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August 30, 2018
Data Center
Missouri Public
Service Commission

Exhibit No.: 101
Issue(s): Removal of Plastic Main and
Service Line Replacement Costs
Witness: Kimberly K. Bolin
Sponsoring Party: MoPSC Staff
Type of Exhibit: Direct Testimony
Case No.: GO-2016-0332, GO-2016-0333,
GO-2017-0201 and GO-2017-0202
Date Testimony Prepared: August 22, 2018

MISSOURI PUBLIC SERVICE COMMISSION
COMMISSION STAFF DIVISION
AUDITING DEPARTMENT

DIRECT TESTIMONY
OF
KIMBERLY K. BOLIN

SPIRE MISSOURI, INC.

CASE NOS. GO-2016-0332, GO-2016-0333,
GO-2017-0201 AND GO-2017-0202

Jefferson City, Missouri
August 2018

Staff Exhibit No. 101
Date 8/21/18 Reporter JMB
File No. GO-2016-0332-0333
GO-2017-0201 &

0202

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DIRECT TESTIMONY

OF

KIMBERLY K. BOLIN

SPIRE MISSOURI, INC.

**CASE NOS. GO-2016-0332, GO-2016-0333,
GO-2017-0201 AND GO-2017-0202**

EXECUTIVE SUMMARY.....2

STAFF'S INVESTIGATION AND CALCULATION3

Direct Testimony of
Kimberly K. Bolin

1 Q. Have you previously filed testimony before this Commission?

2 A. Yes, numerous times. Please refer to Schedule KKB-d1, attached to this
3 Direct Testimony, for a list of the major audits in which I have assisted and filed testimony
4 with OPC and with the Commission.

5 Q. What knowledge, skill, experience, training and education do you have in the
6 areas of which you are testifying as an expert witness?

7 A. I have received continuous training at in-house and outside seminars on
8 technical ratemaking matters both when employed by OPC and since I began my
9 employment at the Commission. I have been employed by this Commission or by OPC as a
10 Regulatory Auditor for over 20 years and have submitted testimony on ratemaking matters
11 numerous times before the Commission. I have also been responsible for the supervision of
12 other Commission employees in rate cases and other regulatory proceedings.

13 Q. Did you participate in the Commission Staff's ("Staff") review of the
14 applications filed by Spire Missouri ("Company" or "Spire") in Case Nos. GO-2016-0332 and
15 GO-2016-0332?

16 A. Yes, I did, with the assistance of other members of Staff.

17 Q. Did you participate in Staff's review and author Staff's report and
18 recommendation regarding the remand of the Commission's Report and Order, filed on
19 June 29, 2018, and as updated on July 9, 2018, in the above cases?

20 A. Yes, I did, with the assistance of other members of Staff.

21 EXECUTIVE SUMMARY

22 Q. Please summarize your testimony in this proceeding.

1 A. In this testimony, I will discuss Staff's investigation of the amount of potential
2 customer refund associated with the remand order and how Staff determined the appropriate
3 value of the replacement cost of the plastic pipe considered in the related cases.

4 **STAFF'S INVESTIGATION AND CALCULATION**

5 Q. When Staff reviewed the records in Case Nos. GO-2016-0332 and
6 GO-2016-0333, did Staff determine there was enough information within the record
7 to calculate an appropriate value for the replacement cost of the plastic pipe in those cases?

8 A. No. The record reflected in those cases only contained information obtained
9 from the work order authorizations regarding fourteen (14) out of 269 relevant work orders
10 in Case No. GO-2016-0332 and nine (9) out of 294 relevant work orders in Case No.
11 GO-2016-0333. In Case Nos. GO-2017-0201 and GO-2017-0202, there is no evidence in
12 the record because the parties entered into a Stipulation and Agreement before any evidence
13 was submitted into the case concerning the appropriate value of the replacement cost of the
14 plastic mains and service lines.

15 Q. Did Spire Missouri provide Staff with additional work order authorizations for
16 all the above cases?

17 A. Yes. After the Missouri Court of Appeals Western District remanded the cases
18 back to the Commission for further proceedings, Spire Missouri provided all work order
19 authorizations for projects totaling over \$25,000, except for open "blanket" work orders.

20 Q. What is a "blanket" work order?

21 A. A blanket work order is a work order that related to ongoing projects that will
22 not close in a certain time period.

