test Year and True-Up, Environmental costs, AAOs, Revenue, Miscellaneous Revenue, Gross receipts Tax, Gas Costs, Uncollectibles, EWCR, AMR, Acquisition Adjustment | Settled |
| Kansas City Power & Light | ER-2006-0314 | <u>Direct</u> - Gross Receipts Tax, Revenues, Weather Normalization, Customer Growth/Loss Annualization, Large Customer Annualization, Other Revenue, Uncollectible (Bad Debt) Expense, Payroll, A&G Salaries Capitalization Ratio, Payroll Taxes, Employer 401 (k) Match, Other Employee Benefits <u>Surrebuttal</u> - Uncollectible (Bad Debt) Expense, Payroll, A&G Salaries Capitalization Ratio, Other Employee Benefits | Contested |
| Missouri Gas Energy | GR-2006-0204 | <u>Direct</u> - Payroll, Incentive Compensation, Payroll Taxes, Employee Benefits, Lobbying, Customer & Governmental Relations Department, Collections Contract | Settled |

**CASE PARTICIPATION
OF
KIMBERLY K. BOLIN**

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

| <u>Company Name</u> | <u>Case Number</u> | <u>Testimony/Issues</u> | <u>Contested or Settled</u> |
|---|--------------------------------|--|--|
| Missouri Gas Energy | GU-2005-0095 | <u>Rebuttal</u> - Accounting Authority Order <u>Surrebuttal</u> - Accounting Authority Order | Contested |
| The Empire District Electric Company | ER-2004-0570 | <u>Direct</u> - Payroll | Settled |
| Missouri American Water Company & Cedar Hill Utility Company | SM-2004-0275 | <u>Direct</u> - Acquisition Premium | Settled |
| Missouri Gas Energy | GR-2004-0209 | <u>Direct</u> - Safety Line Replacement Program; Environmental Response Fund; Dues & Donations; Payroll; Customer & Governmental Relations Department Disallowance; Outside Lobbyist Costs <u>Rebuttal</u> - Customer Service; Incentive Compensation; Environmental Response Fund; Lobbying/Legislative Costs <u>True-Up</u> - Rate Case Expense | Contested |
| Osage Water Company | ST-2003-0562 / WT-2003-0563 | <u>Direct</u> - Payroll <u>Rebuttal</u> - Payroll; Lease Payments to Affiliated Company; alleged Legal Requirement of a Reserve | Case Dismissed |
| Missouri American Water Company | WR-2003-0500 | <u>Direct</u> - Acquisition Adjustment; Water Treatment Plant Excess Capacity; Retired Treatment Plan; Affiliated Transactions; Security AAO; Advertising Expense; Customer Correspondence | Settled |
| Empire District Electric | ER-2002-424 | <u>Direct</u> - Dues & Donations; Memberships; Payroll; Security Costs <u>Rebuttal</u> - Energy Traders' Commission <u>Surrebuttal</u> - Energy Traders' Commission | Settled |

**CASE PARTICIPATION
OF
KIMBERLY K. BOLIN**

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

| <u>Company Name</u> | <u>Case Number</u> | <u>Testimony/Issues</u> | <u>Contested or Settled</u> |
|---------------------------------|-----------------------------|--|------------------------------------|
| Laclede Gas Company | GR-2002-356 | <u>Direct</u> - Advertising Expense; Safety Replacement Program and the Copper Service Replacement Program; Dues & Donations; Rate Case Expense <u>Rebuttal</u> - Gas Safety Replacement Program / Deferred Income Taxes for AAOs | Settled |
| Missouri-American Water Company | WO-2002-273 | <u>Rebuttal</u> - Accounting Authority Order <u>Cross-Surrebuttal</u> - Accounting Authority Order | Contested |
| Environmental Utilities | WA-2002-65 | <u>Direct</u> - Water Supply Agreement <u>Rebuttal</u> - Certificate of Convenience & Necessity | Contested |
| Warren County Water & Sewer | WC-2002-160 / SC-2002-155 | <u>Direct</u> - Clean Water Act Violations; DNR Violations; Customer Service; Water Storage Tank; Financial Ability; Management Issues <u>Surrebuttal</u> - Customer Complaints; Poor Management Decisions; Commingling of Regulated & Non-Related Business | Contested |
| Laclede Gas Company | GR-2001-629 | <u>Direct</u> - Advertising Expense; Safety Replacement Program; Dues & Donations; Customer Correspondence | Settled |
| Gateway Pipeline Company | GM-2001-585 | <u>Rebuttal</u> - Acquisition Adjustment; Affiliated Transactions; Company's Strategic Plan | Contested |
| Empire District Electric | ER-2001-299 | <u>Direct</u> - Payroll; Merger Expense <u>Rebuttal</u> - Payroll <u>Surrebuttal</u> - Payroll | Settled |
| Osage Water Company | SR-2000-556/ WR-2000-557 | <u>Direct</u> - Customer Service | Contested |

**CASE PARTICIPATION
OF
KIMBERLY K. BOLIN**

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

| <u>Company Name</u> | <u>Case Number</u> | <u>Testimony/Issues</u> | <u>Contested or Settled</u> |
|---------------------------------|-----------------------------|--|--|
| St. Louis County Water Company | WR-2000-844 | <u>Direct</u> - Main Incident Expense | Settled |
| Missouri American Water Company | WR-2000-281/ SR-2000-282 | <u>Direct</u> - Water Plant Premature Retirement; Rate Case Expense <u>Rebuttal</u> - Water Plant Premature Retirement <u>Surrebuttal</u> - Water Plant Premature Retirement | Contested |
| Laclede Gas Company | GR-99-315 | <u>Direct</u> - Advertising Expense; Dues & Donations; Miscellaneous Expense; Items to be Trued-up | Contested |
| St. Joseph Light & Power | HR-99-245 | <u>Direct</u> - Advertising Expense; Dues & Donations; Miscellaneous Expense; Items to be Trued-up <u>Rebuttal</u> - Advertising Expense <u>Surrebuttal</u> - Advertising Expense | Settled |
| St. Joseph Light & Power | ER-99-247 | <u>Direct</u> - Merger Expense; Rate Case Expense; Deferral of the Automatic Mapping/Facility Management Costs <u>Rebuttal</u> - Merger Expense; Rate Case Expense; Deferral of the Automatic Mapping/Facility Management Costs <u>Surrebuttal</u> - Merger Expense; Rate Case Expense; Deferral of the Automatic Mapping/Facility Management Costs | Settled |
| Laclede Gas Company | GR-98-374 | <u>Direct</u> - Advertising Expense; Gas Safety Replacement AAO; Computer System Replacement Costs | Settled |
| Missouri Gas Energy | GR-98-140 | <u>Direct</u> - Payroll; Advertising; Dues & Donations; Regulatory Commission Expense; Rate Case Expense | Contested |

**CASE PARTICIPATION
OF
KIMBERLY K. BOLIN**

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

| <u>Company Name</u> | <u>Case Number</u> | <u>Testimony/Issues</u> | <u>Contested or Settled</u> |
|---------------------------------|---------------------------|--|--|
| Gascony Water Company, Inc. | WA-97-510 | <u>Rebuttal</u> - Rate Base; Rate Case Expense; Cash Working Capital | Settled |
| Union Electric Company | GR-97-393 | <u>Direct</u> - Interest Rates for Customer Deposits | Settled |
| St. Louis County Water Company | WR-97-382 | <u>Direct</u> - Interest Rates for Customer Deposits, Main Incident Expense | Settled |
| Associated Natural Gas Company | GR-97-272 | <u>Direct</u> - Acquisition Adjustment; Interest Rates for Customer Deposits <u>Rebuttal</u> - Acquisition Adjustment; Interest Rates for Customer Deposits <u>Surrebuttal</u> - Interest Rates for Customer Deposits | Contested |
| Missouri-American Water Company | WA-97-45 | <u>Rebuttal</u> - Waiver of Service Connection Charges | Contested |
| Imperial Utility Corporation | SC-96-427 | <u>Direct</u> - Revenues, CIAC <u>Surrebuttal</u> - Payroll; Uncollectible Accounts Expense; Rate Case Expense, Revenues | Settled |
| St. Louis Water Company | WR-96-263 | <u>Direct</u> -Main Incident Repairs <u>Rebuttal</u> - Main Incident Repairs <u>Surrebuttal</u> - Main Incident Repairs | Contested |
| Steelville Telephone Company | TR-96-123 | <u>Direct</u> - Depreciation Reserve Deficiency | Settled |

**CASE PARTICIPATION
OF
KIMBERLY K. BOLIN**

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

| <u>Company Name</u> | <u>Case Number</u> | <u>Testimony/Issues</u> | <u>Contested or Settled</u> |
|------------------------------------|---------------------------|---|--|
| Missouri-American Water Company | WR-95-205/ SR-95-206 | <p><u>Direct</u>- Property Held for Future Use; Premature Retirement of Sewer Plant; Depreciation Study Expense; Deferred Maintenance</p> <p><u>Rebuttal</u>- Property Held for Future Use; Premature Retirement of Sewer Plant; Deferred Maintenance</p> <p><u>Surrebuttal</u>- Property Held for Future Use; Premature Retirement of Sewer Plant</p> | Contested |
| St. Louis County Water Company | WR-95-145 | <p><u>Rebuttal</u>- Tank Painting Reserve Account; Main Repair Reserve Account</p> <p><u>Surrebuttal</u>- Main Repair Reserve Account</p> | Contested |

Kim Cox

EDUCATION

Bachelor of Science

Central Missouri State University, Warrensburg, MO – May 1996

PROFESSIONAL EXPERIENCE

I am currently employed as a Rate and Tariff Examiner III for the Missouri Public Service Commission (Commission). I began my employment with the Commission on July 13, 2009. Before coming to the Commission I was in the regulatory field for ten years where I held the position of a Quality Assurance Analyst.

Since starting with the Commission I have completed the Consumer Affairs Training held by NARUC and provided a Staff Recommendation for an application by Missouri Gas Utility for a Certificate of Convenience and Necessity in case GA-2010-0012.

MICHAEL J. ENSRUD

My educational and professional experience is as follows:

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

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

MICHAEL J. ENSRUD

Schedule 1

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

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

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

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

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

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

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

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

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

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

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

JERMAINE GREEN

Educational and Employment Background and Credentials

I am currently employed as a Utility Regulatory Auditor I for the Missouri Public Service Commission (Commission). I accepted the position of Utility Regulatory Auditor I in June 2009.

In May 2009, I earned a Bachelor of Arts in Accounting from Westminster College in Fulton, Missouri. While in college I was chairman of the Student Government Association Finance Committee and managed an annual budget of \$100,000. Prior to joining the Commission I worked for Central Bancompany in the capacity of a part-time Teller.

While at the Commission, I have assisted with the preparation of schedules in the Noel Water Company rate case, Case No. WR-2009-0395. I sponsored recommendations on Plant in Service, Depreciation Expenses and Reserve.

Empire District Gas Company

GR-2009-0434

Education, Background and Case Participation

Paul R. Harrison

I am a Utility Regulatory Auditor IV with the Missouri Public Service Commission (PSC or Commission). I have performed duties as a Utility Regulatory Auditor within the Auditing Department at the Commission since January 18, 2000. I have also been responsible for the supervision of other Audit Department employees in rate cases and other regulatory proceedings before the Commission.

I graduated from Park College, Kansas City, Missouri, where I earned Bachelor of Science degrees in both Accounting and Management with Magna Cum Laude honors in July 1995. I also earned an Associate degree in Missile Maintenance Technology from the Community College of the Air Force in June 1990.

Prior to coming to work at the Commission, I was the manager for Tool Warehouse Inc. for four and one-half years. As the manager, I managed, supervised, coordinated and scheduled daily activities of personal assigned to the Tool Warehouse. I was responsible for the daily sales volume and ordered all merchandise, (\$2.5million), for the tool warehouse in accordance with Tool Warehouse policy and procedures.

Prior to being the manager of the Tool Warehouse Inc, I was in the United States Air Force (USAF) for twenty-three years. During my career in the USAF, I was assigned many different duty positions with various levels of responsibility. I retired from active duty on May 1, 1994 as Superintendent of the 321st Strategic Missile Wing Missile Mechanical

Flight. In that capacity, I supervised 95 missile maintenance technicians and managed assets valued in excess of \$50 million.

My duties at the Commission include performing audits of the books and records of regulated public utilities under the jurisdiction of the MoPSC, in conjunction with other Commission Staff (Staff) members. In this capacity, I am required to prepare testimony and serve as a Staff expert witness on rate cases concerning the ratemaking philosophy and methodology of issues that I am assigned.

I have acquired general knowledge of these topics through my experience and analyses in prior rate cases before this Commission. I have also acquired knowledge of these topics through review of Staff work papers for prior rate cases brought before this Commission. I have reviewed prior Commission decisions with regard to these areas. I have reviewed the Company's testimony, work papers and responses to Staff's data requests addressing these topics. In addition, my college coursework included accounting and auditing classes. Since commencing employment with the Commission in January 2000, I have attended various in house training seminars and National Association of Regulatory Utility Commission (NARUC) conferences. I have participated in approximately twenty-three formal rate case proceedings. I have also participated in and supervised the work on a number of informal rate proceedings. As a senior auditor and the Lead Auditor on a number of cases, I have participated in the supervision and instruction of new accountants and auditors within the Utility Services Division.

The Schedule below lists the rate cases in which I filed testimony, the issues that I have successfully completed and the small informal cases that I have been assigned.

CASE PROCEEDING/PARTICIPATION

PAUL R. HARRISON

| COMPANY | CASE NO. | TESTIMONY/ISSUES |
|---|---------------------|---|
| SUMMARY OF FORMAL CASES | | |
| Empire District Gas Company | GR-2009-0434 | In Progress Cost of Service Report- Allocations/Rents; Right-of-Way Clearing; AAO-MGP Costs; Franchise Fees; Reconciliation; Income & Deferred Taxes. Lead Auditor |
| Kansas City Power & Light (KCPL) | ER-2009-0089 | April 2009 Surrebuttal- Non-Talent Assessment Severance Costs True-Up - Pensions & OPEBS; Income & Deferred Taxes |
| KCP&L Greater Missouri Operations Company (KCPL-GMO MPS & L&P Electric) | ER-2009-0090 | April 2009 Surrebuttal- Cost of Removal-Income Taxes, Regulatory Asset Amortization. True-Up - Pensions & OPEBS; Income & Deferred Taxes Lead Auditor |
| Kansas City Power & Light (KCPL) | ER-2009-0089 | March 2009 Cost of Service Report- Pensions & OPEBS; Non-Talent Assessment Severance Costs; Officer Expenses; Meals & Entertainment Expense; Employee Relocation Expense; Lobbying Expense; Lease Expenses; Non-Operating Cost Adjustment; Income & Deferred Taxes |
| KCP&L Greater Missouri Operations Company (KCPL-GMO MPS & L&P Electric) | ER-2009-0090 | March 2009 Cost of Service Report- Pensions & OPEBS; Miscellaneous Adjustments; SJLP Merger Transition Costs; Employee Relocation Expense; Lease Expenses; Income & Deferred Taxes Lead Auditor |
| KCP&L Greater Missouri Operations Company (KCPL-GMO L&P Steam) | HR-2009-0092 | March 2009 Cost of Service Report- Pensions & OPEBS; Miscellaneous Adjustments; Income & Deferred Taxes Lead Auditor |

CASE PROCEEDING/PARTICIPATION

PAUL R. HARRISON

| COMPANY | CASE NO. | TESTIMONY/ISSUES |
|---------------------------------|---------------------|--|
| Missouri American Water Company | WR-2008-0311 | October 2008 Surrebuttal- Belleville Lab Allocations; Compensation for Services MAWC Provided to AWR Litigated- Corporate Allocations True-Up - Corporate Allocations; Income & Deferred Taxes Lead Auditor |
| Missouri American Water Company | WR-2008-0311 | August 2008 Cost of Service Report- Case Reconciliation; Corporate Allocations & Expenses; Belleville Lab Allocations; Compensation for Services MAWC Provided to AWR; Income & Deferred Taxes Lead Auditor |
| Laclede Gas Company | | In Progress Investigation of Affiliated Transactions, Corporate Allocations & Appropriate Time Charges Between Laclede's Regulated & Unregulated Subsidiaries |
| Missouri Gas Energy | GU-2007-0480 | July 2008 Rebuttal- AAO Manufactured Gas Plant Litigated- Manufactured Gas Plant |
| Missouri Gas Energy | GU-2007-0480 | September 2007 Memorandum – AAO Manufactured Gas Plant Lead Auditor |
| Missouri Gas Utility | GR-2008-0060 | February 2008 Cost of Service Report- Revenue Requirement Run (EMS) Merger & Acquisition Costs (Start-Up Costs); Corporate Allocations; Income & Deferred Taxes Lead Auditor |

CASE PROCEEDING/PARTICIPATION

PAUL R. HARRISON

| COMPANY | CASE NO. | TESTIMONY/ISSUES |
|--|---------------------|--|
| Missouri Gas Energy | GR-2006-0422 | November 2006 Rebuttal- Environmental Response Fund, Manufactured Gas Plant Litigated- Manufactured Gas Plant |
| Missouri Gas Energy | GR-2006-0422 | October 2006 Direct- Revenues; Purchased Gas Adjustments; Bad Debt Expense; ECWR AAO Bad Debt: Rent; Pensions & OPEBS; Income Taxes; Franchise Taxes; Manufactured Gas Plant, and Case Reconciliation Litigated- Emergency Cold Weather Rule True-Up - Revenues; Bad Debt Expense; Pensions & OPEBS; Income Taxes |
| The Empire District Electric Company | ER-2006-0315 | July 2006 Rebuttal- Storm Damage Tracker |
| The Empire District Electric Company | ER-2006-0315 | June 2006 Direct- Tree Trimming Expense and Construction Over-Run Costs |
| Missouri Pipeline & Missouri Gas Company LLC | GC-2006-0378 | November 2006 Plant in Service, Depreciation Reserve, Depreciation Expense, Transactions & Acquisition Costs and Income Taxes |
| New Florence Telephone Company | TC-2006-0184 | October 2006 Plant in Service; Depreciation Reserve; Depreciation Expense; Plant Overage; and Materials & Supplies |
| Cass County Telephone Company | TC-2005-0357 | July 2006 Plant in Service; Depreciation Reserve; Depreciation Expense; Plant Overage; Plant Held for Future Use and Missouri Universal Service Fund |

CASE PROCEEDING/PARTICIPATION**PAUL R. HARRISON**

| COMPANY | CASE NO. | TESTIMONY/ISSUES |
|--|---------------------|--|
| Cass County Telephone Company & New Florence Telephone Company Fraud Investigation Case | TO-2005-0237 | May 2006 Fraud Investigation case involving Cass County Telephone and New Florence Telephone |
| Missouri Gas Energy | GR-2004-0209 | June 2004 Surrebuttal - Revenues and Bad Debt Expense True-Up - Revenues; Bad Debt Expense; Income Taxes |
| Missouri Gas Energy | GR-2004-0209 | May 2004 Rebuttal - Revenues; Bad Debt Expense; and Manufactured Gas Plant Litigated- Manufactured Gas Plant |
| Missouri Gas Energy | GR-2004-0209 | April 2004 Direct – Revenues; Purchased Gas Adjustments; Bad Debt Expense; Medical Expense; Rents; and Income Taxes |
| Union Electric Company d/b/a AmerenUE (Gas) | GR-2003-0517 | October 2003 Direct – Corporate Allocations; UEC Missouri Gas Allocations; CILCORP Allocations; Rent Expense; Maintenance of General Plant Expense; Lease Agreements; and Employee Relocation Expense |
| Union Electric Company d/b/a AmerenUE | EC-2002-1 | June 2002 Surrebuttal - Coal Inventory; Venice Power Plant Fire; Tree Trimming Expense; and Automated Meter Reading Service |
| Laclede Gas Company | GR-2002-356 | June 2002 Direct - Payroll; Payroll Taxes; 401k Pension Plan; Health Care Expenses; Pension Plan Trustee Fees; and Clearing Account: True- Up – Payroll; Payroll Taxes; and Clearing Accounts |

CASE PROCEEDING/PARTICIPATION

PAUL R. HARRISON

| COMPANY | CASE NO. | TESTIMONY/ISSUES |
|--|---------------------|---|
| Union Electric Company d/b/a AmerenUE (2 nd period, 3 rd EARP) | EC-2002-1025 | April 2002 Direct - Revenue Requirement Run; Plant in Service; Deprec Reserve; Other Rate Base items; Venice Power Plant Fire expenditures; Tree Trimming Expense; and Coal Inventory |
| 2 nd Complaint Case, Union Electric Company d/b/a AmerenUE New Test Year ordered by the Commission. | EC-2002-1 | March 2002 Direct - Materials and Supplies; Prepayments; Fuel Inventory; Customer Advances for Construction; Customer Deposits; Plant in Service; Depreciation Reserve; Venice Power Plant Fire Expenditures; Tree-Trimming Expense; Automated Meter Reading Expense; Customer Deposit Interest Expense; Year 2000 Computer Modification Expense; Regulatory Advisor's Consulting Fees; and Property Taxes Deposition – April 11, 2002 |
| 1 st Complaint Case, Union Electric Company d/b/a AmerenUE | EC-2002-1 | July 2001 Direct - Materials and Supplies; Prepayments; Fuel Inventory; Customer Advances for Construction; Customer Deposits; Plant in Service; Depreciation Reserve; Power Plant Maintenance Expense; Tree-Trimming Expense; Automated Meter Reading Expense; Customer Deposit Interest Expense; Year 2000 Computer Modification Expense; Computer Software Expense; Regulatory Advisor's Consulting Fees; Board of Directors Advisor's Fees and Property Taxes. Deposition – November 27 2001 |
| Union Electric Company d/b/a AmerenUE (2 nd period, 2 nd EARP) | EC-2001-431 | February 2001 Coal Inventory |
| Union Electric Company d/b/a AmerenUE (Gas) | GR-2000-512 | August 2000 Direct - Cash Working Capital; Advertising Expense; Missouri PSC Assessment; Dues and Donations; Automated Meter Reading Expenses; Computer System Software Expenses (CSS); Computer System Software Expenses (Y2K); Computer System Software Expenses (EMPRV); Generation Strategy Project Expenses; Regulatory Advisor's Consulting fees and Board of Directors Advisor's fees. |

CASE PROCEEDING/PARTICIPATION

PAUL R. HARRISON

| COMPANY | CASE NO. | TESTIMONY/ISSUES |
|---|---|--|
| SUMMARY OF INFORMAL CASES | | |
| Noel Water Company | WR-2009-0395 | August 2009 Cost of Service; All Revenues & Expenses related to Noel Water Company; Plant in Service; Depreciation Reserve & other Rate Base Items. Lead Auditor |
| Tri-State Water Company | WR-2009-0058 | May 2008 Payroll; rent expense; miscellaneous maintenance expenses; Rate Base and Income Taxes. Lead Auditor |
| Big Island Water & Sewer Company | WA-2006-0480 SA-2006-0482 | January 2007 Direct - Certificate of Necessitate Application Case: Cost of Service; All Revenues & Expenses related to Big Island Water & Sewer; Plant in Service; Depreciation Reserve & other Rate Base Items. Lead Auditor |
| Aqua Missouri, Inc (Water and Sewer) | QS-2005-0008 QW-2005-009 QS-2005-0010 QW-2005-0011 | October 2006 All Revenues & Expenses related to Aqua MO Water & Sewer; Plant in Service; Depreciation Reserve & other Rate Base Items. Lead Auditor |
| Lake Region Water and Sewer Company (Certificate Case) | WA-2005-0463 | October 2006 Certificate of Necessitate Application Case Lead Auditor |

CASE PROCEEDING/PARTICIPATION

PAUL R. HARRISON

| COMPANY | CASE NO. | TESTIMONY/ISSUES |
|---|--|--|
| Tri-State Utility Inc. | WA-2006-0241 | May 2006 Certificate of Necessitate Application Case Lead Auditor |
| Osage Water Company Environmental Utilities Missouri American Water Company | WO-2005-0086 | February 2005 Rate Base; Cost of Service; Income Statement Items; Pre-Post Sale of OWC, Sale of EU Assets to MAWC |
| North Suburban Public Utility Company, Inc. (Water & Sewer) | WF-2005-0164 | December 2004 Sale of All Stocks of Lake Region Water & Sewer to North Suburban Water & Sewer, Value of Rate Base Assets, Acquisition Premium Lead Auditor |
| Mill Creek Sewers, Inc. | SR-2005-0116 | December 2004 Cost of Service; All Revenues & Expenses related to Mill Creek Sewer; Plant in Service; Depreciation Reserve & other Rate Base Items. Lead Auditor |
| Roark Water and Sewer , Inc. | WR-2005-0153 SR-2005-0154 | September 2004 Cost of Service; All Revenues & Expenses related to Roark Water & Sewer; Plant in Service; Depreciation Reserve & other Rate Base Items. Lead Auditor |
| Osage Water Company | WT-2003-0583 SR-2003-0584 | December 2003 Cost of Service; All Revenues & Expenses related to Osage Water; Plant in Service; Depreciation Reserve & other Rate Base Items |

CASE PROCEEDING/PARTICIPATION

PAUL R. HARRISON

| COMPANY | CASE NO. | TESTIMONY/ISSUES |
|---|----------|------------------|
| SUMMARY OF NON-CASE RELATED AUDITS | | |
| January 2006 – Environmental Utilities and Osage Water Company Audit Concerning Provision of Service to Eagle Woods Subdivision and Disconnect Notice | | |
| November 2004 - Internal Audit of Public Service Commission (PSC) Fixed Assets, Physical Inventory Control Process and Location of Assets | | |

Manisha Lakhanpal

Present Position: Regulatory Economist III

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

Educational Background:

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

Work Experience:

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

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

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

Case Proceeding Participation

| Company | Case Number | Issue |
|--|--------------|---|
| Missouri Gas Utility | GR-2008-0060 | Weather normal variables for weather normalization |
| Empire District Electric Company | ER-2008-0093 | Weather normal variables for weather normalization, Large Customer Analysis |
| Trigen-Kansas City Energy Corporation-(Steam/Heat) | HR-2008-0300 | Weather normal variables and weather normalization factors |
| Ameren UE | ER-2008-0318 | Weather normal variables for weather normalization, Revenue for Large Power Class |
| Kansas City Power & Light Company | ER-2009-0089 | Weather normal variables for weather normalization, Retail Rate Revenue |
| KCP&L GMO Company | ER-2009-0090 | Weather normal variables for weather normalization |
| MGE (filed rebuttal and surrebuttal testimony) | GR-2009-0355 | Weather normal variables for weather normalization |

Phil S. Lock

Educational and Employment Background

I am employed as a Regulatory Auditor with the Missouri Public Service Commission. I graduated from Central Missouri State University with a Bachelor of Science degree in Finance in 1980 and Accounting in 1986.

Prior to employment with the Commission, I was employed as a Tax Auditor with the Missouri Highway Reciprocity Commission. I also held a position as a Research Analyst with the Division of Family Services.

I began employment with the Commission in 1987 as a Regulatory Auditor in the Accounting Department (now known as the Auditing Department). My duties included assisting with audits and examinations of the books and records of utility companies operating within the state of Missouri.

In October 1993, I obtained by current position as a Regulatory Auditor in the Procurement Analysis Department. Since that time, my responsibilities include reviewing and analyzing amounts charged by natural gas local distribution companies (LDCs) through the Purchased Gas Adjustment (PGA)/Actual Cost Adjustment (ACA) mechanism. Since my time in the Procurement Analysis Department, I have performed and/or assisted in performing numerous ACA reviews of gas utility companies operating within the state of Missouri. Please see the attached table for a list of cases and issues in which I have filed testimony.

SUMMARY OF TESTIMONY

PHIL S. LOCK

| COMPANY NAME | CASE NUMBER | ISSUES |
|--|----------------|---|
| Grand River Mutual Telephone | TR-87-25 | Cash Working Capital |
| Kansas Power and Light Company | GR-89-48 | Lost & Unaccounted for Gas |
| St. Joe Light and Power Company | GR-90-84 | PGA Costs |
| Associated Natural Gas Company | GR-90-152 | Revenues, Gas Costs, Bad Debts |
| United Cities Gas Company | GR-92-21 | Take-or-Pay Refunds |
| Laclede Gas Company | GR-92-165 | Weather Normalization, Customer Annualization, Unbilled Revenue, Postage & Card Stock Expense, Uncollectible Accounts, E&D Expense, Gas Expense |
| United Cities Gas Company | GR-93-47 | Revenues, Gas Costs, Uncollectible Expense, Postage Expense, Customer Bypass |
| Laclede Gas Company | GR-93-149 | Transportation within Contract Demand |
| Laclede Gas Company | GR-94-328 | Capacity Reservation Charges |
| Missouri Public Service | GR-95-273 | Capacity Release |
| Missouri Public Service | GA-97-132 | Establish Optimal Gas Cost and Transportation Level |
| Missouri Public Service | GR-99-435 | Put and Call Transactions |
| Greeley Gas Company | GR-2001-394 | Purchasing Practices |
| Atmos Energy | GR-2001-396 | Agency Fees, Overrun Gas, Storage, Purchasing Practices |
| Aquila Networks D/B/A Missouri Public Service | GR-2001-461 | Purchasing Practices, Deferred Carrying Cost Balance, Puts/Calls |
| Gateway Pipeline Company | GM-2001-585 | PGA Costs |
| Aquila Networks D/B/A Missouri Public Service | GR-2004-0072 | Gas Storage Inventory |
| Atmos Energy Corporation | GR-2006-0387 | Gas Storage Inventory, Uncollectible Expense, Gas Cost Tariff Change |

PAULA MADEKA

Present Position:

I am currently employed as a Utility Regulatory Auditor III in the Auditing Department, Utility Services Division.

Education Background and Work Experience:

I graduated with a Masters degree in Business Administration from Lincoln University, Jefferson City, Missouri in August 2005. I attained a Bachelor of Science degree in Accounting from Lincoln University in May 2004. Prior to employment with the Commission, I was employed by the Department of Health and Senior Services. I joined the Commission as a Utility Regulatory Auditor I in March 2006.

**CASE PARTICIPATION
OF
PAULA MAPEKA**

| Date Filed | Case Name | Case Number | Testimony Type/Issues |
|-------------------|--------------------------------------|--------------------|---|
| 02/22/2008 | The Empire District Electric Company | ER-2008-0093 | Staff Report, Cost of Service - Rate Base, Plant in Service, Depreciation Reserve, Cash Working Capital, Materials and Supplies, Prepayments, Customer Advances, Customer Deposits, Clearing Accounts, Payroll, Payroll Taxes and 401K Benefit Costs, Incentive Compensation, Rate Case Expenses, Dues and Donations, Edison Electric Institute Dues, Insurance Expense, Customer Deposit Interest Expense, Property Tax Expense, Advertising Expenses, Postage Expenses, Outside Services, Injuries and Damages |
| 05/24/2007 | Laclede Gas Company | GR-2007-0208 | Direct - Accounting Schedules, Rate Base, Plant in Service, Adjustments to Plant in Service, Depreciation Reserve, Cash Working Capital, Interest on IFP & EWP, Depreciation Expense, Cost of Removal, Advertising, Postage Expense, Property Taxes, MO Franchise Taxes, Postage Expenses, Regulatory Expenses, Outside Services |
| 12/11/2006 | Missouri Gas Energy | GR-2006-0422 | Surrebuttal - Rate Case Expenses |
| 11/21/2006 | Missouri Gas Energy | GR-2006-0422 | Rebuttal - Cash Working Capital, Software Amortization |
| 10/12/2006 | Missouri Gas Energy | GR-2006-0422 | Direct - Miscellaneous Expenses, Insurance, Postage, Property Taxes, Regulatory Expenses, Dues & Donations, Accounting Schedules, Promotional Giveaways, Other Ratebase Issues, Advertising, Depreciation Expense, Inquiries & Damages, Interest on Customer Deposits, Case Working Capital, Depreciation Reserve, Plant in Service |

**CASE PARTICIPATION
OF
PAULA MAPEKA**

| Date Filed | Case Name | Case Number | Testimony Type/Issues |
|-------------------|--------------------------------------|--------------------|---|
| 06/23/2006 | The Empire District Electric Company | ER-2006-0315 | Direct - Postage Expenses, Property and Liability Insurance, Injuries and Damages & Worker's Compensation, Customer Deposits, PSC Assessment, Rate Case Expense, Customer Advances, Material &Supplies |

HENRY WARREN, PhD
REGULATORY ECONOMIST
UTILITY OPERATIONS DIVISION
ENERGY DEPARTMENT

EDUCATION AND EXPERIENCE

I received my Bachelor of Arts and my Master of Arts in Economics from the University of Missouri-Columbia, and a Doctor of Philosophy (PhD) in Economics from Texas A&M University. Prior to joining the PSC Staff (Staff), I was an Economist with the U.S. National Oceanic and Atmospheric Administration (NOAA). At NOAA I conducted research on the economic impact of climate and weather. I began my employment at the Commission on October 1, 1992 as a Research Economist in the Economic Analysis Department. My duties consisted of calculating adjustments to test-year energy use based on test-year weather and normal weather, and I also assisted in the review of Electric Resource Plans for investor owned utilities in Missouri. From December 1, 1997, until May 2001, I was a Regulatory Economist II in the Commission's Gas Department, where my duties included analysis of issues in natural gas rate cases and were expanded to include reviewing tariff filings, applications and various other matters relating to jurisdictional gas utilities in Missouri. On June 1, 2001 the Commission organized an Energy Department and I was assigned to the Tariff/Rate Design Section of the Energy Department. My duties in the Energy Department include analysis of issues in rate cases of natural gas and electric utilities, tariff filings, applications, and various other matters relating to jurisdictional gas and electric utilities in Missouri, including review of Electric Resource Plans and Regulatory Plans for investor owned electric utilities in Missouri. I have also served on various task forces, collaboratives, and working groups dealing with issues relating to jurisdictional natural gas and electric utilities.

MISSOURI PUBLIC SERVICE COMMISSION
CASES IN WHICH PREPARED TESTIMONY,
REPORT, OR REVIEW WAS SUBMITTED BY:
HENRY E. WARREN, PhD

| <u>COMPANY NAME</u> | <u>CASE NUMBER</u> |
|---|---------------------------|
| St. Joseph Light and Power Company | GR-93-042 ¹ |
| Laclede Gas Co. | GR-93-149 |
| Missouri Public Service | GR-93-172 ¹ |
| Western Resources | GR-93-240 ¹ |
| Laclede Gas Co. | GR-94-220 ¹ |
| Kansas City Power & Light Co. | EO-94-3601 ² |
| United Cities Gas Co. | GR-95-160 ¹ |
| UtiliCorp United, Inc. | EO-95-187 ² |
| The Empire District Electric Co. | ER-95-279 ¹ |
| The Empire District Electric Co. | EO-96-56 ² |
| St. Joseph Light and Power Company | EO-96-198 ² |
| Laclede Gas Co. | GR-96-193 ¹ |
| Missouri Gas Energy | GR-96-285 ¹ |
| The Empire District Electric Co. | ER-97-081 ¹ |
| Union Electric Co. | GR-97-393 ¹ |
| Missouri Gas Energy | GR-98-140 ¹ |
| Laclede Gas Co. | GR-98-374 ¹ |
| St. Joseph Light & Power Company | GR-99-246 ¹ |
| Laclede Gas Co. | GR-99-315 ¹ |
| Union Electric Company (d/b/a AmerenUE) | GR-2000-512 ¹ |
| Missouri Gas Energy | GR-2001-292 ¹ |
| Laclede Gas Co. | GR-2001-629 ¹ |

¹Testimony includes computations to adjust test year volumes, therms, or kWh to normal weather.

²Staff Report or Review

MISSOURI PUBLIC SERVICE COMMISSION
CASES IN WHICH PREPARED TESTIMONY,
REPORT OR REVIEW WAS SUBMITTED BY:
HENRY E. WARREN, PhD
(CONTINUED)

| <u>COMPANY NAME</u> | <u>CASE NUMBER</u> |
|---|---------------------------|
| Laclede Gas Company | GC-2002-0110 ² |
| Laclede Gas Company | GR-2002-0356 ¹ |
| Aquila, Inc. | GC-2003-0131 ² |
| Laclede Gas Company | GC-2003-0212 ² |
| Laclede Gas Company | GT-2003-0117 |
| Aquila, Inc., (d/b/a Aquila Networks MPS and L&P) | GR-2004-0072 ¹ |
| Missouri Gas Energy | GR-2004-0209 |
| Laclede Gas Company | GC-2004-0240 ² |
| Kansas City Power & Light Company | EO-2005-0329 ² |
| Union Electric Company (d/b/a AmerenUE) | EO-2006-0240 ² |
| The Empire District Electric Company | ER-2006-0315 |
| The Atmos Energy Corporation | GR-2006-0387 ¹ |
| Missouri Gas Energy | GR-2006-0422 ¹ |
| Union Electric Company (d/b/a AmerenUE) | GR-2007-0003 ¹ |
| Kansas City Power & Light Company | EO-2007-0008 ² |
| Aquila, Inc., (d/b/a Aquila Networks MPS and L&P) | EO-2007-0298 ² |
| Laclede Gas Company | GR-2007-0208 ² |
| Missouri Gas Energy – The Empire District Gas Company | GA-2007-0289, et al |
| Union Electric Company (d/b/a AmerenUE) | EO-2007-0409 ² |

¹Testimony includes computations to adjust test year volumes, therms, or kWh to normal weather.

²Staff Report or Review

MISSOURI PUBLIC SERVICE COMMISSION
CASES IN WHICH PREPARED TESTIMONY,
REPORT OR REVIEW WAS SUBMITTED BY:
HENRY E. WARREN, PhD
(CONTINUED)

| | |
|---|---------------------------|
| The Empire District Electric Company | EO-2008-0069 ² |
| Union Electric Company (d/b/a AmerenUE) | ER-2008-0318 |
| Missouri Gas Energy | GR-2009-0355 ¹ |

¹Testimony includes computations to adjust test year volumes, therms, or kWh to normal weather.

²Staff Report or Review

Educational and Employment Background and Credentials

of

David Williams

I am currently employed as a Utility Engineering Specialist II for the Missouri Public Service Commission (Commission). I was employed by the Commission in July of 2008. I received a Master of Science degree in Industrial Engineering from the University of Missouri - Columbia in 1967, and undergraduate degrees in engineering and business management in 1965.

From 1967 until 2000 I was employed by the University of Missouri in engineering, research and information technology capacities.