Direct Testimony of
Kimberly K. Bolin

1 Q. Did Staff review all of the work order authorizations provided by Spire for all
2 four cases?

3 A. Yes, Staff reviewed all of the work order authorizations provided to determine
4 the feet of main and service lines replaced and retired by the type of pipe (plastic, cast iron,
5 steel, etc.). Attached as Schedule KKB-d2 is an example of a work order authorization.

6 Q. For the work orders provided, was Staff able to determine the actual
7 percentage of plastic footage replaced for mains and service lines compared to the total
8 footage replace for both mains and service lines?

9 A. Yes, Staff then applied the actual individual plastic main and services line
10 percentages to the work order cost to determine the cost of the replacement of plastic pipe.
11 Staff did not remove any amounts for work orders that were associated with relocations
12 required by a governmental authority, encapsulation work orders, and meter and regulator
13 replacement work orders.

14 Q. What did Staff do for work orders authorizations that were not provided; i.e.,
15 for those work order authorizations totaling less than \$25,000 and blanket work orders?

16 A. Staff calculated an average of plastic mains and service lines replaced for the
17 work order authorizations provided and applied that percentage to work order authorizations
18 that were not provided. This methodology assumes that the work orders that were not
19 provided were comparable to the group of work orders that were made available to Staff.

20 Attached to my direct testimony are the following Schedules which show the work order and
21 the feet of main and service lines replace by type:

- 22 • Schedule KKB-d3 – Case No. GO-2016-0332
- 23 • Schedule KKB-d4 – Case No. GO-2016-0333
- 24 • Schedule KKB-d5 – Case No. GO-2017-0201
- 25 • Schedule KKB-d6 – Case No. GO-2017-0202

Direct Testimony of
Kimberly K. Bolin

1 These Schedules also show the calculation of the average of plastic mains and services lines
2 replaced that were applied to the work order authorizations that were not provided.

3 Q. What percentage of Infrastructure System Replacement (ISRS) additions do
4 the work orders less than \$25,000 and the blanket work orders total?

5 A. Attached as Schedule KKB-d7 is a table that outlines the percentage of ISRS
6 additions stemming from work orders less than \$25,000 and blanket work order.

7 Q. What were the results of Staff's investigation and calculation?

8 A. Utilizing the methodology outlined above, Staff determined that
9 Spire Missouri collected ineligible replacement costs through its ISRS totaling \$4,161,025
10 (\$1,359,165 for Spire West and \$2,801,860 for Spire East). These amounts constitute an
11 over collection of ISRS revenues, and should be returned to ratepayers. Attached as
12 Schedule KKB-d8 to my direct testimony is Staff's calculation of the amounts to be refunded,
13 using Staff's recommended methodology and Staff's alternative methodology as discussed
14 below.

15 Q. Does Staff propose an alternative calculation to quantify the plastic mains and
16 service lines replacement for the work order authorizations that were not provided?

17 A. Yes. In the event the Commission rejects the quantification method outlined
18 above, Staff alternatively proposes removing all costs for all work orders that were not
19 provided. Under this methodology it would be assumed that all costs for the unprovided work
20 orders were associated with plastic pipe replacement. Without evidence to the contrary, it is
21 impossible for Staff to disprove this assumption.

22 Q. Does this conclude your direct testimony in this proceeding?

23 A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of)
Laclede Gas Company to Change its) Case No. GO-2016-0332
Infrastructure System Replacement Surcharge)
in its Missouri Gas Energy Service Territory)

In the Matter of the Application of)
Laclede Gas Company to Change its) Case No. GO-2016-0333
Infrastructure System Replacement Surcharge)
in its Laclede Gas Service Territory)

In the Matter of the Application of)
Laclede Gas Company to Change its) Case No. GO-2017-0201
Infrastructure System Replacement Surcharge)
in its Missouri Gas Energy Service Territory)

In the Matter of the Application of)
Laclede Gas Company to Change its) Case No. GO-2017-0202
Infrastructure System Replacement Surcharge)
in its Laclede Gas Service Territory)

AFFIDAVIT OF KIMBERLY K. BOLIN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW KIMBERLY K. BOLIN and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Direct Testimony; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Kimberly K. Bolin
KIMBERLY K. BOLIN

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 22nd day of August, 2018.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