**CASE PARTICIPATION
OF
DAVID WILLIAMS**

| Case/Tracking Number | Company Name - Issue |
|-----------------------------|---|
| SR-2010-0023 | Aqua Missouri, Inc. (Development) - Depreciation Assignment |
| SR-2010-0026 | Aqua Missouri, Inc. (CU) - Depreciation Assignment |
| WR-2010-0027 | Aqua Missouri, Inc. (CU) - Depreciation Assignment |
| IO-2009-0032 | Citizens Telephone Company - Depreciation Assignment |
| GR-2009-0434 | Then Empire District Gas Company - Depreciation Assignment |
| WR-2009-0151 | Hickory Hills Water & Sewer Company, Inc. - Depreciation Assignment |
| SR-2009-0154 | Hickory Hills Water & Sewer Company, Inc. - Depreciation Assignment |
| HR-2009-0092 | KCP&L Greater Missouri Operations Company - Depreciation Review |
| WR-2010-0111 | Lake Region Water & Sewer Co.- Depreciation Assignment |
| SR-2010-0110 | Lake Region Water & Sewer Co. - Depreciation Assignment |
| GR-2009-0355 | Missouri Gas Energy - Depreciation Review |
| WR-2009-0150 | Missouri Utilities Company - Depreciation Assignment |
| SR-2009-0153 | Missouri Utilities Company - Depreciation Assignment |
| WR-2009-0149 | Osage Water Company- Depreciation Assignment |
| SR-2009-0152 | Osage Water Company- Depreciation Assignment |
| WR-2009-0197 | Suburban Water and Sewer Company, Inc. - Depreciation Assignment |
| WA-2009-0261 | Whiteside Hidden Acres, L.L.C. - Depreciation Review |
| SA-2009-0262 | Whiteside Hidden Acres, L.L.C. - Depreciation Review |
| WA-2009-0031 | Woodland Acres Water System - Depreciation Review |

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT
COST OF SERVICE

APPENDIX 2
Support for Staff Cost of Capital Recommendations

EMPIRE DISTRICT GAS COMPANY

CASE NO. GR-2009-0434

MISSOURI PUBLIC SERVICE COMMISSION

Attachment A

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

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

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

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

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

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

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

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

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

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

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

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

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

Attachment B

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

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

where:

$$\begin{aligned} k &= \text{the expected return on equity for a specific security;} \\ R_f &= \text{the risk-free rate;} \\ \beta &= \text{beta; and} \\ R_m - R_f &= \text{the market risk premium.} \end{aligned}$$

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

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

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

AN ANALYSIS OF THE COST OF CAPITAL

FOR

THE EMPIRE DISTRICT GAS COMPANY

CASE NO. GR-2009-0434

SCHEDULES

BY

SHANA ATKINSON

UTILITY SERVICES DIVISION

MISSOURI PUBLIC SERVICE COMMISSION

OCTOBER 2009

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

List of Schedules

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| 2-2 | Graph of Federal Reserve Discount Rates and Federal Funds Rates |
| 3-1 | Rate of Inflation |
| 3-2 | Graph of Rate of Inflation |
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| 4-2 | Average Yields on Thirty-Year U.S. Treasury Bonds |
| 4-3 | Graph of Average Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds |
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| 12 | Seven Comparable Natural Gas Distribution Companies |
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| 18 | Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates Based on Historical Return Differences Between Common Stocks and Long-Term U.S. Treasuries for the Seven Comparable Natural Gas Distribution Companies |
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| 22-4 | Costs of Equity Used in Equity Research Reports for Northwest Natural Gas Company |
| 22-5 | Costs of Equity Used in Equity Research Reports for Piedmont Natural Gas Company |
| 22-6 | Costs of Equity Used in Equity Research Reports for South Jersey Industries, Inc. |
| 22-7 | Costs of Equity Used in Equity Research Reports for WGL Holdings, Inc. |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Federal Reserve Discount Rate Changes and Federal Reserve Funds Rate Changes

| Date | Federal Reserve Discount Rate | Federal Reserve Funds Rate | Date | Federal Reserve Discount Rate | Federal Reserve Funds Rate |
|----------|----------------------------------|-------------------------------|----------|----------------------------------|-------------------------------|
| 01/01/83 | 8.50% | | 06/30/99 | 4.50% | 5.00% |
| 12/31/83 | 8.50% | | 08/24/99 | 4.75% | 5.25% |
| 04/09/84 | 9.00% | | 11/16/99 | 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% |
| 03/07/86 | 7.00% | | 01/03/01 | 5.75% | 6.00% |
| 04/21/86 | 6.50% | | 01/04/01 | 5.50% | 6.00% |
| 07/11/86 | 6.00% | | 01/31/01 | 5.00% | 5.50% |
| 08/21/86 | 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 | | 8.00% * | 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% |
| 12/19/90 | 6.50% | | 11/06/02 | 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% |
| 08/06/91 | | 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% |
| 12/06/91 | | 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% | 08/09/05 | 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% | 06/29/06 | 6.25% | 5.25% |
| 08/16/94 | 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% |
| 03/25/97 | | 5.50% | 03/16/08 | 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% |
| 09/29/98 | | 5.25% | 10/29/08 | 1.25% | 1.00% |
| 10/15/98 | 4.75% | 5.00% | 12/16/08 | 0.50% | 0.00-0.25% |
| 11/17/98 | 4.50% | 4.75% | | | |

* Staff began tracking the Federal Funds Rate.

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

Source:

Federal Reserve Discount rate

<http://www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html>

Federal Reserve Funds rate

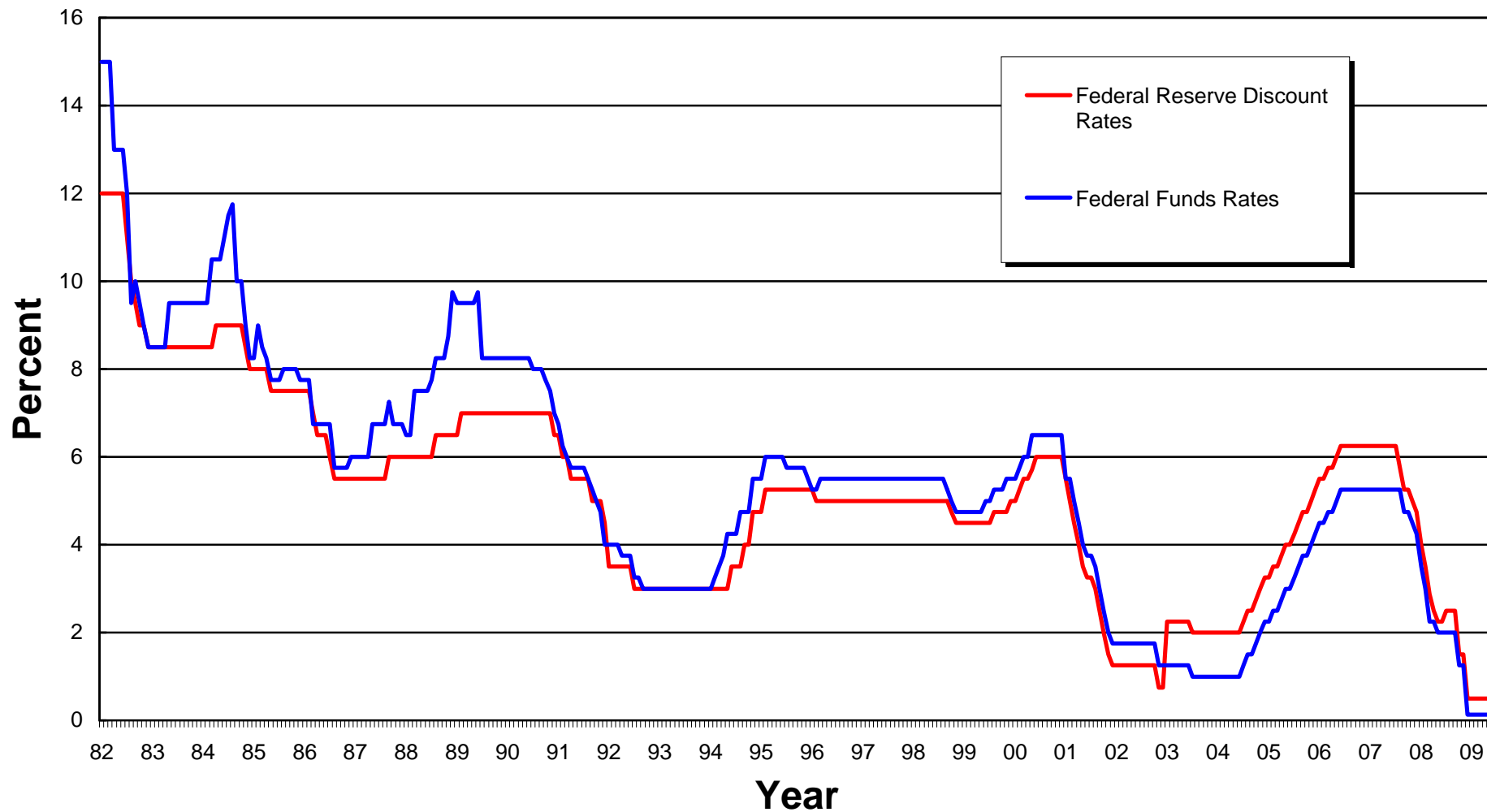
<http://www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html>

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

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Federal Reserve Discount Rates and Federal Funds Rates

1982 - 2009



**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

Rate of Inflation

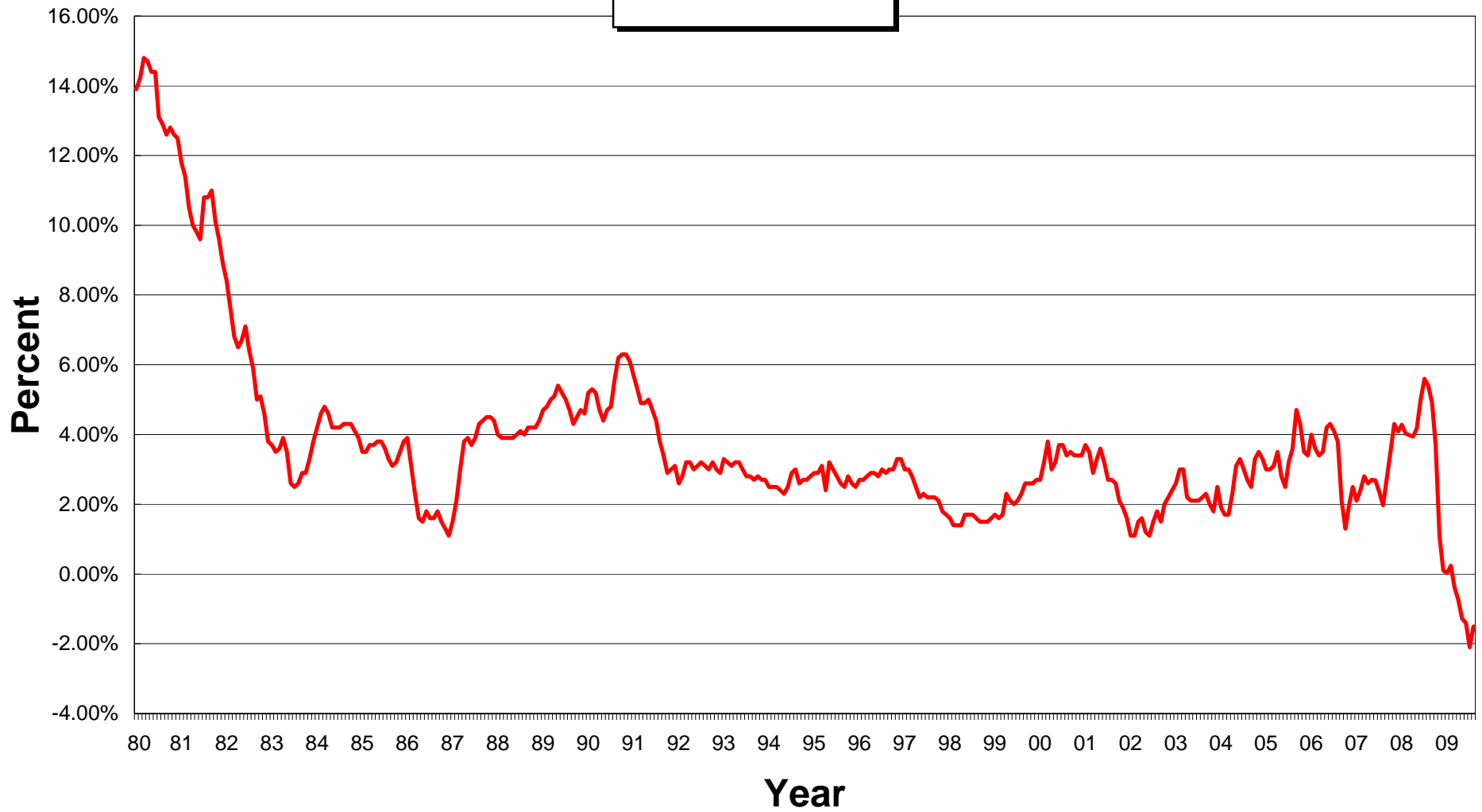
| Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Jan 1980 | 13.90 | Jan 1984 | 4.20 | Jan 1988 | 4.00 | Jan 1992 | 2.60 | Jan 1996 | 2.70 | Jan 2000 | 2.70 | Jan 2004 | 1.90 | Jan 2008 | 4.30 |
| Feb | 14.20 | Feb | 4.60 | Feb | 3.90 | Feb | 2.80 | Feb | 2.70 | Feb | 3.20 | Feb | 1.70 | Feb | 4.00 |
| Mar | 14.80 | Mar | 4.80 | Mar | 3.90 | Mar | 3.20 | Mar | 2.80 | Mar | 3.70 | Mar | 1.70 | Mar | 4.00 |
| Apr | 14.70 | Apr | 4.60 | Apr | 3.90 | Apr | 3.20 | Apr | 2.90 | Apr | 3.00 | Apr | 2.30 | Apr | 3.90 |
| May | 14.40 | May | 4.20 | May | 3.90 | May | 3.00 | May | 2.90 | May | 3.20 | May | 3.10 | May | 4.20 |
| Jun | 14.40 | Jun | 4.20 | Jun | 4.00 | Jun | 3.10 | Jun | 2.80 | Jun | 3.70 | Jun | 3.30 | Jun | 5.00 |
| Jul | 13.10 | Jul | 4.20 | Jul | 4.10 | Jul | 3.20 | Jul | 3.00 | Jul | 3.70 | Jul | 3.00 | Jul | 5.60 |
| Aug | 12.90 | Aug | 4.30 | Aug | 4.00 | Aug | 3.10 | Aug | 2.90 | Aug | 3.40 | Aug | 2.70 | Aug | 5.40 |
| Sep | 12.60 | Sep | 4.30 | Sep | 4.20 | Sep | 3.00 | Sep | 3.00 | Sep | 3.50 | Sep | 2.50 | Sep | 4.90 |
| Oct | 12.80 | Oct | 4.30 | Oct | 4.20 | Oct | 3.20 | Oct | 3.00 | Oct | 3.40 | Oct | 3.30 | Oct | 3.70 |
| Nov | 12.60 | Nov | 4.10 | Nov | 4.20 | Nov | 3.00 | Nov | 3.30 | Nov | 3.40 | Nov | 3.50 | Nov | 1.10 |
| Dec | 12.50 | Dec | 3.90 | Dec | 4.40 | Dec | 2.90 | Dec | 3.30 | Dec | 3.40 | Dec | 3.30 | Dec | 0.10 |
| Jan 1981 | 11.80 | Jan 1985 | 3.50 | Jan 1989 | 4.70 | Jan 1993 | 3.30 | Jan 1997 | 3.00 | Jan 2001 | 3.70 | Jan 2005 | 3.00 | Jan 2009 | 0.00 |
| Feb | 11.40 | Feb | 3.50 | Feb | 4.80 | Feb | 3.20 | Feb | 3.00 | Feb | 3.50 | Feb | 3.00 | Feb | 0.20 |
| Mar | 10.50 | Mar | 3.70 | Mar | 5.00 | Mar | 3.10 | Mar | 2.80 | Mar | 2.90 | Mar | 3.10 | Mar | -0.40 |
| Apr | 10.00 | Apr | 3.70 | Apr | 5.10 | Apr | 3.20 | Apr | 2.50 | Apr | 3.30 | Apr | 3.50 | Apr | -0.70 |
| May | 9.80 | May | 3.80 | May | 5.40 | May | 3.20 | May | 2.20 | May | 3.60 | May | 2.80 | May | -1.28 |
| Jun | 9.60 | Jun | 3.80 | Jun | 5.20 | Jun | 3.00 | Jun | 2.30 | Jun | 3.20 | Jun | 2.50 | June | -1.40 |
| Jul | 10.80 | Jul | 3.60 | Jul | 5.00 | Jul | 2.80 | Jul | 2.20 | Jul | 2.70 | Jul | 3.20 | July | -2.10 |
| Aug | 10.80 | Aug | 3.30 | Aug | 4.70 | Aug | 2.80 | Aug | 2.20 | Aug | 2.70 | Aug | 3.60 | Aug | -1.50 |
| Sep | 11.00 | Sep | 3.10 | Sep | 4.30 | Sep | 2.70 | Sep | 2.20 | Sep | 2.60 | Sep | 4.70 | | |
| Oct | 10.10 | Oct | 3.20 | Oct | 4.50 | Oct | 2.80 | Oct | 2.10 | Oct | 2.10 | Oct | 4.30 | | |
| Nov | 9.60 | Nov | 3.50 | Nov | 4.70 | Nov | 2.70 | Nov | 1.80 | Nov | 1.90 | Nov | 3.50 | | |
| Dec | 8.90 | Dec | 3.80 | Dec | 4.60 | Dec | 2.70 | Dec | 1.70 | Dec | 1.60 | Dec | 3.40 | | |
| Jan 1982 | 8.40 | Jan 1986 | 3.90 | Jan 1990 | 5.20 | Jan 1994 | 2.50 | Jan 1998 | 1.60 | Jan 2002 | 1.10 | Jan 2006 | 4.00 | | |
| Feb | 7.60 | Feb | 3.10 | Feb | 5.30 | Feb | 2.50 | Feb | 1.40 | Feb | 1.10 | Feb | 3.60 | | |
| Mar | 6.80 | Mar | 2.30 | Mar | 5.20 | Mar | 2.50 | Mar | 1.40 | Mar | 1.50 | Mar | 3.40 | | |
| Apr | 6.50 | Apr | 1.60 | Apr | 4.70 | Apr | 2.40 | Apr | 1.40 | Apr | 1.60 | Apr | 3.50 | | |
| May | 6.70 | May | 1.50 | May | 4.40 | May | 2.30 | May | 1.70 | May | 1.20 | May | 4.20 | | |
| Jun | 7.10 | Jun | 1.80 | Jun | 4.70 | Jun | 2.50 | Jun | 1.70 | Jun | 1.10 | June | 4.30 | | |
| Jul | 6.40 | Jul | 1.60 | Jul | 4.80 | Jul | 2.90 | Jul | 1.70 | Jul | 1.50 | July | 4.10 | | |
| Aug | 5.90 | Aug | 1.60 | Aug | 5.60 | Aug | 3.00 | Aug | 1.60 | Aug | 1.80 | Aug | 3.80 | | |
| Sep | 5.00 | Sep | 1.80 | Sep | 6.20 | Sep | 2.60 | Sep | 1.50 | Sep | 1.50 | Sep | 2.10 | | |
| Oct | 5.10 | Oct | 1.50 | Oct | 6.30 | Oct | 2.70 | Oct | 1.50 | Oct | 2.00 | Oct | 1.30 | | |
| Nov | 4.60 | Nov | 1.30 | Nov | 6.30 | Nov | 2.70 | Nov | 1.50 | Nov | 2.20 | Nov | 2.00 | | |
| Dec | 3.80 | Dec | 1.10 | Dec | 6.10 | Dec | 2.80 | Dec | 1.60 | Dec | 2.40 | Dec | 2.50 | | |
| Jan 1983 | 3.70 | Jan 1987 | 1.50 | Jan 1991 | 5.70 | Jan 1995 | 2.90 | Jan 1999 | 1.70 | Jan 2003 | 2.60 | Jan 2007 | 2.10 | | |
| Feb | 3.50 | Feb | 2.10 | Feb | 5.30 | Feb | 2.90 | Feb | 1.60 | Feb | 3.00 | Feb | 2.40 | | |
| Mar | 3.60 | Mar | 3.00 | Mar | 4.90 | Mar | 3.10 | Mar | 1.70 | Mar | 3.00 | Mar | 2.80 | | |
| Apr | 3.90 | Apr | 3.80 | Apr | 4.90 | Apr | 2.40 | Apr | 2.30 | Apr | 2.20 | Apr | 2.60 | | |
| May | 3.50 | May | 3.90 | May | 5.00 | May | 3.20 | May | 2.10 | May | 2.10 | May | 2.70 | | |
| Jun | 2.60 | Jun | 3.70 | Jun | 4.70 | Jun | 3.00 | Jun | 2.00 | Jun | 2.10 | Jun | 2.70 | | |
| Jul | 2.50 | Jul | 3.90 | Jul | 4.40 | Jul | 2.80 | Jul | 2.10 | Jul | 2.10 | Jul | 2.40 | | |
| Aug | 2.60 | Aug | 4.30 | Aug | 3.80 | Aug | 2.60 | Aug | 2.30 | Aug | 2.20 | Aug | 2.00 | | |
| Sep | 2.90 | Sep | 4.40 | Sep | 3.40 | Sep | 2.50 | Sep | 2.60 | Sep | 2.30 | Sep | 2.80 | | |
| Oct | 2.90 | Oct | 4.50 | Oct | 2.90 | Oct | 2.80 | Oct | 2.60 | Oct | 2.00 | Oct | 3.50 | | |
| Nov | 3.30 | Nov | 4.50 | Nov | 3.00 | Nov | 2.60 | Nov | 2.60 | Nov | 1.80 | Nov | 4.30 | | |
| Dec | 3.80 | Dec | 4.40 | Dec | 3.10 | Dec | 2.50 | Dec | 2.70 | Dec | 1.90 | Dec | 4.10 | | |