D. Suzie Mankin
Notary Public

**CASE PARTICIPATION
OF
KIMBERLY K. BOLIN**

<u>Company Name</u>	<u>Case Number</u>	<u>Testimony/Issues</u>	<u>Contested or Settled</u>
Missouri-American Water Company	WR-2017-0285	<u>Cost of Service Report</u> – Pension/OPEB Tracker, FAS 87 Pension Costs, FAS 106 OPEBs Costs, Franchise Taxes <u>Rebuttal</u> – Defined Contribution Plan, Cloud Computing, Affiliate Transaction Rule (Water Utility) <u>Surrebuttal</u> – Rate Case Expense	Settled
Missouri-American Water Company	WO-2018-0059	<u>Direct</u> – ISRS Overview, Accumulated Deferred Income Taxes, Reconciliation	Settled
Missouri Gas Energy and Laclede Gas Company	GO-2016-0332 and GO-2016-0333	<u>Rebuttal</u> – Inclusion of Plastic Main and Service Line Replacements	Contested
Empire District Electric Company/Liberty Utilities	EM-2016-0213	<u>Rebuttal</u> – Overview of Transaction, Ratemaking /Accounting Conditions, Access to Records <u>Surrebuttal</u> – OPC Recommended Conditions, SERP	Settled
Hillcrest Utility Operating Company, Inc.	WR-2016-0064	<u>Direct</u> – Partial Disposition Agreement	Contested
Empire District Electric Company	ER-2016-0023	<u>Requirement Report</u> – Riverton Conversion Project and Asbury Air Quality Control System <u>Direct</u> – Overview of Staff's Revenue Requirement Report and Overview of Staff's Rate Design Filing	Settled
Missouri-American Water Company	WR-2015-0301	<u>Report on Cost of Service</u> – Corporate Allocation, District Allocations <u>Rebuttal</u> – District Allocations, Business Transformation <u>Surrebuttal</u> – District Allocations, Business Transformation, Service Company Costs	Settled

**CASE PARTICIPATION
OF
KIMBERLY K. BOLIN**

<u>Company Name</u>	<u>Case Number</u>	<u>Testimony/Issues</u>	<u>Contested or Settled</u>
Empire District Electric Company	ER-2014-0351	<u>Direct</u> – Overview of Staff’s Filing <u>Rebuttal</u> - ITC Over-Collection, Cost of Removal Deferred Tax Amortization, State Flow-Through <u>Surrebuttal</u> – Unamortized Balance of Joplin Tornado, ITC Over-Collections, Cost of Removal Deferred Tax Amortization, State Flow-Through, Transmission Revenues and Expenses	Settled
Brandco Investments/ Hillcrest Utility Operating Company, Inc.	WO-2014-0340	<u>Rebuttal</u> – Rate Base and Future Rates	Settled
Lake Region Water & Sewer	WR-2013-0461	<u>Direct</u> – Overview of Staff’s Filing <u>Report on Cost of Service</u> – True-Up, Availability Fees, Sewer Operating Expense, Sewer Equipment Maintenance Expense <u>Surrebuttal</u> – Availability Fees <u>True-Up Direct</u> – Overview of True-Up Audit <u>True-Up Rebuttal</u> – Corrections to True-Up	Contested
Empire District Electric Company	ER-2012-0345	<u>Direct</u> - Overview of Staff’s Filing <u>Report on Cost of Service</u> – SWPA Hydro Reimbursement, Joplin Tornado AAO Asset, SPP Revenues, SPP Expenses, Regulatory Plan Amortization Impacts, SWPA Amortization, Tornado AAO Amortization <u>Rebuttal</u> – Unamortized Balance of Joplin Tornado AAO, Rate Case Expense, True-Up and Uncontested Issues <u>Surrebuttal</u> – Unamortized Balance of Joplin Tornado AAO, SPP Transmission Expense, True-Up, Advanced Coal Investment Tax Credit	Settled