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

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Rate of Inflation

1980 - 2009



**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

Average Yields on Mergent's Public Utility Bonds

| Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) | Mo/Year | Rate (%) |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Jan 1980 | 12.12 | Jan 1984 | 13.40 | Jan 1988 | 10.75 | Jan 1992 | 8.67 | Jan 1996 | 7.20 | Jan 2000 | 8.22 | Jan 2004 | 6.23 | Jan 2008 | 6.08 |
| Feb | 13.48 | Feb | 13.50 | Feb | 10.11 | Feb | 8.77 | Feb | 7.37 | Feb | 8.10 | Feb | 6.17 | Feb | 6.28 |
| Mar | 14.33 | Mar | 14.03 | Mar | 10.11 | Mar | 8.84 | Mar | 7.72 | Mar | 8.14 | Mar | 6.01 | Mar | 6.29 |
| Apr | 13.50 | Apr | 14.30 | Apr | 10.53 | Apr | 8.79 | Apr | 7.88 | Apr | 8.14 | Apr | 6.38 | Apr | 6.36 |
| May | 12.17 | May | 14.95 | May | 10.75 | May | 8.72 | May | 7.99 | May | 8.55 | May | 6.68 | May | 6.38 |
| Jun | 11.87 | Jun | 15.16 | Jun | 10.71 | Jun | 8.64 | Jun | 8.07 | Jun | 8.22 | Jun | 6.53 | Jun | 6.50 |
| Jul | 12.12 | Jul | 14.92 | Jul | 10.96 | Jul | 8.46 | Jul | 8.02 | Jul | 8.17 | Jul | 6.34 | Jul | 6.50 |
| Aug | 12.82 | Aug | 14.29 | Aug | 11.09 | Aug | 8.34 | Aug | 7.84 | Aug | 8.05 | Aug | 6.18 | Aug | 6.48 |
| Sep | 13.29 | Sep | 14.04 | Sep | 10.56 | Sep | 8.32 | Sep | 8.01 | Sep | 8.16 | Sep | 6.01 | Sep | 6.59 |
| Oct | 13.53 | Oct | 13.68 | Oct | 9.92 | Oct | 8.44 | Oct | 7.76 | Oct | 8.08 | Oct | 5.95 | Oct | 7.70 |
| Nov | 14.07 | Nov | 13.15 | Nov | 9.89 | Nov | 8.53 | Nov | 7.48 | Nov | 8.03 | Nov | 5.97 | Nov | 7.80 |
| Dec | 14.48 | Dec | 12.96 | Dec | 10.02 | Dec | 8.36 | Dec | 7.58 | Dec | 7.79 | Dec | 5.93 | Dec | 6.87 |
| Jan 1981 | 14.22 | Jan 1985 | 12.88 | Jan 1989 | 10.02 | Jan 1993 | 8.23 | Jan 1997 | 7.79 | Jan 2001 | 7.76 | Jan 2005 | 5.80 | Jan 2009 | 6.77 |
| Feb | 14.84 | Feb | 13.00 | Feb | 10.02 | Feb | 8.00 | Feb | 7.68 | Feb | 7.69 | Feb | 5.64 | Feb | 6.72 |
| Mar | 14.86 | Mar | 13.66 | Mar | 10.16 | Mar | 7.85 | Mar | 7.92 | Mar | 7.59 | Mar | 5.86 | Mar | 6.85 |
| Apr | 15.32 | Apr | 13.42 | Apr | 10.14 | Apr | 7.76 | Apr | 8.08 | Apr | 7.81 | Apr | 5.72 | Apr | 6.90 |
| May | 15.84 | May | 12.89 | May | 9.92 | May | 7.78 | May | 7.94 | May | 7.88 | May | 5.60 | May | 6.83 |
| Jun | 15.27 | Jun | 11.91 | Jun | 9.49 | Jun | 7.68 | Jun | 7.77 | Jun | 7.75 | Jun | 5.39 | June | 6.54 |
| Jul | 15.87 | Jul | 11.88 | Jul | 9.34 | Jul | 7.53 | Jul | 7.52 | Jul | 7.71 | Jul | 5.50 | July | 6.15 |
| Aug | 16.33 | Aug | 11.93 | Aug | 9.37 | Aug | 7.21 | Aug | 7.57 | Aug | 7.57 | Aug | 5.51 | Aug | 5.80 |
| Sep | 16.89 | Sep | 11.95 | Sep | 9.43 | Sep | 7.01 | Sep | 7.50 | Sep | 7.73 | Sep | 5.54 | | |
| Oct | 16.76 | Oct | 11.84 | Oct | 9.37 | Oct | 6.99 | Oct | 7.37 | Oct | 7.64 | Oct | 5.79 | | |
| Nov | 15.50 | Nov | 11.33 | Nov | 9.33 | Nov | 7.30 | Nov | 7.24 | Nov | 7.61 | Nov | 5.88 | | |
| Dec | 15.77 | Dec | 10.82 | Dec | 9.31 | Dec | 7.33 | Dec | 7.16 | Dec | 7.86 | Dec | 5.83 | | |
| Jan 1982 | 16.73 | Jan 1986 | 10.66 | Jan 1990 | 9.44 | Jan 1994 | 7.31 | Jan 1998 | 7.03 | Jan 2002 | 7.69 | Jan 2006 | 5.77 | | |
| Feb | 16.72 | Feb | 10.16 | Feb | 9.66 | Feb | 7.44 | Feb | 7.09 | Feb | 7.62 | Feb | 5.83 | | |
| Mar | 16.07 | Mar | 9.33 | Mar | 9.75 | Mar | 7.83 | Mar | 7.13 | Mar | 7.83 | Mar | 5.98 | | |
| Apr | 15.82 | Apr | 9.02 | Apr | 9.87 | Apr | 8.20 | Apr | 7.12 | Apr | 7.74 | Apr | 6.28 | | |
| May | 15.60 | May | 9.52 | May | 9.89 | May | 8.32 | May | 7.11 | May | 7.76 | May | 6.39 | | |
| Jun | 16.18 | Jun | 9.51 | Jun | 9.69 | Jun | 8.31 | Jun | 6.99 | Jun | 7.67 | June | 6.39 | | |
| Jul | 16.04 | Jul | 9.19 | Jul | 9.66 | Jul | 8.47 | Jul | 6.99 | Jul | 7.54 | July | 6.37 | | |
| Aug | 15.22 | Aug | 9.15 | Aug | 9.84 | Aug | 8.41 | Aug | 6.96 | Aug | 7.34 | Aug | 6.20 | | |
| Sep | 14.56 | Sep | 9.42 | Sep | 10.01 | Sep | 8.65 | Sep | 6.88 | Sep | 7.23 | Sep | 6.03 | | |
| Oct | 13.88 | Oct | 9.39 | Oct | 9.94 | Oct | 8.88 | Oct | 6.88 | Oct | 7.43 | Oct | 6.01 | | |
| Nov | 13.58 | Nov | 9.15 | Nov | 9.76 | Nov | 9.00 | Nov | 6.96 | Nov | 7.31 | Nov | 5.82 | | |
| Dec | 13.55 | Dec | 8.96 | Dec | 9.57 | Dec | 8.79 | Dec | 6.84 | Dec | 7.20 | Dec | 5.83 | | |
| Jan 1983 | 13.46 | Jan 1987 | 8.77 | Jan 1991 | 9.56 | Jan 1995 | 8.77 | Jan 1999 | 6.87 | Jan 2003 | 7.13 | Jan 2007 | 5.96 | | |
| Feb | 13.60 | Feb | 8.81 | Feb | 9.31 | Feb | 8.56 | Feb | 7.00 | Feb | 6.92 | Feb | 5.91 | | |
| Mar | 13.28 | Mar | 8.75 | Mar | 9.39 | Mar | 8.41 | Mar | 7.18 | Mar | 6.80 | Mar | 5.87 | | |
| Apr | 13.03 | Apr | 9.30 | Apr | 9.30 | Apr | 8.30 | Apr | 7.16 | Apr | 6.68 | Apr | 6.01 | | |
| May | 13.00 | May | 9.82 | May | 9.29 | May | 7.93 | May | 7.42 | May | 6.35 | May | 6.03 | | |
| Jun | 13.17 | Jun | 9.87 | Jun | 9.44 | Jun | 7.62 | Jun | 7.70 | Jun | 6.21 | June | 6.34 | | |
| Jul | 13.28 | Jul | 10.01 | Jul | 9.40 | Jul | 7.73 | Jul | 7.66 | Jul | 6.54 | July | 6.28 | | |
| Aug | 13.50 | Aug | 10.33 | Aug | 9.16 | Aug | 7.86 | Aug | 7.86 | Aug | 6.78 | Aug | 6.28 | | |
| Sep | 13.35 | Sep | 11.00 | Sep | 9.03 | Sep | 7.62 | Sep | 7.87 | Sep | 6.58 | Sep | 6.24 | | |
| Oct | 13.19 | Oct | 11.32 | Oct | 8.99 | Oct | 7.46 | Oct | 8.02 | Oct | 6.50 | Oct | 6.17 | | |
| Nov | 13.33 | Nov | 10.82 | Nov | 8.93 | Nov | 7.40 | Nov | 7.86 | Nov | 6.44 | Nov | 6.04 | | |
| Dec | 13.48 | Dec | 10.99 | Dec | 8.76 | Dec | 7.21 | Dec | 8.04 | Dec | 6.36 | Dec | 6.23 | | |

Source:
Mergent Bond Record

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

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

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

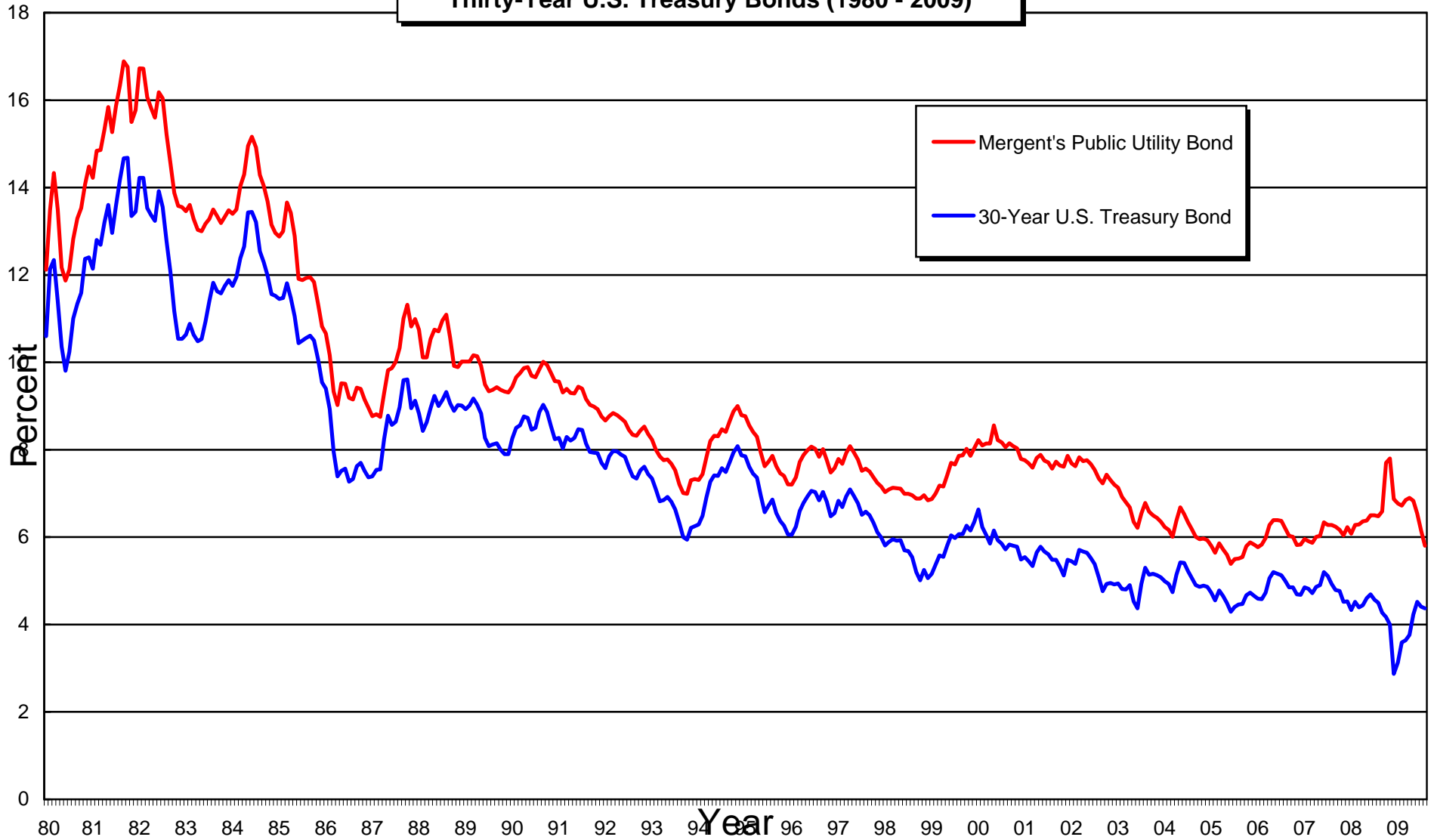
Sources:

<http://finance.yahoo.com/q/hp?s=^TYX>

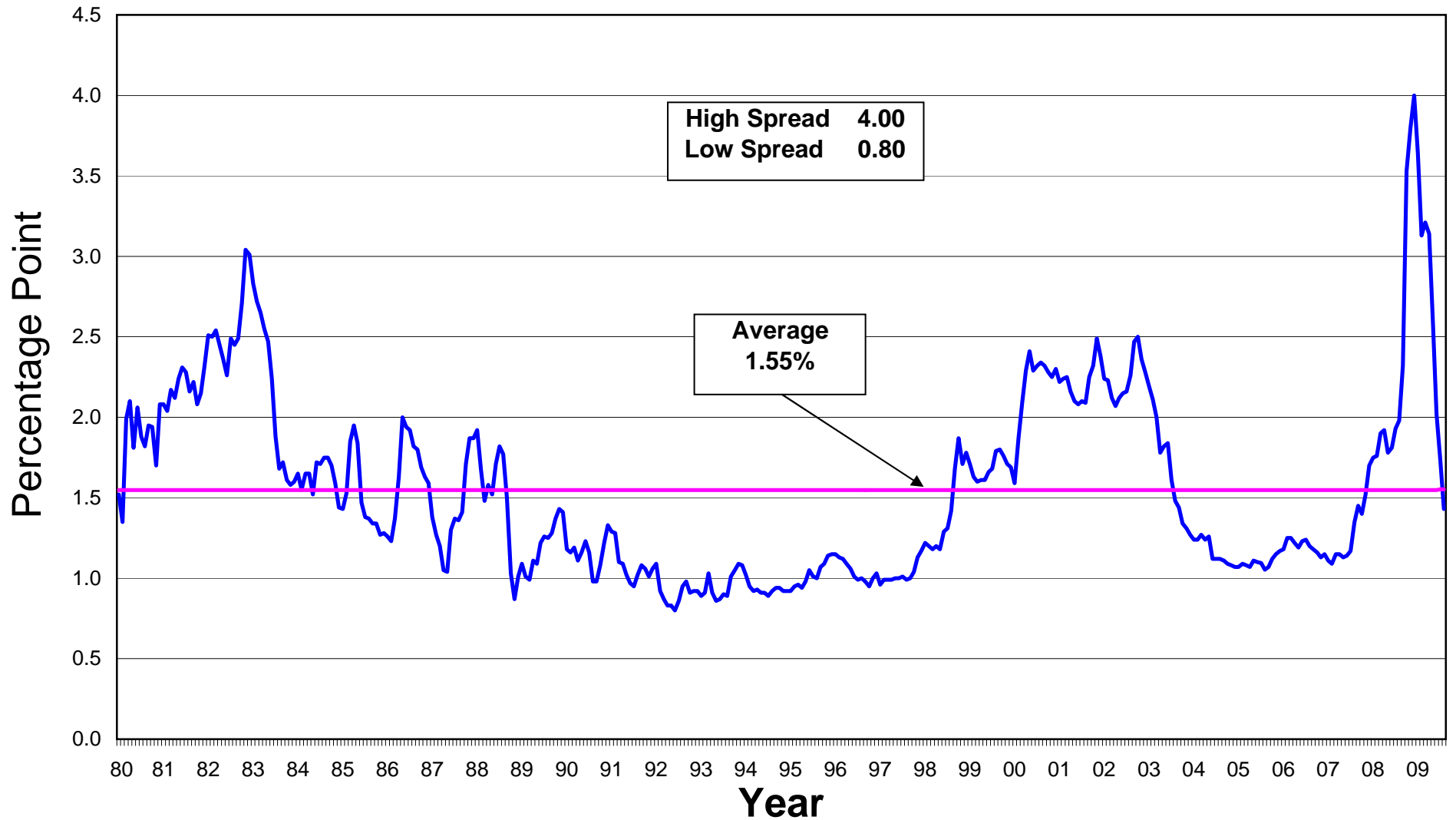
<http://research.stlouisfed.org/fred2/data/GS30.txt>

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

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

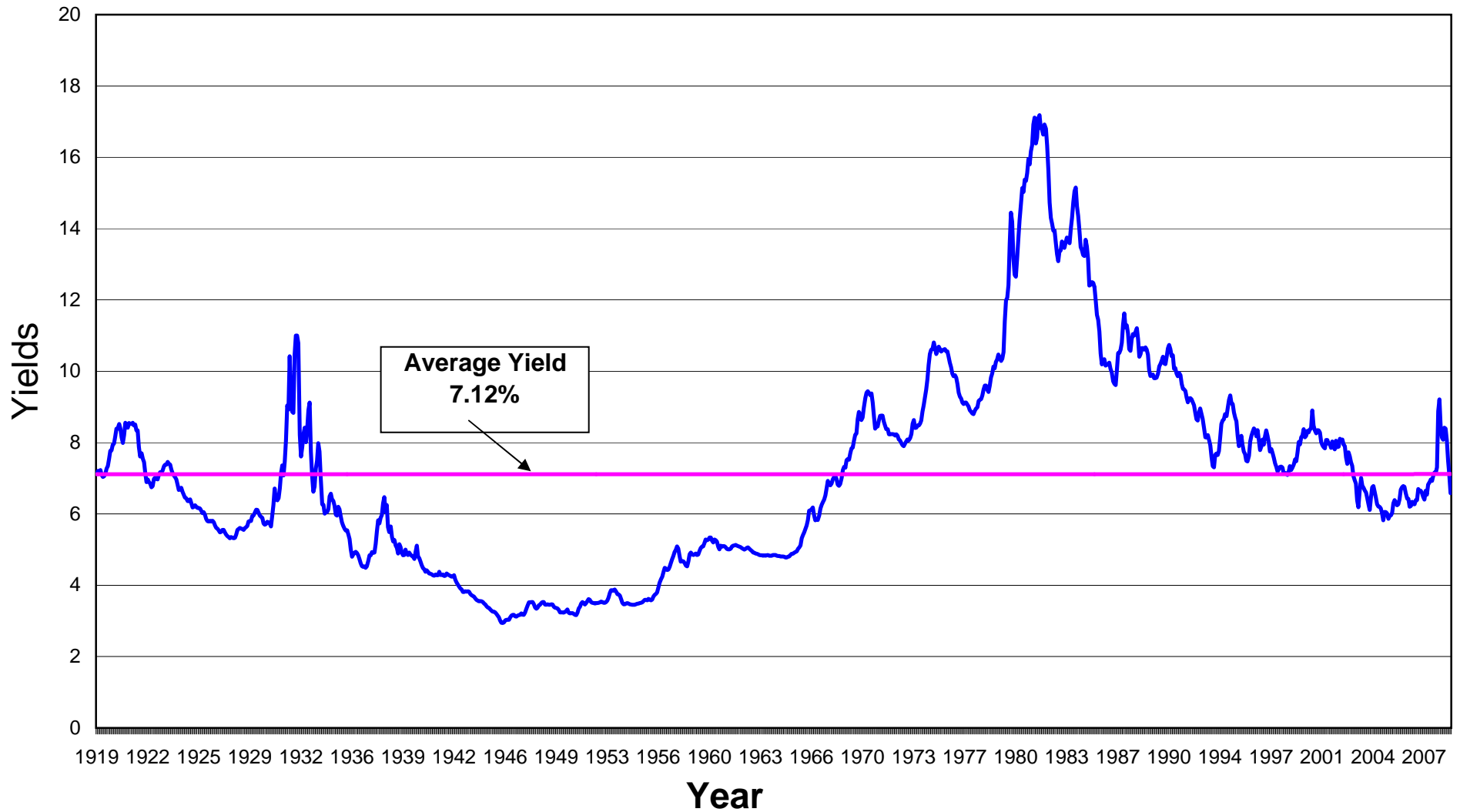


Monthly Spreads Between Yields on Mergent's Public Utility Bonds and
Thirty-Year U.S. Treasury Bonds (1980 - 2009)



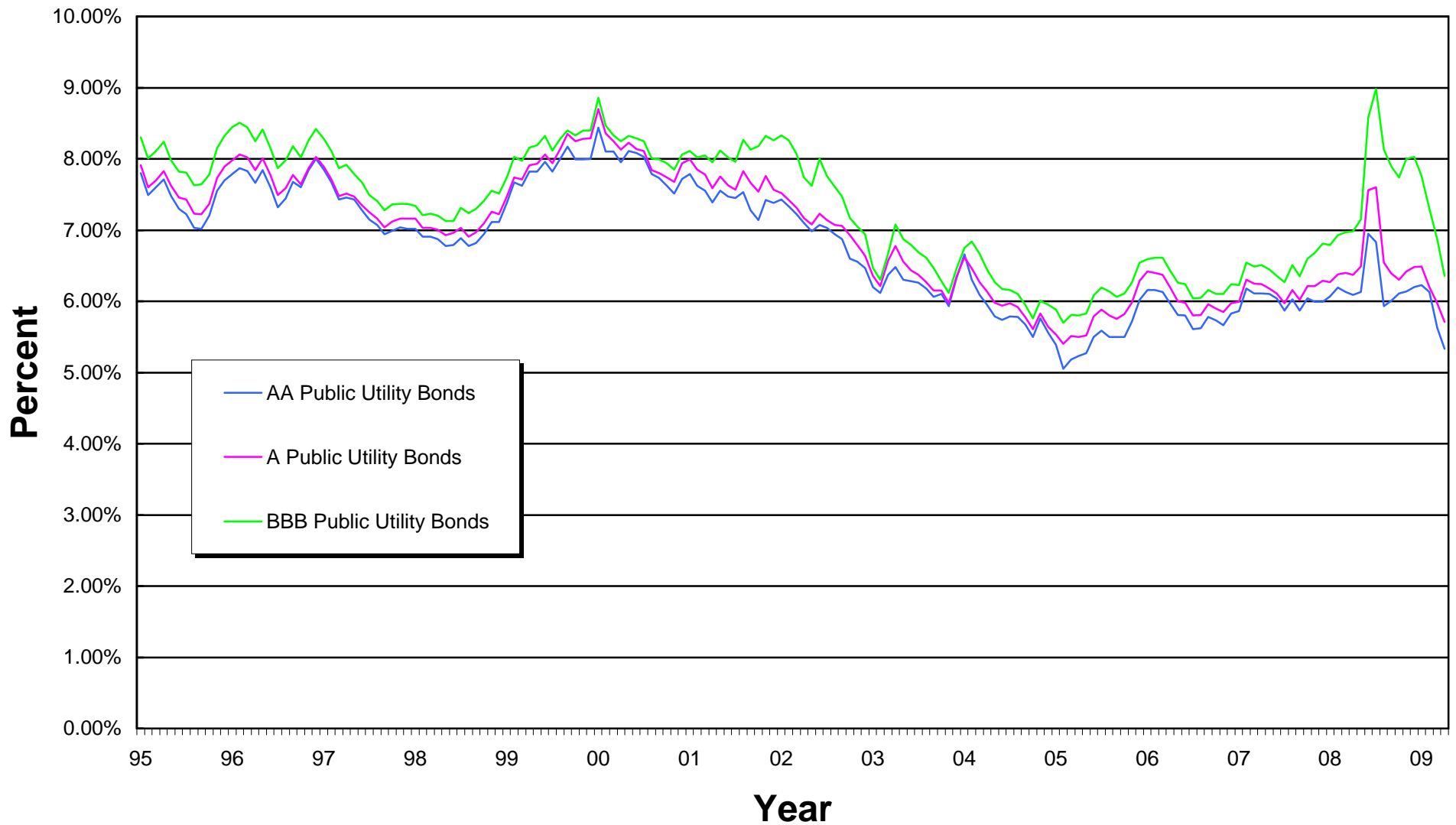
THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Moody's Baa Corporate
Bond Yields 1919-2009



THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Public Utility Bond Yield Spreads
1995-2009



**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

Economic Estimates and Projections, 2009-2011

| Source | Inflation Rate | | | Real GDP | | | Unemployment | | | 3-Mo. T-Bill Rate | | | 30-Year T-Bond Rate | | |
|--|----------------|-------|-------|----------|-------|-------|--------------|--------|-------|-------------------|-------|-------|---------------------|-------|-------|
| | 2009 | 2010 | 2011 | 2009 | 2010 | 2011 | 2009 | 2010 | 2011 | 2009 | 2010 | 2011 | 2009 | 2010 | 2011 |
| Value Line Investment Survey -- Selection & Opinion (8-28-09, page 3343) | 0.60% | 1.80% | 2.20% | -2.70% | 1.80% | 3.00% | 9.20% | 10.00% | 9.40% | 0.20% | 0.80% | 2.50% | 4.20% | 4.80% | 4.50% |
| The Budget and Economic Outlook FY2009-2019 (January 2009) | 0.10% | 1.70% | 1.80% | -2.20% | 1.50% | 4.20% | 8.30% | 9.00% | 8.00% | 0.20% | 0.60% | 2.10% | N.A. | N.A. | N.A. |
| Current rate | -1.50% | | | -0.70% | | | 9.80% | | | 0.12% | | | 4.02% | | |

Notes: N.A. = Not Available.

Value Line data for 2009-2010 are estimated.

CBO data values for 2009 and 2010 are forecasted, data for 2011 is projected.

Sources of Current Rates:

| | |
|-------------------|--|
| Inflation: | The Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers, unadjusted 12-Month Period Ending, August 31, 2009 (see first paragraph). http://www.bls.gov/schedule/archives/cpi_nr.htm |
| GDP: | U.S. Department of Commerce, Bureau of Economic Analysis. Percentage change for the second Quarter 2009 (see first paragraph). http://www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm |
| Unemployment: | The Bureau of Labor Statistics, Economy Situation Summary - Unemployment Rate, September 2009. http://www.bls.gov/news.release/empsit.nr0.htm |
| 3-Month Treasury: | St. Louis Federal Reserve website for October 2, 2009 (Weekly). http://research.stlouisfed.org/fred2/series/WTB3MS |
| 30-Yr. T-Bond: | St. Louis Federal Reserve website for October 2, 2009 (Weekly). http://research.stlouisfed.org/fred2/series/WGS30YR |
| Other Sources: | ValueLine Investment Survey Selection & Opinion, August 28, 2009, page 3343. The Congressional Budget Office, The Budget and Economic Outlook: Fiscal Years 2009-2019, January 2009. http://www.cbo.gov/publications/bysubject.cfm?cat=0 |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Historical Capital Structures for The Empire District Electric Company
Consolidated Basis

| Capital Components | 2004 | 2005 | 2006 | 2007 | 2008 |
|--------------------|----------------------|----------------------|------------------------|------------------------|------------------------|
| Common Equity | \$379,180,390 | \$393,411,000 | \$468,609,000 | \$539,176,000 | \$528,872,000 |
| Preferred Stock | \$0 | \$0 | \$0 | \$0 | \$0 |
| Long-Term Debt | \$410,378,837 * | \$408,173,000 * | \$462,539,000 * | \$541,880,000 * | \$611,567,000 * |
| Short-Term Debt | \$0 | \$30,952,000 | \$77,050,000 | \$33,040,000 | \$102,000,000 |
| Total | <u>\$789,559,227</u> | <u>\$832,536,000</u> | <u>\$1,008,198,000</u> | <u>\$1,114,096,000</u> | <u>\$1,242,439,000</u> |

| Capital Structure | 2004 | 2005 | 2006 | 2007 | 2008 | 5-Year Average |
|-------------------|----------------|----------------|----------------|----------------|----------------|-------------------|
| Common Equity | 48.02% | 47.25% | 46.48% | 48.40% | 42.57% | 46.54% |
| Preferred Stock | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Long-Term Debt | 51.98% | 49.03% | 45.88% | 48.64% | 49.22% | 48.95% |
| Short-Term Debt | 0.00% | 3.72% | 7.64% | 2.97% | 8.21% | 4.51% |
| Total | <u>100.00%</u> | <u>100.00%</u> | <u>100.00%</u> | <u>100.00%</u> | <u>100.00%</u> | <u>100.00%</u> |

Notes:

* The amount of long-term debt includes current maturities, capital leases, and \$50 million of trust preferred stock.

Source: Empire District Electric Company's 2004, 2005, 2006, 2007 and 2008 Annual Reports.

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

Selected Financial Ratios for The Empire District Electric Company

| Financial Ratios | 2004 | 2005 | 2006 | 2007 | 2008 |
|--|---------|---------|---------|---------|---------|
| Return on Common Equity | 5.80% | 6.00% | 8.50% | 6.20% | 7.50% |
| Earnings Per Common Share | \$0.86 | \$0.92 | \$1.41 | \$1.09 | \$1.17 |
| Cash Dividends Per Common Share | \$1.28 | \$1.28 | \$1.28 | \$1.28 | \$1.28 |
| Common Dividend Payout Ratio | 148.84% | 139.13% | 90.78% | 117.43% | 109.40% |
| Year-End Market Price Per Common Share | \$22.68 | \$20.33 | \$24.69 | \$22.78 | \$17.60 |
| Year-End Book Value Per Common Share | \$14.76 | \$15.08 | \$15.49 | \$16.04 | \$15.56 |
| Year-End Market-to- Book Ratio | 1.54 x | 1.35 x | 1.59 x | 1.42 x | 1.13 x |
| Funds From Operations (FFO) Interest Coverage Ratio | 3.7 x | 3.9 x | 3.7 x | 3.7 x | 3.5 x |
| FFO/Average Total Debt | 16.8% | 17.1% | 16.7% | 18.1% | 13.3% |
| Corporate Credit Rating (Standard & Poor's Corporation) | BBB | BBB | BBB | BBB- | BBB- |

Formulas:

Common Dividend Payout Ratio = Common Dividends Paid / Earnings Per Common Share.

Year-End Market-to-Book Ratio = Year-End Market Price Per Common Share / Year-End Book Value Per Common Share.

Sources: Standard and Poor's Empire Research Update April 3, 2009.

Value Line Investment Survey for The Empire District Electric Company, September 25, 2009.

<http://finance.yahoo.com>

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Capital Structure as of June 30, 2009
The Empire District Electric Company

| Capital Component | Dollar Amount | Percentage of Capital |
|-----------------------------|-------------------------|--------------------------|
| Common Stock Equity | \$ 528,853,868 | 43.54% |
| Trust Preferred Stock | \$ 48,638,468 | 4.00% |
| Long-Term Debt | \$ 637,146,507 | 52.46% |
| Short-Term Debt | \$ - | 0.00% |
| Total Capitalization | \$ 1,214,638,843 | 100.00% |

Notes: 1. Long-term Debt at June 30, 2009 is based on the net balance of long-term debt, including current maturities (total principal amount of long-term debt outstanding less unamortized expenses and discounts) shown on Schedule 9. This balance also includes the amount of non-regulated debt.

2. Short-term debt balance net of construction work in progress (CWIP) was negative as of June 30, 2009. Therefore, no short-term debt is included in the capital structure.

Source: Empire District Gas' workpapers.

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

**Embedded Cost of Long-Term Debt
as of June 30, 2009**

| | Amount Outstanding | Annual Cost |
|---|-----------------------------|----------------------------|
| Bonds and Unsecured Notes Series: | | |
| 7.2% Series, Due 2016 | \$25,000,000 | \$1,800,000 |
| 5.2% Pollution Control Series, Due 2013 | \$5,200,000 | \$270,400 |
| 5.3% Pollution Control Series, Due 2013 | \$8,000,000 | \$424,000 |
| 7.05% Series, Due 2022 | \$48,851,000 | \$3,443,996 |
| 6.7% Series, Due 2033 | \$62,000,000 | \$4,154,000 |
| 5.8% Series, Due 7/1/2035 | \$40,000,000 | \$2,320,000 |
| 8-1/8 Series, Due 2009 | \$20,000,000 | \$1,625,000 |
| 6-1/2 Series, Due 2010 | \$50,000,000 | \$3,250,000 |
| 4.5% Series, Due 2013 | \$98,000,000 | \$4,410,000 |
| 5.875%, Due 2037 | \$80,000,000 | \$4,700,000 |
| 6.82% Series, Due 6/1/2036-EDG | \$55,000,000 | \$3,751,000 |
| FMB 6.375% Series, Due 6/1/2018 | \$90,000,000 | \$5,737,500 |
| 7.0% Series, Due 2/28/2024 | \$75,000,000 | \$5,250,000 |
| Premium, Discount and Expense | -\$19,904,493 | \$2,281,562 |
| Total | <u><u>\$637,146,507</u></u> | <u><u>\$43,417,458</u></u> |

Embedded Cost of Long-term Debt

6.81%

Source: Response to DR No. 107

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

**Embedded Cost of Trust Preferred Stock
as of June 30, 2009**

| | Amount Outstanding | Annual Cost |
|-------------------------------|-------------------------------|---------------------------|
| Trust Preferred Series: | | |
| Trust Preferred | \$50,000,000 | \$4,250,000 |
| Premium, Discount and Expense | <u>-\$1,361,532</u> | <u>\$62,840</u> |
| Total | <u>\$48,638,468</u> | <u>\$4,312,840</u> |

Embedded Cost of Preferred Stock

8.87%

Source: Response to DR No. 107

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Criteria for Selecting Comparable Natural Gas Distribution Companies

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|-----------------------------|---|--|---|--|--|--|
| Natural Gas Distribution Companies | Stock Publicly Traded | Information Printed In Value Line | 10-Year Value Line Historical Growth Available | No Reduced Dividend since 2006 | Projected Growth Available from Value Line and IBES | At Least Investment Grade Credit Rating | Comparable Company Met All Criteria |
| AGL Resources, Inc. | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Atmos Energy Corporation | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Delta Natural Gas Company, Inc. | Yes | Yes | Yes | Yes | No | | |
| Energy West | Yes | Yes | Yes | No | | | |
| Laclede Group | Yes | Yes | Yes | Yes | No | | |
| Piedmont Natural Gas Company, Inc. | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Northwest Natural Gas Company | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| New Jersey Resources Corp. | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RGC Resources, Inc. | Yes | Yes | Yes | Yes | No | | |
| South Jersey Industries, Inc. | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| WGL Holdings, Inc. | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Sources: Column 1 = Edward Jones' Natural Gas Industry Summary, June 30, 2009.

Columns 2, 3, 4, and 5 = The Value Line Investment Survey: Ratings & Reports, September 11, 2009.

Column 6 = I/B/E/S Estimates, October 2009

Column 7 = Standard & Poor's RatingsDirect

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

**Seven Comparable Natural Gas Distribution Companies
For The Empire District Gas Company**

| Number | Ticker Symbol | Company Name |
|--------|------------------|------------------------------------|
| 1 | ATG | AGL Resources, Inc. |
| 2 | ATO | Atmos Energy Corporation. |
| 3 | NJR | New Jersey Resources Corporation |
| 4 | NWN | Northwest Natural Gas |
| 5 | PNY | Piedmont Natural Gas Company, Inc. |
| 6 | SJI | South Jersey Industries, Inc. |
| 7 | WGL | WGL Holdings, Inc. |

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

**Ten-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates
for the Seven Comparable Natural Gas Distribution Companies**

| ----- 10-Year Annual Compound Growth Rates ----- | | | | |
|--|---------------------|---------------------|---------------------|---|
| Company Name | DPS | EPS | BVPS | Average of 10 Year Annual Compound Growth Rates |
| AGL Resources, Inc. | 4.00% | 7.00% | 7.00% | 6.00% |
| Atmos Energy Corporation | 2.50% | 2.50% | 6.50% | 3.83% |
| New Jersey Resources Corp. | 4.00% | 7.50% | 8.50% | 6.67% |
| Northwest Natural Gas Co. | 2.00% | 5.00% | 3.50% | 3.50% |
| Piedmont Natural Gas Co. | 5.00% | 4.50% | 5.50% | 5.00% |
| South Jersey Industries, Inc. | 3.50% | 11.50% | 9.00% | 8.00% |
| WGL Holdings, Inc. | <u>1.50%</u> | <u>2.00%</u> | <u>4.00%</u> | <u>2.50%</u> |
| Average | <u>3.21%</u> | <u>5.71%</u> | <u>6.29%</u> | <u>5.07%</u> |
| Standard Deviation | 1.16% | 3.03% | 1.94% | 1.80% |

Source: The Value Line Investment Survey: Ratings & Reports, September 11, 2009.

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

**Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates
for the Seven Comparable Natural Gas Distribution Companies**

| ----- 5-Year Annual Compound Growth Rates ----- | | | | Average of 5 Year Annual Compound Growth Rates |
|---|---------------------|---------------------|---------------------|--|
| <u>Company Name</u> | <u>DPS</u> | <u>EPS</u> | <u>BVPS</u> | |
| AGL Resources, Inc. | 8.00% | 8.50% | 10.00% | 8.83% |
| Atmos Energy Corp. | 1.50% | 5.00% | 7.50% | 4.67% |
| New Jersey Resources Corp. | 5.00% | 7.50% | 11.50% | 8.00% |
| Northwest Natural Gas Co. | 3.00% | 8.00% | 3.50% | 4.83% |
| Piedmont Natural Gas Co. | 4.50% | 6.50% | 6.00% | 5.67% |
| South Jersey Industries, Inc. | 6.00% | 13.00% | 11.00% | 10.00% |
| WGL Holdings, Inc. | <u>1.50%</u> | <u>4.00%</u> | <u>4.50%</u> | <u>3.33%</u> |
| Average | <u>4.21%</u> | <u>7.50%</u> | <u>7.71%</u> | <u>6.48%</u> |
| Standard Deviation | 2.22% | 2.70% | 2.96% | 2.29% |

Source: The Value Line Investment Survey: Ratings & Reports, September 11, 2009.

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

**Average of Ten and Five-Year Dividends Per Share, Earnings Per Share
& Book Value Per Share Growth Rates for the Seven Comparable Natural Gas Distribution Companies**

| Company Name | 10-Year Average DPS, EPS & BVPS | 5-Year Average DPS, EPS & BVPS | Average of 5-Year & 10-Year Averages |
|------------------------------------|--|---|---|
| AGL Resources, Inc. | 6.00% | 8.83% | 7.42% |
| Atmos Energy Corp. | 3.83% | 4.67% | 4.25% |
| New Jersey Resources Corporation | 6.67% | 8.00% | 7.33% |
| Northwest Natural Gas | 3.50% | 4.83% | 4.17% |
| Piedmont Natural Gas Company, Inc. | 5.00% | 5.67% | 5.33% |
| South Jersey Industries, Inc. | 8.00% | 10.00% | 9.00% |
| WGL Holdings, Inc. | <u>2.50%</u> | <u>3.33%</u> | <u>2.92%</u> |
| Average | <u>5.07%</u> | <u>6.48%</u> | <u>5.77%</u> |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

**Five-Year Projected Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates
for the Seven Comparable Natural Gas Distribution Utility Companies**

| Company Name | ----- 5-Year Projected Compound Growth Rates ----- | | | | Average of 5 Year Annual Compound Growth Rates |
|------------------------------------|--|--------------|--------------|--|--|
| | DPS | EPS | BVPS | | |
| AGL Resources, Inc. | 2.50% | 3.50% | 1.50% | | 2.50% |
| Atmos Energy Corp. | 1.50% | 4.00% | 4.00% | | 3.17% |
| New Jersey Resources Corporation | 5.50% | 5.50% | 9.50% | | 6.83% |
| Northwest Natural Gas | 5.50% | 5.00% | 5.00% | | 5.17% |
| Piedmont Natural Gas Company, Inc. | 3.50% | 5.50% | 4.00% | | 4.33% |
| South Jersey Industries, Inc. | 7.00% | 5.50% | 6.00% | | 6.17% |
| WGL Holdings, Inc. | 3.00% | 4.00% | 4.50% | | 3.83% |
| Average | 4.07% | 4.71% | 4.93% | | 4.57% |
| Standard Deviation | 1.82% | 0.80% | 2.26% | | 1.46% |

Source: The Value Line Investment Survey: Ratings & Reports, September 11, 2009.