**CASE PARTICIPATION
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KIMBERLY K. BOLIN**

<u>Company Name</u>	<u>Case Number</u>	<u>Testimony/Issues</u>	<u>Contested or Settled</u>
Missouri-American Water Company	WR-2011-0337	<u>Direct</u> – Overview of Staff’s Filing <u>Report on Cost of Service</u> - True-Up Recommendation, Tank Painting Tracker, Tank Painting Expense <u>Rebuttal</u> - Tank Painting Expense, Business Transformation <u>Surrebuttal</u> – Tank Painting Tracker, Acquisition Adjustment	Settled
Missouri-American Water Company	WR-2010-0131	<u>Report on Cost of Service</u> - Pension/OPEB Tracker, Tank Painting Tracker, Deferred Income Taxes, FAS 87 Pension Costs, FAS 106 – Other Post-Employment Benefits, Incentive Compensation, Group Insurance and 401(k) Employer Costs, Tank Painting Expense, Dues and Donations, Advertising Expense, Promotional Items, Current and Deferred Income Tax Expense	Settled
Empire District Gas Company	GR-2009-0434	<u>Report on Cost of Service</u> – Prepaid Pension Asset, Pension Tracker Asset/Liability, Unamortized Accounting Authority Order Balances, Pension Expense, OPEBs, Amortization of Stock Issuance Costs, Amortization of Accounting Authority Orders <u>Direct</u> – Overview of Staff’s Filing	Settled
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

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<u>Company Name</u>	<u>Case Number</u>	<u>Testimony/Issues</u>	<u>Contested or Settled</u>
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 and Light Company	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
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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

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<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

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<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

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<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
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<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	<u>Direct</u> - Property Held for Future Use; Premature Retirement of Sewer Plant; Depreciation Study Expense; Deferred Maintenance <u>Rebuttal</u> - Property Held for Future Use; Premature Retirement of Sewer Plant; Deferred Maintenance <u>Surrebuttal</u> - Property Held for Future Use; Premature Retirement of Sewer Plant	Contested
St. Louis County Water Company	WR-95-145	<u>Rebuttal</u> - Tank Painting Reserve Account; Main Repair Reserve Account <u>Surrebuttal</u> - Main Repair Reserve Account	Contested

Work Order Authorization Information

Header Detail

<p>Work Order: 900621 Work Order Title: Repl w/ 4991F 2-4PMplewoodPh3 CITY Wo Type Description: WO-Replacement Mains & Services Work Order Group: Current Revision: 1 Funding Project: 3303L Funding Project Desc: Replacement of Dist Sys - Laclede Eligible for AFUDC: yes Eligible for CPI: yes Reason Code: Strategic WO Description: Install 3,134 Ft of 2 in. PL IP main and 1,857 Ft of 4 in. PL IP main on Skinker Blvd, Wise Ave, W Park Ave, Forest Ave and Nashville Ave. Abandon 5365 ft of various main at above locations.</p>	<p>Company: Splre Missouri Inc. Business Segment: Missouri East Functional Class: Distribution Plant Department Code: 10638 Department Description: Construction - Region 1B - Union Budget Description: Replacement of Dist Sys - Laclede Est. Annual Revenue: Reimbursement Type: None Retirement Type:</p>
<p>Major Location: Mass Property-Laclede Asset Location: Laclede-St. Louis City</p>	<p>Status: posted to CPR</p>

Estimated Start Date: Aug 31, 2015 **Estimated Completion Date:** Nov 27, 2015 **Estimated In-Service Date:** Nov 27, 2015
Notes: Existing main to be replaced as part of the FY15 Cast Iron Replacement Program. NOTE: this is St Louis City - need to correct on As Built

Reason for Work (Justification)

Approvals

Level	Approver	Approval Limit	Date Approved
Operational Accounting	Muehlenkamp, Anne	\$0	6/16/2015
Engineering Review-Dist	Hoeflerlin, Craig	\$0	6/17/2015
VP Field Operations	Goodson, Timothy	\$500,000	6/18/2015
Chief Operating Officer	Lindsey, Steve	\$2,000,000	6/18/2015

***** Unit Estimate *****

Utility Account	Additions	Removal Cost	Total Expenditures	Retirement Value	Salvage
376100-Mains - Steel	\$0.00	\$1,177.01	\$1,177.01	\$0.00	\$0.00
376200-Mains - Cast Iron	\$0.00	\$40,926.41	\$40,926.41	\$0.00	\$0.00
376300-Mains - Plastic	\$617,584.00	\$5,893.42	\$623,477.42	\$0.00	\$0.00
Total Estimated Costs:	\$617,584.00	\$47,996.84	\$665,580.84	\$0.00	\$0.00