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

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

| | (1) | (2) | (3) | (4) |
|------------------------------------|---|--|---|---|
| Company Name | Historical Growth Rate (DPS, EPS and BVPS) | Projected Growth Rate (DPS, EPS and BVPS) | Projected 5-Year EPS Growth IBES (Mean) | Projected 3-5 Year EPS Growth Value Line |
| AGL Resources, Inc. | 7.42% | 2.50% | 4.50% | 3.50% |
| Atmos Energy Corp. | 4.25% | 3.17% | 5.00% | 4.00% |
| New Jersey Resources Corporation | 7.33% | 6.83% | 6.50% | 5.50% |
| Northwest Natural Gas | 4.17% | 5.17% | 5.17% | 5.00% |
| Piedmont Natural Gas Company, Inc. | 5.33% | 4.33% | 6.20% | 5.50% |
| South Jersey Industries, Inc. | 9.00% | 6.17% | 9.63% | 5.50% |
| WGL Holdings, Inc. | 2.92% | 3.83% | 4.50% | 4.00% |
| | 5.77% | 4.57% | 5.93% | 4.71% |

Proposed Range of Growth 4.75%-5.75%

Sources: Column 1 = Average of 10-Year and 5-Year Annual Compound Growth Rates from Schedule 11-3.
Column 2 = Schedule 12.
Column 3 = Reuters Website, October 2009
Column 4 = The Value Line Investment Survey: Ratings and Reports, September 11, 2009.

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

**Average High / Low Stock Price for July 2009 through September 2009
for the Seven Comparable Natural Gas Distribution Companies**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-------------------------------|-----------------|----------|-------------------|----------|----------------------|----------|-----------------|
| | -- July 2009 -- | | -- August 2009 -- | | -- September 2009 -- | | Average |
| | High | Low | High | Low | High | Low | High/Low |
| Company Name | Stock | Stock | Stock | Stock | Stock | Stock | Stock |
| | Price | Price | Price | Price | Price | Price | Price |
| | | | | | | | (7/09 - 9/09) |
| AGL Resources, Inc. | \$34.430 | \$30.050 | \$35.000 | \$33.120 | \$35.790 | \$33.070 | \$33.577 |
| Atmos Energy Corp. | \$27.390 | \$24.410 | \$28.580 | \$27.060 | \$28.950 | \$26.620 | \$27.168 |
| New Jersey Resources Corp. | \$40.610 | \$35.990 | \$38.990 | \$35.860 | \$37.040 | \$35.640 | \$37.355 |
| Northwest Natural Gas Co. | \$46.000 | \$42.230 | \$45.060 | \$41.720 | \$42.860 | \$41.120 | \$43.165 |
| Piedmont Natural Gas Co. | \$25.180 | \$22.500 | \$25.870 | \$23.480 | \$24.580 | \$23.100 | \$24.118 |
| South Jersey Industries, Inc. | \$37.530 | \$33.960 | \$37.320 | \$34.420 | \$35.680 | \$33.120 | \$35.338 |
| WGL Holdings, Inc. | \$33.790 | \$30.370 | \$34.390 | \$32.650 | \$34.240 | \$32.450 | \$32.982 |

Notes:

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

Source: <http://finance.yahoo.com>

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

**Discounted Cash Flow (DCF) Estimated Costs of Common Equity
for the Seven Comparable Natural Gas Distribution Companies,**

| | (1) | (2) | (3) |
|-------------------------------|--------------------------------|---------------------------------------|--------------------------------|
| Company Name | Expected Annual Dividend | Average High/Low Stock Price | Projected Dividend Yield |
| AGL Resources, Inc. | \$1.75 | \$33.577 | 5.21% |
| Atmos Energy Corp. | \$1.34 | \$27.168 | 4.91% |
| New Jersey Resources Corp. | \$1.27 | \$37.355 | 3.40% |
| Northwest Natural Gas Co. | \$1.66 | \$43.165 | 3.85% |
| Piedmont Natural Gas Co. | \$1.10 | \$24.118 | 4.56% |
| South Jersey Industries, Inc. | \$1.26 | \$35.338 | 3.57% |
| WGL Holdings, Inc. | \$1.50 | \$32.982 | 4.55% |
| Average | | | <u>4.29%</u> |

Proposed Dividend Yield: 4.30%

Proposed Range of Growth: 4.75% - 5.75%

Estimated Proxy Cost of Common Equity: 9.05%-10.05%

Recommended Cost of Common Equity 9.05%-10.05%

Notes: Column 1 = Estimated Dividends Declared per share represents 25% of the projected dividend for 2009 and 75% of the projected dividend for 2010.

Column 3 = (Column 1 / Column 2).

Sources: Column 1 = The Value Line Investment Survey: Ratings and Reports, September 11, 2009

Column 2 = Schedule 14.

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

**Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates
Based on Historical Return Differences Between Common Stocks and Long-Term U.S. Treasuries
for the Seven Comparable Natural Gas Distribution Companies**

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-------------------------------|----------------------|---------------------------------|---|--|--|---|
| | | | Arithmetic Average Market Risk Premium (1926-2008) | Geometric Average Market Risk Premium (1926-2008) | Arithmetic CAPM Cost of Common Equity (1926-2008) | Geometric CAPM Cost of Common Equity (1926-2008) |
| Company Name | Risk Free Rate | Company's Value Line Beta | | | | |
| AGL Resources, Inc. | 4.19% | 0.75 | 5.60% | 3.90% | 8.39% | 7.12% |
| Atmos Energy Corp. | 4.19% | 0.65 | 5.60% | 3.90% | 7.83% | 6.73% |
| New Jersey Resources Corp. | 4.19% | 0.65 | 5.60% | 3.90% | 7.83% | 6.73% |
| Northwest Natural Gas Co. | 4.19% | 0.60 | 5.60% | 3.90% | 7.55% | 6.53% |
| Piedmont Natural Gas Co. | 4.19% | 0.65 | 5.60% | 3.90% | 7.83% | 6.73% |
| South Jersey Industries, Inc. | 4.19% | 0.65 | 5.60% | 3.90% | 7.83% | 6.73% |
| WGL Holdings, Inc. | 4.19% | 0.65 | 5.60% | 3.90% | 7.83% | 6.73% |
| Average | | 0.66 | | | 7.87% | 6.75% |

Sources:

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

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole as reported by the Value Line Investment Survey: Ratings & Reports, September 11, 2009.

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

Column 4 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2008 was determined to be 3.90% based on a geometric average as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2009 Yearbook.

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

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

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Selected Financial Ratios for the Seven Comparable Natural Gas Distribution Companies

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-------------------------------|--------------------------------|------------------------------------|---|---|-----------------------------|---------------------------------------|--|----------------|
| Company Name | 2008 Common Equity Ratio | 2008 Long-Term Debt Ratio | Funds From Operations to Interest | Funds From Operations to Total Debt | Market- to-Book Value | 2008 Return on Common Equity | 2009 Projected Return on Common Equity | Bond Rating |
| AGL Resources, Inc. | 49.70% | 50.30% | 4.30 x | 18.3% | 1.56 x | 12.60% | 11.50% | A- |
| Atmos Energy Corp. | 49.20% | 50.80% | 4.20 x | 21.7% | 1.20 x | 8.80% | 9.00% | BBB+ |
| New Jersey Resources Corp. | 61.50% | 38.50% | 5.3 ¹ x | 21.4% ¹ | 2.15 x | 15.70% | 13.00% | A |
| Northwest Natural Gas Co. | 55.10% | 44.90% | 5.30 x | 21.5% | 1.72 x | 10.90% | 11.00% | AA- |
| Piedmont Natural Gas Co. | 52.80% | 47.20% | 4.90 x | 24.7% | 1.88 x | 12.40% | 12.50% | A |
| South Jersey Industries, Inc. | 60.80% | 39.20% | 4.40 ² x | 20.8% ² | 1.95 x | 13.10% | 12.50% | BBB+ |
| WGL Holdings, Inc. | 62.40% | 35.90% | 5.40 x | 26.0% | 1.51 x | 11.60% | 12.00% | AA- |
| Average | 55.93% | 43.83% | 4.83 x | 22.1% | 1.71 x | 12.16% | 11.64% | A |

Sources:

The Value Line Investment Survey Ratings & Reports, September 11, 2009: for columns (1), (2), (6) and (7).
Standard & Poor's RatingsDirect for columns (3), (4) and (8).
AUS Utility Reports, October 2009 for column (5).

Notes:

¹ Ratios were only available for subsidiary New Jersey Natural Gas Co.

² Ratios were only available for sub:

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

Public Utility Revenue Requirement

or

Cost of Service

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

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

or

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

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

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

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

**Weighted Cost of Capital
for The Empire District Gas Company**

| Capital Component | Percentage of Capital | Embedded Cost | Weighted Cost of Capital Using Common Equity Return of: | | |
|-----------------------|--------------------------|------------------|--|---------------------|---------------------|
| | | | 9.05% | 9.55% | 10.05% |
| Common Stock Equity | 43.54% | ----- | 3.94% | 4.16% | 4.38% |
| Trust Preferred Stock | 4.00% | 8.87% | 0.36% | 0.36% | 0.36% |
| Long-Term Debt | 52.46% | 6.81% | 3.57% | 3.57% | 3.57% |
| Short-Term Debt | 0.00% | | 0.00% | 0.00% | 0.00% |
| | <u>100.00%</u> | | <u>7.87%</u> | <u>8.09%</u> | <u>8.31%</u> |

Notes:

See Schedule 9 for the Capital Structure Ratios.

See Schedule 10 for the Embedded Cost of Long-Term Debt.

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Costs of Equity Used in Equity Research Reports for AGL Resources Inc.

| <u>Investment Company</u> | <u>Date of Report</u> | <u>Discount Rate (Cost of Equity)</u> | <u>Terminal Growth</u> | <u>Equity Risk Premium</u> | <u>Risk-free rate</u> | <u>Beta</u> |
|-------------------------------|-----------------------|---|----------------------------|--------------------------------|---------------------------|-------------|
| Goldman Sachs | 8/31/2009 | 9.00% | 2.00% | NA | NA | NA |
| | 3/9/2009 | 8.50% | 2.00% | NA | NA | NA |
| | 7/17/2008 | 8.50% | 2.00% | NA | NA | NA |
| Citigroup | 3/29/2009 | 8.34% | NA | 6.45% | 3.50% | 0.75 |
| | 10/15/2008 | 8.25% | NA | 5.00% | 4.50% | 0.75 |

Notes:

NA = Not available

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Costs of Equity Used in Equity Research Reports for Atmos Energy Corp.

| <u>Investment Company</u> | <u>Date of Report</u> | <u>Discount Rate (Cost of Equity)</u> | <u>DDM Growth Rate</u> | <u>Equity Risk Premium</u> | <u>Risk-free rate</u> | <u>Beta</u> |
|-------------------------------|-----------------------|---|----------------------------|--------------------------------|---------------------------|-------------|
| Citigroup | 3/29/2009 | 8.34% | NA | 6.45% | 3.50% | 0.75 |
| | 10/15/2008 | 8.25% | NA | 5.00% | 4.50% | 0.75 |
| Brean Murray | 2/5/2009 | 8.40% | 3.50% ¹ | 4.40% | 4.00% | NA |
| | 8/6/2008 | 8.20% | 4.00% ¹ | 3.70% | 4.50% | NA |
| Goldman Sachs | 8/31/2009 | 9.00% | 2.00% ² | NA | NA | NA |
| | 3/9/2009 | 8.50% | 2.00% ² | NA | NA | NA |
| | 7/17/2008 | 8.50% | 2.00% ² | NA | NA | NA |
| UBS Investment Research | 9/21/2009 | 9.00% | 2.00% ² | NA | NA | NA |
| | 11/13/2008 | 9.40% | 2.00% ² | NA | NA | NA |

Notes:

1. Used in a single-stage DDM model.
2. Terminal stage in multi-stage DDM model.

NA = Not available

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Costs of Equity Used in Equity Research Reports for New Jersey Resources Corp.

| <u>Investment Company</u> | <u>Date of Report</u> | <u>Discount Rate (Cost of Equity)</u> | <u>Single-stage DDM Growth Rate</u> | <u>Equity Risk Premium</u> | <u>Risk-free rate</u> | <u>Beta</u> |
|-------------------------------|-----------------------|---|---|--------------------------------|---------------------------|-------------|
| Brean Murray | 7/29/2009 | 8.00% | 5.00% | 4.00% | 4.00% | NA |
| | 11/14/2008 | 7.45% | 4.50% | 3.20% | 4.25% | NA |
| | 8/6/2008 | 7.80% | 4.50% | 3.30% | 4.50% | NA |

Notes:

NA= Not Available

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434

Costs of Equity Used in Equity Research Reports for Northwest Natural Gas Company

| <u>Investment Company</u> | <u>Date of Report</u> | <u>Discount Rate (Cost of Equity)</u> | <u>Single-stage DDM Growth Rate</u> | <u>Equity Risk Premium</u> | <u>Risk-free rate</u> | <u>Beta</u> |
|-------------------------------|-----------------------|---|---|--------------------------------|---------------------------|-------------|
| Brean Murray | 8/4/2009 | 7.75% | 5.00% | 3.50% | 4.25% | NA |
| | 10/13/2008 | 7.75% | 5.00% | 3.50% | 4.25% | NA |

Notes:

NA= Not Available

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

Costs of Equity Used in Equity Research Reports for Piedmont Natural Gas Company

| <u>Investment Company</u> | <u>Date of Report</u> | <u>Discount Rate (Cost of Equity)</u> | <u>Single-stage DDM Growth Rate</u> | <u>Equity Risk Premium</u> | <u>Risk-free rate</u> | <u>Beta</u> |
|-------------------------------|-----------------------|---|---|--------------------------------|---------------------------|-------------|
| Brean Murray | 7/30/2009 | 7.30% | 4.00% | 3.30% | 4.00% | NA |
| | 1/6/2009 | 7.80% | 4.50% | 3.80% | 4.00% | NA |
| | 10/13/2008 | 7.45% | 4.50% | 3.20% | 4.25% | NA |
| | 2/5/2008 | 7.70% | 4.00% | 3.20% | 4.50% | NA |

Notes:

NA= Not Available

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

Costs of Equity Used in Equity Research Reports for South Jersey Industries, Inc.

| <u>Investment Company</u> | <u>Date of Report</u> | <u>Discount Rate (Cost of Equity)</u> | <u>Single-stage DDM Growth Rate</u> | <u>Equity Risk Premium</u> | <u>Risk-free rate</u> | <u>Beta</u> |
|-------------------------------|-----------------------|---|---|--------------------------------|---------------------------|-------------|
| Brean Murray | 8/7/2009 | 8.00% | 5.00% | 4.00% | 4.00% | NA |
| | 8/8/2008 | 8.30% | 5.50% | 3.80% | 4.50% | NA |

Notes:
NA= Not Available

**THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434**

Costs of Equity Used in Equity Research Reports for WGL Holdings, Inc.

| <u>Investment Company</u> | <u>Date of Report</u> | <u>Discount Rate (Cost of Equity)</u> | <u>Single-stage DDM Growth Rate</u> | <u>Equity Risk Premium</u> | <u>Risk-free rate</u> | <u>Beta</u> |
|-------------------------------|-----------------------|---|---|--------------------------------|---------------------------|-------------|
| Brean Murray | 11/14/2008 | 7.75% | 4.00% | 3.50% | 4.25% | NA |
| | 8/5/2008 | 8.00% | 4.00% | 3.50% | 4.50% | NA |
| Goldman Sachs | 8/31/2009 | 9.00% | 2.00% | NA | NA | NA |
| | 3/9/2009 | 8.50% | 2.00% | NA | NA | NA |
| | 7/17/2008 | 8.50% | 2.00% | NA | NA | NA |

Notes:
NA= Not Available

STAFF REPORT
COST OF SERVICE

APPENDIX 3
Summary of Heating Degree Days

EMPIRE DISTRICT GAS COMPANY

CASE NO. GR-2009-0434

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

DISTRICT: NORTH

CLASS : Residential

Normalized Sales per Customer

| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
|---------------|------------|----------------|------------|-----------|---------------------------|
| Jan | 1,165,180 | 33,499 | 1,198,679 | 8,268 | 144.9781 |
| Feb | 1,245,681 | -46,326 | 1,199,355 | 8,251 | 145.3587 |
| Mar | 1,166,128 | -179,499 | 986,629 | 7,960 | 123.9484 |
| Apr | 736,396 | -77,356 | 659,040 | 8,313 | 79.2782 |
| May | 321,219 | -40,173 | 281,046 | 7,761 | 36.2126 |
| Jun | 122,403 | 3,428 | 125,831 | 6,960 | 18.0791 |
| Jul | 78,354 | 3,453 | 81,807 | 6,034 | 13.5576 |
| Aug | 69,410 | 802 | 70,212 | 5,848 | 12.0062 |
| Sep | 74,105 | -11,291 | 62,814 | 6,132 | 10.2437 |
| Oct | 94,767 | 34,282 | 129,049 | 6,715 | 19.2180 |
| Nov | 317,867 | -6,095 | 311,772 | 7,722 | 40.3745 |
| Dec | 851,560 | -68,583 | 782,977 | 8,087 | 96.8192 |
| | 6,243,070 | -353,858 | 5,889,212 | 88,051 | 802.6092 |
| | | -5.67% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | 33,499 | 33,499 |
| Feb | 0 | -46,326 | -46,326 |
| Mar | 0 | -179,499 | -179,499 |
| Apr | 0 | -77,356 | -77,356 |
| May | 0 | -40,173 | -40,173 |
| Jun | 0 | 3,428 | 3,428 |
| Jul | 288 | 3,165 | 3,453 |
| Aug | 334 | 468 | 802 |
| Sep | 208 | -11,499 | -11,291 |
| Oct | 0 | 34,282 | 34,282 |
| Nov | 0 | -6,095 | -6,095 |
| Dec | 0 | -68,583 | -68,583 |
| | 830 | -354,689 | -353,858 |
| | 0.01% | -5.68% | -5.67% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

DISTRICT: NORTHWEST

CLASS : Residential

Normalized Sales per Customer

| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
|---------------|------------|----------------|------------|-----------|---------------------------|
| Jan | 748,018 | -39,949 | 708,069 | 4,880 | 145.0962 |
| Feb | 749,025 | -69,525 | 679,500 | 4,832 | 140.6250 |
| Mar | 643,752 | -157,451 | 486,301 | 4,601 | 105.6947 |
| Apr | 434,907 | -83,711 | 351,196 | 4,846 | 72.4713 |
| May | 202,273 | -64,006 | 138,267 | 4,584 | 30.1630 |
| Jun | 75,839 | -23,247 | 52,592 | 4,216 | 12.4744 |
| Jul | 44,680 | 2,023 | 46,703 | 3,600 | 12.9731 |
| Aug | 42,048 | 1,039 | 43,087 | 3,502 | 12.3036 |
| Sep | 46,514 | -13,091 | 33,423 | 3,633 | 9.1999 |
| Oct | 62,918 | 17,650 | 80,568 | 3,929 | 20.5059 |
| Nov | 215,220 | -20,236 | 194,984 | 4,570 | 42.6661 |
| Dec | 520,290 | -59,533 | 460,757 | 4,710 | 97.8253 |
| | 3,785,484 | -510,036 | 3,275,448 | 51,903 | 757.2852 |
| | | -13.47% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | -39,949 | -39,949 |
| Feb | 0 | -69,525 | -69,525 |
| Mar | 0 | -157,451 | -157,451 |
| Apr | 0 | -83,711 | -83,711 |
| May | 0 | -64,006 | -64,006 |
| Jun | 0 | -23,247 | -23,247 |
| Jul | 313 | 1,710 | 2,023 |
| Aug | 357 | 682 | 1,039 |
| Sep | 728 | -13,819 | -13,091 |
| Oct | 0 | 17,650 | 17,650 |
| Nov | 0 | -20,236 | -20,236 |
| Dec | 0 | -59,533 | -59,533 |
| | 1,399 | -511,435 | -510,036 |
| | 0.04% | -13.51% | -13.47% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

DISTRICT: SOUTH

CLASS : Residential

Normalized Sales per Customer

| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
|---------------|------------|----------------|------------|-----------|---------------------------|
| Jan | 3,311,594 | 55,738 | 3,367,332 | 25,798 | 130.5269 |
| Feb | 3,746,317 | -114,598 | 3,631,719 | 25,783 | 140.8571 |
| Mar | 3,183,764 | -512,947 | 2,670,817 | 24,914 | 107.2015 |
| Apr | 2,132,310 | -218,314 | 1,913,996 | 25,899 | 73.9023 |
| May | 1,085,249 | -111,936 | 973,313 | 24,405 | 39.8817 |
| Jun | 489,247 | 1,479 | 490,726 | 23,353 | 21.0134 |
| Jul | 309,221 | 9,798 | 319,019 | 22,036 | 14.4772 |
| Aug | 306,425 | -262 | 306,163 | 21,855 | 14.0088 |
| Sep | 314,557 | -39,602 | 274,955 | 22,102 | 12.4403 |
| Oct | 377,805 | 108,577 | 486,382 | 22,631 | 21.4918 |
| Nov | 989,720 | -22,031 | 967,689 | 24,490 | 39.5136 |
| Dec | 2,378,635 | -173,155 | 2,205,480 | 25,234 | 87.4011 |
| | 18,624,844 | -1,017,255 | 17,607,589 | 288,500 | 732.3781 |
| | | -5.46% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | 55,738 | 55,738 |
| Feb | 0 | -114,598 | -114,598 |
| Mar | 0 | -512,947 | -512,947 |
| Apr | 0 | -218,314 | -218,314 |
| May | 0 | -111,936 | -111,936 |
| Jun | -408 | 1,887 | 1,479 |
| Jul | 438 | 9,359 | 9,798 |
| Aug | -1,819 | 1,557 | -262 |
| Sep | -1,991 | -37,611 | -39,602 |
| Oct | 0 | 108,577 | 108,577 |
| Nov | 0 | -22,031 | -22,031 |
| Dec | 0 | -173,155 | -173,155 |
| | -3,780 | -1,013,474 | -1,017,255 |
| | -0.02% | -5.44% | -5.46% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

DISTRICT: ALL

CLASS : Residential (RSM)

Normalized Sales per Customer

| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
|---------------|------------|----------------|------------|-----------|---------------------------|
| Jan | 5,224,792 | 49,288 | 5,274,080 | 38,946 | 135.4203 |
| Feb | 5,741,023 | -230,449 | 5,510,574 | 38,866 | 141.7839 |
| Mar | 4,993,644 | -849,896 | 4,143,748 | 37,475 | 110.5737 |
| Apr | 3,303,613 | -379,382 | 2,924,231 | 39,058 | 74.8689 |
| May | 1,608,741 | -216,115 | 1,392,626 | 36,750 | 37.8946 |
| Jun | 687,489 | -18,340 | 669,149 | 34,529 | 19.3793 |
| Jul | 432,255 | 15,274 | 447,529 | 31,670 | 14.1310 |
| Aug | 417,883 | 1,579 | 419,462 | 31,205 | 13.4421 |
| Sep | 435,176 | -63,984 | 371,192 | 31,867 | 11.6482 |
| Oct | 535,490 | 160,509 | 695,999 | 33,275 | 20.9166 |
| Nov | 1,522,807 | -48,362 | 1,474,445 | 36,782 | 40.0861 |
| Dec | 3,750,485 | -301,271 | 3,449,214 | 38,031 | 90.6948 |
| | 28,653,398 | -1,881,149 | 26,772,249 | 35,705 | 749.8284 |
| | | -6.57% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | 49,288 | 49,288 |
| Feb | 0 | -230,449 | -230,449 |
| Mar | 0 | -849,896 | -849,896 |
| Apr | 0 | -379,382 | -379,382 |
| May | 0 | -216,115 | -216,115 |
| Jun | -408 | -17,932 | -18,340 |
| Jul | 1,040 | 14,234 | 15,274 |
| Aug | -1,127 | 2,706 | 1,579 |
| Sep | -1,055 | -62,929 | -63,984 |
| Oct | 0 | 160,509 | 160,509 |
| Nov | 0 | -48,362 | -48,362 |
| Dec | 0 | -301,271 | -301,271 |
| | -1,551 | -1,879,598 | -1,881,149 |
| | -0.01% | -6.56% | -6.57% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

| DISTRICT: NORTH | | | CLASS : SCF | | |
|-------------------------------|------------|----------------|-------------|-----------|---------------------------|
| Normalized Sales per Customer | | | | | |
| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
| Jan | 394,560 | 13,578 | 408,138 | 1,185 | 344.4201 |
| Feb | 386,444 | -15,523 | 370,921 | 1,190 | 311.6985 |
| Mar | 355,994 | -55,846 | 300,148 | 1,156 | 259.6438 |
| Apr | 192,292 | -25,083 | 167,209 | 1,199 | 139.4575 |
| May | 78,062 | -11,437 | 66,625 | 1,106 | 60.2395 |
| Jun | 28,596 | 982 | 29,578 | 873 | 33.8804 |
| Jul | 26,775 | 824 | 27,599 | 691 | 39.9411 |
| Aug | 22,989 | 181 | 23,170 | 651 | 35.5911 |
| Sep | 23,478 | -2,915 | 20,563 | 666 | 30.8759 |
| Oct | 27,810 | 9,087 | 36,897 | 766 | 48.1687 |
| Nov | 92,123 | -2,367 | 89,756 | 1,091 | 82.2699 |
| Dec | 246,002 | -21,290 | 224,712 | 1,154 | 194.7247 |
| | 1,875,125 | -109,807 | 1,765,318 | 11,728 | 1806.2596 |
| | | -5.86% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | 13,578 | 13,578 |
| Feb | 0 | -15,523 | -15,523 |
| Mar | 0 | -55,846 | -55,846 |
| Apr | 0 | -25,083 | -25,083 |
| May | 0 | -11,437 | -11,437 |
| Jun | 0 | 982 | 982 |
| Jul | 50 | 775 | 824 |
| Aug | 67 | 114 | 181 |
| Sep | 62 | -2,977 | -2,915 |
| Oct | 0 | 9,087 | 9,087 |
| Nov | 0 | -2,367 | -2,367 |
| Dec | 0 | -21,290 | -21,290 |
| | 179 | -109,986 | -109,807 |
| | 0.01% | -5.87% | -5.86% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

DISTRICT: NORTHWEST

CLASS : SCF

Normalized Sales per Customer

| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
|---------------|------------|----------------|------------|-----------|---------------------------|
| Jan | 224,210 | -12,995 | 211,215 | 671 | 314.7758 |
| Feb | 210,197 | -18,414 | 191,783 | 657 | 291.9064 |
| Mar | 175,414 | -43,415 | 131,999 | 643 | 205.2860 |
| Apr | 106,967 | -24,256 | 82,711 | 670 | 123.4491 |
| May | 46,629 | -17,675 | 28,954 | 626 | 46.2521 |
| Jun | 23,522 | -6,883 | 16,639 | 530 | 31.3935 |
| Jul | 14,799 | 625 | 15,424 | 434 | 35.5381 |
| Aug | 11,767 | 203 | 11,970 | 416 | 28.7730 |
| Sep | 12,725 | -2,330 | 10,395 | 421 | 24.6913 |
| Oct | 15,815 | 3,337 | 19,152 | 486 | 39.4075 |
| Nov | 55,533 | -5,749 | 49,784 | 621 | 80.1670 |
| Dec | 144,209 | -16,203 | 128,006 | 658 | 194.5381 |
| | 1,041,787 | -143,758 | 898,029 | 6,833 | 1577.1039 |
| | | -13.80% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | -12,995 | -12,995 |
| Feb | 0 | -18,414 | -18,414 |
| Mar | 0 | -43,415 | -43,415 |
| Apr | 0 | -24,256 | -24,256 |
| May | 0 | -17,675 | -17,675 |
| Jun | 0 | -6,883 | -6,883 |
| Jul | 61 | 564 | 625 |
| Aug | 74 | 128 | 203 |
| Sep | 157 | -2,487 | -2,330 |
| Oct | 0 | 3,337 | 3,337 |
| Nov | 0 | -5,749 | -5,749 |
| Dec | 0 | -16,203 | -16,203 |
| | 292 | -144,050 | -143,758 |
| | 0.03% | -13.83% | -13.80% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

DISTRICT: SOUTH

CLASS : SCF

Normalized Sales per Customer

| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
|---------------|------------|----------------|------------|-----------|---------------------------|
| Jan | 738,428 | 5,228 | 743,656 | 2,846 | 261.2986 |
| Feb | 876,058 | -18,958 | 857,100 | 2,865 | 299.1624 |
| Mar | 722,018 | -110,869 | 611,149 | 2,759 | 221.5111 |
| Apr | 440,206 | -48,370 | 391,836 | 2,863 | 136.8622 |
| May | 200,130 | -26,097 | 174,033 | 2,675 | 65.0592 |
| Jun | 87,119 | -1,644 | 85,475 | 2,130 | 40.1289 |
| Jul | 61,345 | 1,739 | 63,084 | 1,682 | 37.5055 |
| Aug | 62,875 | -83 | 62,792 | 1,641 | 38.2646 |
| Sep | 64,628 | -5,374 | 59,254 | 1,662 | 35.6520 |
| Oct | 71,049 | 16,056 | 87,105 | 1,818 | 47.9124 |
| Nov | 164,118 | -5,156 | 158,962 | 2,591 | 61.3517 |
| Dec | 493,373 | -36,528 | 456,845 | 2,787 | 163.9200 |
| | 3,981,347 | -230,056 | 3,751,291 | 28,319 | 1589.5864 |
| | | -5.78% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | 5,228 | 5,228 |
| Feb | 0 | -18,958 | -18,958 |
| Mar | 0 | -110,869 | -110,869 |
| Apr | 0 | -48,370 | -48,370 |
| May | 0 | -26,097 | -26,097 |
| Jun | -144 | -1,500 | -1,644 |
| Jul | 125 | 1,615 | 1,739 |
| Aug | -314 | 232 | -83 |
| Sep | -406 | -4,969 | -5,374 |
| Oct | 0 | 16,056 | 16,056 |
| Nov | 0 | -5,156 | -5,156 |
| Dec | 0 | -36,528 | -36,528 |
| | -739 | -229,316 | -230,056 |
| | -0.02% | -5.76% | -5.78% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

| DISTRICT: ALL | | CLASS : SCF | | | |
|-------------------------------|------------|----------------|------------|-----------|---------------------------|
| Normalized Sales per Customer | | | | | |
| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
| Jan | 1,357,198 | 5,810 | 1,363,008 | 4,702 | 289.8784 |
| Feb | 1,472,699 | -52,895 | 1,419,804 | 4,712 | 301.3167 |
| Mar | 1,253,426 | -210,130 | 1,043,296 | 4,558 | 228.8934 |
| Apr | 739,465 | -97,708 | 641,757 | 4,732 | 135.6206 |
| May | 324,821 | -55,209 | 269,612 | 4,407 | 61.1781 |
| Jun | 139,237 | -7,546 | 131,691 | 3,533 | 37.2745 |
| Jul | 102,919 | 3,188 | 106,107 | 2,807 | 37.8009 |
| Aug | 97,631 | 301 | 97,932 | 2,708 | 36.1638 |
| Sep | 100,831 | -10,619 | 90,212 | 2,749 | 32.8163 |
| Oct | 114,674 | 28,480 | 143,154 | 3,070 | 46.6300 |
| Nov | 311,774 | -13,272 | 298,502 | 4,303 | 69.3708 |
| Dec | 883,584 | -74,021 | 809,563 | 4,599 | 176.0303 |
| | 6,898,259 | -483,621 | 6,414,638 | 3,907 | 1641.9723 |
| | | -7.01% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | 5,810 | 5,810 |
| Feb | 0 | -52,895 | -52,895 |
| Mar | 0 | -210,130 | -210,130 |
| Apr | 0 | -97,708 | -97,708 |
| May | 0 | -55,209 | -55,209 |
| Jun | -144 | -7,402 | -7,546 |
| Jul | 235 | 2,953 | 3,188 |
| Aug | -173 | 473 | 301 |
| Sep | -186 | -10,433 | -10,619 |
| Oct | 0 | 28,480 | 28,480 |
| Nov | 0 | -13,272 | -13,272 |
| Dec | 0 | -74,021 | -74,021 |
| | -268 | -483,352 | -483,621 |
| | 0.00% | -7.01% | -7.01% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

| DISTRICT: NORTH | | | CLASS : SVF | | |
|-------------------------------|------------|----------------|-------------|-----------|---------------------------|
| Normalized Sales per Customer | | | | | |
| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
| Jan | 154,574 | 5,554 | 160,128 | 82 | 1952.7843 |
| Feb | 172,634 | -8,736 | 163,898 | 82 | 1998.7614 |
| Mar | 171,366 | -22,914 | 148,452 | 86 | 1726.1809 |
| Apr | 100,427 | -9,373 | 91,054 | 83 | 1097.0384 |
| May | 52,770 | -4,686 | 48,084 | 81 | 593.6325 |
| Jun | 31,285 | 729 | 32,014 | 77 | 415.7686 |
| Jul | 32,851 | 609 | 33,460 | 70 | 477.9942 |
| Aug | 26,463 | 227 | 26,690 | 68 | 392.5041 |
| Sep | 31,358 | -1,653 | 29,705 | 71 | 418.3809 |
| Oct | 46,160 | 5,183 | 51,343 | 74 | 693.8272 |
| Nov | 86,477 | -896 | 85,581 | 78 | 1097.1976 |
| Dec | 151,191 | -8,847 | 142,344 | 82 | 1735.8967 |
| | 1,057,556 | -44,802 | 1,012,754 | 934 | 13011.8283 |
| | | -4.24% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | 5,554 | 5,554 |
| Feb | 0 | -8,736 | -8,736 |
| Mar | 0 | -22,914 | -22,914 |
| Apr | 0 | -9,373 | -9,373 |
| May | 0 | -4,686 | -4,686 |
| Jun | 0 | 729 | 729 |
| Jul | 188 | 421 | 609 |
| Aug | 161 | 66 | 227 |
| Sep | 282 | -1,935 | -1,653 |
| Oct | 0 | 5,183 | 5,183 |
| Nov | 0 | -896 | -896 |
| Dec | 0 | -8,847 | -8,847 |
| | 630 | -45,432 | -44,802 |
| | 0.06% | -4.30% | -4.24% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

DISTRICT: NORTHWEST

CLASS : SVF

Normalized Sales per Customer

| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
|---------------|------------|----------------|------------|-----------|---------------------------|
| Jan | 119,846 | -7,019 | 112,827 | 60 | 1880.4574 |
| Feb | 105,656 | -9,009 | 96,647 | 56 | 1725.8466 |
| Mar | 92,578 | -18,118 | 74,460 | 51 | 1459.9934 |
| Apr | 71,472 | -11,575 | 59,897 | 61 | 981.9236 |
| May | 35,726 | -7,734 | 27,992 | 56 | 499.8570 |
| Jun | 24,733 | -1,518 | 23,215 | 52 | 446.4484 |
| Jul | 22,586 | 668 | 23,254 | 48 | 484.4658 |
| Aug | 23,275 | 1,118 | 24,393 | 48 | 508.1808 |
| Sep | 22,388 | -1,320 | 21,068 | 49 | 429.9503 |
| Oct | 29,961 | 3,265 | 33,226 | 58 | 572.8661 |
| Nov | 58,907 | -3,670 | 55,237 | 58 | 952.3660 |
| Dec | 100,004 | -9,988 | 90,016 | 60 | 1500.2612 |
| | 707,132 | -64,899 | 642,233 | 657 | 11730.2812 |
| | | -9.18% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | -7,019 | -7,019 |
| Feb | 0 | -9,009 | -9,009 |
| Mar | 0 | -18,118 | -18,118 |
| Apr | 0 | -11,575 | -11,575 |
| May | 0 | -7,734 | -7,734 |
| Jun | 0 | -1,518 | -1,518 |
| Jul | 551 | 117 | 668 |
| Aug | 961 | 156 | 1,118 |
| Sep | 1,325 | -2,645 | -1,320 |
| Oct | 0 | 3,265 | 3,265 |
| Nov | 0 | -3,670 | -3,670 |
| Dec | 0 | -9,988 | -9,988 |
| | 2,837 | -67,737 | -64,899 |
| | 0.40% | -9.58% | -9.18% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

DISTRICT: SOUTH

CLASS : SVF

Normalized Sales per Customer

| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
|---------------|------------|----------------|------------|-----------|---------------------------|
| Jan | 561,022 | -1,002 | 560,020 | 315 | 1777.8410 |
| Feb | 623,764 | -9,139 | 614,625 | 322 | 1908.7727 |
| Mar | 543,887 | -68,628 | 475,259 | 306 | 1553.1339 |
| Apr | 412,271 | -31,594 | 380,677 | 330 | 1153.5661 |
| May | 249,295 | -17,759 | 231,536 | 311 | 744.4888 |
| Jun | 151,089 | -1,379 | 149,710 | 318 | 470.7875 |
| Jul | 126,139 | 2,179 | 128,318 | 309 | 415.2696 |
| Aug | 123,697 | -292 | 123,405 | 282 | 437.6053 |
| Sep | 127,963 | -4,970 | 122,993 | 285 | 431.5543 |
| Oct | 220,314 | 12,074 | 232,388 | 300 | 774.6276 |
| Nov | 211,517 | -4,360 | 207,157 | 312 | 663.9658 |
| Dec | 391,485 | -20,986 | 370,499 | 319 | 1161.4375 |
| | 3,742,443 | -145,856 | 3,596,587 | 3,709 | 11636.3023 |
| | | -3.90% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | -1,002 | -1,002 |
| Feb | 0 | -9,139 | -9,139 |
| Mar | 0 | -68,628 | -68,628 |
| Apr | 0 | -31,594 | -31,594 |
| May | 0 | -17,759 | -17,759 |
| Jun | -231 | -1,147 | -1,379 |
| Jul | 599 | 1,581 | 2,179 |
| Aug | -531 | 238 | -292 |
| Sep | -1,837 | -3,133 | -4,970 |
| Oct | 0 | 12,074 | 12,074 |
| Nov | 0 | -4,360 | -4,360 |
| Dec | 0 | -20,986 | -20,986 |
| | -2,000 | -143,855 | -145,856 |
| | -0.05% | -3.84% | -3.90% |

THE EMPIRE DISTRICT GAS COMPANY
CASE NO. GR-2009-0434
WEATHER & DAYS NORMALIZATION

| DISTRICT: ALL | | CLASS : SCF | | | |
|-------------------------------|------------|----------------|------------|-----------|---------------------------|
| Normalized Sales per Customer | | | | | |
| Billing Month | Ccf Actual | Ccf Adjustment | Ccf Normal | Customers | Normal Usage per Customer |
| Jan | 835,442 | -2,466 | 832,976 | 457 | 1822.7039 |
| Feb | 902,054 | -26,883 | 875,171 | 460 | 1902.5449 |
| Mar | 807,831 | -109,661 | 698,170 | 443 | 1576.0050 |
| Apr | 584,170 | -52,542 | 531,628 | 474 | 1121.5788 |
| May | 337,791 | -30,179 | 307,612 | 448 | 686.6345 |
| Jun | 207,107 | -2,167 | 204,940 | 447 | 458.4786 |
| Jul | 181,576 | 3,456 | 185,032 | 427 | 433.3308 |
| Aug | 173,435 | 1,053 | 174,488 | 398 | 438.4112 |
| Sep | 181,709 | -7,943 | 173,766 | 405 | 429.0509 |
| Oct | 296,435 | 20,523 | 316,958 | 432 | 733.6984 |
| Nov | 356,901 | -8,925 | 347,976 | 448 | 776.7320 |
| Dec | 642,680 | -39,822 | 602,858 | 461 | 1307.7175 |
| | 5,507,131 | -255,557 | 5,251,574 | 442 | 11890.3562 |
| | | -4.64% | | | |

| Billing Month | DAYS Adjustment | HDD Adjustment | SUMMED Adjustment |
|---------------|-----------------|----------------|-------------------|
| Jan | 0 | -2,466 | -2,466 |
| Feb | 0 | -26,883 | -26,883 |
| Mar | 0 | -109,661 | -109,661 |
| Apr | 0 | -52,542 | -52,542 |
| May | 0 | -30,179 | -30,179 |
| Jun | -231 | -1,936 | -2,167 |
| Jul | 1,338 | 2,119 | 3,456 |
| Aug | 592 | 461 | 1,053 |
| Sep | -231 | -7,713 | -7,943 |
| Oct | 0 | 20,523 | 20,523 |
| Nov | 0 | -8,925 | -8,925 |
| Dec | 0 | -39,822 | -39,822 |
| | 1,467 | -257,024 | -255,557 |
| | 0.03% | -4.67% | -4.64% |

STATION: KANSAS_CITY_WSMO_AP, MO (Station ID: 234358)
Actual Heating Degree-Days (HDD) and Normal Heating Degree-Days (NHDD)
For The 12 Calendar Months Beginning January 01, 2008 And Ending December 31, 2008

| YEAR | MONT H | TOTAL HDD BY MONTH | | | PEAK DAY HDD | | |
|-----------|-----------|--------------------|------------------|---|-----------------------------------|----------------------------------|---------------------------------------|
| | | OBSERVED TOTALS | NORMAL TOTALS | ADJUSTMENT , ACTUAL TO NORMAL | OBSERVED COLDEST DAY HDD | NORMAL COLDEST DAY NHDD | ADJUSTMENT, ACTUAL TO NORMAL |
| 2008 | 1 | 1164 | 1182 | 18 | 61.50 | 65.99 | 4.49 |
| 2008 | 2 | 1081 | 905 | (176) | 50.00 | 62.57 | 12.57 |
| 2008 | 3 | 726 | 661 | (65) | 44.50 | 48.08 | 3.58 |
| 2008 | 4 | 408 | 340 | (68) | 27.00 | 31.17 | 4.17 |
| 2008 | 5 | 116 | 106 | (10) | 13.50 | 16.98 | 3.48 |
| 2008 | 6 | 0 | 8 | 8 | 0.00 | 5.66 | 5.66 |
| 2008 | 7 | 0 | 1 | 1 | 0.00 | 0.82 | 0.82 |
| 2008 | 8 | 0 | 2 | 2 | 0.00 | 1.73 | 1.73 |
| 2008 | 9 | 57 | 72 | 15 | 7.50 | 16.83 | 9.33 |
| 2008 | 10 | 313 | 282 | (31) | 27.00 | 28.57 | 1.57 |
| 2008 | 11 | 658 | 669 | 11 | 41.00 | 45.86 | 4.86 |
| 2008 | 12 | 1125 | 1047 | (78) | 60.00 | 66.63 | 6.63 |
| 12 MONTHS | | 5647 | 5273 | (374) | 61.50 | 66.63 | 5.13 |

STATION: CONCEPTION, MO (Station ID: 231822)
Actual Heating Degree-Days (HDD) and Normal Heating Degree-Days (NHDD)
For The 12 Calendar Months Beginning January 01, 2008 And Ending December 31, 2008

| YEAR | MONT H | TOTAL HDD BY MONTH | | | PEAK DAY HDD | | |
|-----------|-----------|--------------------|------------------|---|----------------------------|--------------------------|---------------------------------------|
| | | OBSERVED TOTALS | NORMAL TOTALS | ADJUSTMENT , ACTUAL TO NORMAL | OBSERVED COLDEST DAY | NORMAL COLDEST DAY | ADJUSTMENT, ACTUAL TO NORMAL |
| | | | | | | | |
| | | HDD | NHDD | | HDD | NHDD | |
| 2008 | 1 | 1398 | 1303 | (95) | 66.50 | 69.78 | 3.28 |
| 2008 | 2 | 1316 | 1023 | (293) | 63.50 | 67.93 | 4.43 |
| 2008 | 3 | 921 | 771 | (150) | 57.00 | 52.56 | (4.44) |
| 2008 | 4 | 578 | 414 | (164) | 32.00 | 34.82 | 2.82 |
| 2008 | 5 | 220 | 144 | (76) | 18.50 | 19.99 | 1.49 |
| 2008 | 6 | 2 | 16 | 14 | 1.50 | 8.09 | 6.59 |
| 2008 | 7 | 2 | 2 | (0) | 2.00 | 1.81 | (0.19) |
| 2008 | 8 | 0 | 5 | 5 | 0.00 | 4.21 | 4.21 |
| 2008 | 9 | 100 | 98 | (2) | 17.50 | 20.07 | 2.57 |
| 2008 | 10 | 412 | 349 | (63) | 32.00 | 32.07 | 0.07 |
| 2008 | 11 | 776 | 761 | (15) | 46.50 | 50.09 | 3.59 |
| 2008 | 12 | 1337 | 1168 | (168) | 68.50 | 70.60 | 2.10 |
| 12 MONTHS | | 7059 | 6054 | (1005) | 68.50 | 70.60 | 2.10 |

MISSOURI PUBLIC SERVICE COMMISSION

**STAFF REPORT
COST OF SERVICE**

**APPENDIX 4
Staff Recommended Depreciation Rates**

EMPIRE DISTRICT GAS COMPANY

CASE NO. GR-2009-0434

MISSOURI PUBLIC SERVICE COMMISSION

The Empire District Gas Company
Case No. GR-2009-0434

Recommended Annual Depreciation Rates

| Acct. No. | Account | Recommended | | |
|---------------------------|------------------------------|-------------------------------------|---------------------|------------------------------------|
| | | Average Service Life Years | Net Salvage % | Whole Life Depreciation Rate |
| Transmission Plant | | | | |
| 366 | Structures | 45 | 0.00% | 2.22% |
| 367 | Mains | 65 | 0.00% | 1.54% |
| 369 | Measuring & Reg. Stations | 45 | 0.00% | 2.22% |
| Distribution Plant | | | | |
| 375 | Structures | 45 | 0.00% | 2.22% |
| 376 | Mains | 45 | -104.42% | 4.54% |
| 378 | Measuring & Reg. Stations | 50 | 0.00% | 2.00% |
| 379 | City Gate Stations | 50 | 0.00% | 2.00% |
| 380 | Services | 43 | -42.47% | 3.31% |
| 381 | Meters | 40 | -2.61% | 2.57% |
| 383 | Regulators | 40 | -81.09% | 4.53% |
| 385 | Industrial Meas./Reg. Equip. | 45 | -21.21% | 2.69% |
| 387 | Other Equipment | | 0.00% | 0.00% |
| General Plant | | | | |
| 390 | Structures & Improvements | 45 | -4.24% | 2.32% |
| 391 | Furniture & Equipment | 15 | 0.00% | 6.67% |
| 391 | Computer Equipment | 7 | 0.00% | 14.29% |
| 392 | Transportation Equipment | 12 | 30.69% | 5.78% |
| 393 | Stores Equipment | 25 | 0.00% | 4.00% |
| 394 | Tools Shop & Garage Equip. | 30 | 0.00% | 3.33% |
| 395 | Laboratory Equipment | 30 | 0.00% | 3.33% |
| 396 | Power Operated Equipment | 16 | 14.35% | 5.35% |
| 397 | Communication Equipment | 25 | 0.00% | 4.00% |
| 398 | Miscellaneous Equipment | 23 | 0.00% | 4.35% |

The Empire District Gas Company
Case No. GR-2009-0434

Recommended Life Rates, Cost of Removal Rates and Depreciation Rates

| [A] | [B] | [C] | [D] | [E] | [F] | [G] | [H] | [I] | [J] |
|---------------------------|------------------------------|------------------------------------|----------------------------|-------------------------|----------------------------------|----------------------------------|------------------------|--------------------------|-------------------------|
| Acct. No. | Account | Depreciable Plant 12/31/2008 | Recommended | | | | | | |
| | | | Average Service Life | Life Accrual Rate | 5 Year Average Retirements | 5 Year Average Net Salvage | Net Salvage Rate | Whole Life Depr. Rate | Depreciation Expense |
| | | \$ | Years | 1 / [D] | | | [G]/[F]/[D] | [E] + [H] | [C] x [I] |
| Transmission Plant | | | | | | | | | |
| 366 | Structures | 10,880 | 45 | 2.22% | 0 | 0 | 0.00% | 2.22% | \$242 |
| 367 | Mains | 6,803,691 | 65 | 1.54% | 0 | 0 | 0.00% | 1.54% | \$104,672 |
| 369 | Measuring & Reg. Stations | 412,130 | 45 | 2.22% | 729 | 0 | 0.00% | 2.22% | \$9,158 |
| Distribution Plant | | | | | | | | | |
| 375 | Structures | 98,669 | 45 | 2.22% | 0 | | 0.00% | 2.22% | \$2,193 |
| 376 | Mains | 40,882,215 | 45 | 2.22% | 31,509 | -32,900 | -2.32% | 4.54% | \$1,857,106 |
| 378 | Measuring & Reg. Stations | 636,217 | 50 | 2.00% | 73 | 0 | 0.00% | 2.00% | \$12,724 |
| 379 | City Gate Stations | 932,939 | 50 | 2.00% | 0 | 0 | 0.00% | 2.00% | \$18,659 |
| 380 | Services | 23,733,563 | 43 | 2.33% | 306,783 | -130,300 | -0.99% | 3.31% | \$786,371 |
| 381 | Meters | 5,233,634 | 40 | 2.50% | 49,860 | -1,300 | -0.07% | 2.57% | \$134,252 |
| 383 | Regulators | 3,111,493 | 40 | 2.50% | 25,403 | -20,600 | -2.03% | 4.53% | \$140,868 |
| 385 | Industrial Meas./Reg. Equip. | 583,501 | 45 | 2.22% | 2,828 | -600 | -0.47% | 2.69% | \$15,717 |
| 387 | Other Equipment | 5,472 | | 0.00% | 0 | 0 | 0.00% | 0.00% | \$0 |
| General Plant | | | | | | | | | |
| 390 | Structures & Improvements | 653,583 | 45 | 2.22% | 21,210 | -900 | -0.09% | 2.32% | \$15,140 |
| 391 | Furniture & Equipment | 153,532 | 15 | 6.67% | 20,405 | 0 | 0.00% | 6.67% | \$10,235 |
| 391 | Computer Equipment | 304,345 | 7 | 14.29% | 18,151 | 0 | 0.00% | 14.29% | \$43,478 |
| 392 | Transportation Equipment | 1,213,917 | 12 | 8.33% | 3,259 | 1,000 | 2.56% | 5.78% | \$70,116 |
| 393 | Stores Equipment | 29,019 | 25 | 4.00% | 0 | 0 | 0.00% | 4.00% | \$1,161 |
| 394 | Tools Shop & Garage Equip. | 761,155 | 30 | 3.33% | 10,567 | 0 | 0.00% | 3.33% | \$25,372 |
| 395 | Laboratory Equipment | 98,267 | 30 | 3.33% | 4,572 | 0 | 0.00% | 3.33% | \$3,276 |
| 396 | Power Operated Equipment | 425,081 | 16 | 6.25% | 13,934 | 2,000 | 0.90% | 5.35% | \$22,754 |
| 397 | Communication Equipment | 410,334 | 25 | 4.00% | 6,135 | 0 | 0.00% | 4.00% | \$16,413 |
| 398 | Miscellaneous Equipment | 82,094 | 23 | 4.35% | 3,735 | 0 | 0.00% | 4.35% | \$3,569 |
| Total | | 86,165,397 | | | 3,071,493 | 183,600 | | | \$3,293,477 |

The Empire District Gas Company
Case No. GR-2009-0434

Previously Ordered Versus Recommended Annual Depreciation Rates

| Acct. No. | Account | GR-2004-0072 Whole Life Depreciation Rate with Net Salvage Expensed | Recommended Whole Life Depreciation Rate Net Salvage Included |
|---------------------------|------------------------------|---|---|
| Transmission Plant | | | |
| 366 | Structures | 2.22% | 2.22% |
| 367 | Mains | 1.67% | 1.54% |
| 369 | Measuring & Reg. Stations | 2.27% | 2.22% |
| Distribution Plant | | | |
| 375 | Structures | 2.22% | 2.22% |
| 376 | Mains | 2.22% | 4.54% |
| 378 | Measuring & Reg. Stations | 2.27% | 2.00% |
| 379 | City Gate Stations | 2.27% | 2.00% |
| 380 | Services | 2.22% | 3.31% |
| 381 | Meters | 2.50% | 2.57% |
| 383 | Regulators | 2.50% | 4.53% |
| 385 | Industrial Meas./Reg. Equip. | 2.27% | 2.69% |
| 387 | Other Equipment | 0.00% | 0.00% |
| General Plant | | | |
| 390 | Structures & Improvements | 2.22% | 2.32% |
| 391 | Furniture & Equipment | 4.55% | 6.67% |
| 391 | Computer Equipment | 14.29% | 14.29% |
| 392 | Transportation Equipment | 8.33% | 5.78% |
| 393 | Stores Equipment | 3.70% | 4.00% |
| 394 | Tools Shop & Garage Equip. | 3.70% | 3.33% |
| 395 | Laboratory Equipment | 3.45% | 3.33% |
| 396 | Power Operated Equipment | 6.25% | 5.35% |
| 397 | Communication Equipment | 3.45% | 4.00% |
| 398 | Miscellaneous Equipment | 4.35% | 4.35% |

The Empire District Gas Company
Case No. GR-2009-0434

Analysis of Accumulated Depreciation Reserve

| [A] | [B] | [C] | [NS] | [RA] | [D] | [E] | [F] | [G] | [H] | [I] | [J] |
|-----------|---------------------------------|---------------------------------|------------------|-----------------------|--|------------------|--|-----------------|---|--|--------------------|
| Acct. No. | Account | Depreciable Plant 12/31/2008 | % Net Salvage | Recoverable Amount | Accumulated Depreciation Reserve 12/31/2008 | Reserve Ratio | Recommended Average Service Life | Weighted Age | Calculated Reserve Ratio Based On Weighted Age | Calculation Depreciation Reserve | Reserve Deficiency |
| | | \$ | % | | \$ | % | Years | Years | % | \$ | \$ |
| | | | | [C]x[1-NS%] | | [D] / [C] | | | [G] / [F] | [H] * [C] | [I] - [D] |
| | Transmission Plant | | | | | | | | | | |
| 366 | Structures | 10,880 | 0.00% | 10,880 | 9,595 | 88.19% | 45 | 24.79 | 55.09% | 5,994 | -3,601 |
| 367 | Mains | 6,803,691 | 0.00% | 6,803,691 | 5,014,628 | 73.70% | 65 | 38.37 | 59.03% | 4,016,271 | -998,357 |
| 369 | Measuring & Reg. Stations | 412,130 | 0.00% | 412,130 | 155,020 | 37.61% | 45 | 16.81 | 37.36% | 153,953 | -1,067 |
| | Total Transmission Plant | 7,226,701 | | 7,226,701 | 5,179,243 | 71.67% | | | 57.79% | 4,176,218 | -1,003,025 |
| | Distribution Plant | | | | | | | | | | |
| 375 | Structures | 98,669 | 0.00% | 98,669 | 64,727 | 65.60% | 45 | 30.22 | 67.16% | 66,262 | 1,535 |
| 376 | Mains | 40,882,215 | -104.42% | 83,569,763 | 15,056,283 | 18.02% | 45 | 19.73 | 43.84% | 36,640,698 | 21,584,415 |
| 378 | Measuring & Reg. Stations | 636,217 | 0.00% | 636,217 | 332,581 | 52.27% | 50 | 20.94 | 41.88% | 266,448 | -66,133 |
| 379 | City Gate Stations | 932,939 | 0.00% | 932,939 | 436,162 | 46.75% | 50 | 20.54 | 41.08% | 383,251 | -52,911 |
| 380 | Services | 23,733,563 | -42.47% | 33,813,937 | 12,276,976 | 36.31% | 43 | 19.79 | 46.02% | 15,562,275 | 3,285,299 |
| 381 | Meters | 5,233,634 | -2.61% | 5,370,090 | 2,292,624 | 42.69% | 40 | 22.72 | 56.80% | 3,050,211 | 757,587 |
| 383 | Regulators | 3,111,493 | -81.09% | 5,634,709 | 845,249 | 15.00% | 40 | 17.39 | 43.48% | 2,449,690 | 1,604,441 |
| 365 | Industrial MeasJReg Equip | 583,501 | -21.21% | 707,281 | 164,180 | 23.21% | 45 | 13.07 | 29.04% | 205,426 | 41,246 |
| 387 | Other Equipment | 5,472 | 0.00% | 5,472 | 5,472 | 100.00% | | | | | |
| | Total Distribution Plant | 75,217,703 | | 130,769,077 | 31,474,254 | 24.07% | | | 45.28% | 58,624,261 | 27,155,479 |
| | General Plant | | | | | | | | | | |
| 390 | Structures & Improvements | 653,583 | -4.24% | 681,316 | 28,446 | 4.18% | 45 | 8.23 | 18.29% | 124,605 | 96,159 |
| 391 | Furniture & Equipment | 153,532 | 0.00% | 153,532 | 32,545 | 21.20% | 15 | 3.45 | 23.00% | 35,312 | 2,767 |
| 391 | Computer Equipment | 304,345 | 0.00% | 304,345 | 185,107 | 60.82% | 7 | 5.66 | 80.86% | 246,085 | 60,978 |
| 392 | Transportation Equipment | 1,213,917 | 30.69% | 841,390 | 575,635 | 68.41% | 12 | 5.54 | 46.17% | 388,442 | -187,193 |
| 393 | Stores Equipment | 29,019 | 0.00% | 29,019 | 9,715 | 33.48% | 25 | 8.68 | 34.72% | 10,075 | 360 |
| 394 | Tools Shop & Garage Equip. | 761,155 | 0.00% | 761,155 | 649,673 | 85.35% | 30 | 16.33 | 54.43% | 414,322 | -235,351 |
| 395 | Laboratory Equipment | 98,267 | 0.00% | 98,267 | 89,299 | 90.87% | 30 | 22.54 | 75.13% | 73,831 | -15,468 |
| 396 | Power Operated Equipment | 425,081 | 14.35% | 364,069 | 369,963 | 101.62% | 16 | 11.45 | 71.56% | 260,537 | -109,426 |
| 397 | Communication Equipment | 410,334 | 0.00% | 410,334 | 0 | 0.00% | 25 | | | | |
| 398 | Miscellaneous Equipment | 82,094 | 0.00% | 82,094 | 43,687 | 53.22% | 23 | 12.40 | 53.91% | 44,260 | 573 |
| | Total General Plant | 4,131,327 | | 3,725,521 | 1,984,070 | 53.26% | | | 48.60% | 1,597,470 | -386,600 |
| | Total Depreciable Plant | 86,575,731 | | 141,721,300 | 38,637,567 | 27.26% | | | 46.47% | 64,397,948 | 25,765,853 |

The Empire District Electric Company
Case No. GR-2009-0434

Staff Depreciation Accrual Versus Empire Depreciation Accrual

| Acct. No. | Account | Staff Recommended Depreciation Expense Annual Accrual | Empire Recommended Depreciation Expense Annual Accrual | Staff less Empire Difference in Depreciation Expense Annual Accrual |
|---------------------------|------------------------------|---|--|--|
| Transmission Plant | | | | |
| 366 | Structures | \$242 | \$242 | \$0 |
| 367 | Mains | \$104,672 | \$104,672 | \$0 |
| 369 | Measuring & Reg. Stations | \$9,158 | \$9,158 | \$0 |
| Distribution Plant | | | | |
| 375 | Structures | \$2,193 | \$2,193 | \$0 |
| 376 | Mains | \$1,857,106 | \$941,394 | \$915,712 |
| 378 | Measuring & Reg. Stations | \$12,724 | \$12,724 | \$0 |
| 379 | City Gale Stations | \$18,659 | \$18,659 | \$0 |
| 380 | Services | \$786,371 | \$682,243 | \$104,127 |
| 381 | Meters | \$134,252 | \$132,141 | \$2,111 |
| 383 | Regulators | \$140,868 | \$98,387 | \$42,480 |
| 385 | Industrial Meas./Reg. Equip. | \$15,717 | \$13,567 | \$2,151 |
| 387 | Other Equipment | \$0 | \$0 | \$0 |
| General Plant | | | | |
| 390 | Structures & Improvements | \$15,140 | \$15,424 | -\$284 |
| 391 | Furniture & Equipment | \$10,235 | \$10,235 | \$0 |
| 391 | Computer Equipment | \$43,478 | \$43,478 | \$0 |
| 392 | Transportation Equipment | \$70,116 | \$100,160 | -\$30,044 |
| 393 | Stores Equipment | \$1,161 | \$1,161 | \$0 |
| 394 | Tools Shop & Garage Equip. | \$25,372 | \$25,372 | \$0 |
| 395 | Laboratory Equipment | \$3,276 | \$3,276 | \$0 |
| 396 | Power Operated Equipment | \$22,754 | \$24,568 | -\$1,813 |
| 397 | Communication Equipment | \$16,413 | \$0 | \$16,413 |
| 398 | Miscellaneous Equipment | \$3,569 | \$3,569 | \$0 |
| | Total Difference | \$3,293,477 | \$2,242,531 | \$1,050,946 |

STAFF REPORT
COST OF SERVICE

APPENDIX 5
The Empire Electric
Organizational Chart

EMPIRE DISTRICT GAS COMPANY

CASE NO. GR-2009-0434