Work Order Authorization Information

***** Unit Estimate *****

Asset Location	Utility Account	Retirement Unit	Est. Chg Type	Additon Dollars	Retirement Dollars	Add Qty	Retire Qty	Add Hrs	Retire Hrs	
Laclede-St. Louis County										
376200-Mains - Cast Iron										
Mains-Cast Iron 12"										
				Contract Payroll	\$0.00	\$6,166.49	0	0	0	0
				Department Clearings	\$0.00	\$7,708.11	0	0	0	0
				Mechanical Equipment	\$0.00	\$10,315.62	0	0	0	0
				Overheads Capitalized - Benefits	\$0.00	\$5,173.69	0	0	0	0
				Overheads Capitalized - General	\$0.00	\$6,633.42	0	0	0	0
				Payroll Taxes	\$0.00	\$924.97	0	0	0	0
				Retirement Value	\$0.00	\$0.00	0	1606	0	0
				Stores	\$0.00	\$3,600.74	0	0	0	0
Mains-Cast Iron 4"										
				Mechanical Equipment	\$0.00	\$366.22	0	0	0	0
				Retirement Value	\$0.00	\$0.00	0	424	0	0
				Stores	\$0.00	\$37.15	0	0	0	0
Mains-Cast Iron 6"										
				Retirement Value	\$0.00	\$0.00	0	904	0	0
				SubTotal Utility Account:	\$0.00	\$40,926.41	0.00	2,934.00	0.00	0.00
				SubTotal Location:	\$0.00	\$40,926.41	0.00	2,934.00	0.00	0.00
Laclede-St. Louis City										
376300-Mains - Plastic										
Mains-Plastic 2"										
				Contract Payroll	\$84,851.66	\$0.00	0	0	0	0
				Department Clearings	\$126,580.45	\$0.00	0	0	0	0
				Mechanical Equipment	\$131,430.03	\$0.00	0	0	0	0
				Overheads Capitalized - Benefits	\$71,190.54	\$0.00	0	0	0	0
				Overheads Capitalized - General	\$78,469.30	\$0.00	0	0	0	0
				Payroll Taxes	\$12,727.75	\$0.00	0	0	0	0
				SubTotal Utility Account:	\$502,249.73	\$0.00	0.00	0.00	0.00	0.00
				SubTotal Location:	\$502,249.73	\$0.00	0.00	0.00	0.00	0.00
Laclede-St. Louis County										
376300-Mains - Plastic										
Mains-Plastic 2"										
				Retirement Value	\$0.00	\$0.00	0	422	0	0
				SubTotal Utility Account:	\$0.00	\$0.00	0.00	422.00	0.00	0.00
				SubTotal Location:	\$0.00	\$0.00	0.00	422.00	0.00	0.00

Work Order Authorization Information

***** Unit Estimate *****

Asset Location Utility Account Retirement Unit Est. Chg Typo	Additon Dollars	Retirement Dollars	Add Qty	Retire Qty	Add Hrs	Retire Hrs
Laclede-St. Louis City						
376300-Mains - Plastic						
Mains-Plastic 2"						
Stores	\$22,703.01	\$0.00	3134	0	0	0
SubTotal Utility Account:	\$22,703.01	\$0.00	3,134.00	0.00	0.00	0.00
SubTotal Location:	\$22,703.01	\$0.00	3,134.00	0.00	0.00	0.00
Laclede-St. Louis County						
376300-Mains - Plastic						
Mains-Plastic 3"						
Contract Payroll	\$0.00	\$1,541.62	0	0	0	0
Department Clearings	\$0.00	\$1,927.03	0	0	0	0
Overheads Capitalized - Benefits	\$0.00	\$1,293.42	0	0	0	0
Overheads Capitalized - General	\$0.00	\$900.11	0	0	0	0
Payroll Taxes	\$0.00	\$231.24	0	0	0	0
Retirement Value	\$0.00	\$0.00	0	510	0	0
SubTotal Utility Account:	\$0.00	\$6,893.42	0.00	510.00	0.00	0.00
SubTotal Location:	\$0.00	\$6,893.42	0.00	510.00	0.00	0.00
Laclede-St. Louis City						
376300-Mains - Plastic						
Mains-Plastic 4"						
Contract Payroll	\$14,453.20	\$0.00	0	0	0	0
Department Clearings	\$21,390.74	\$0.00	0	0	0	0
Mechanical Equipment	\$23,752.02	\$0.00	0	0	0	0
Overheads Capitalized - Benefits	\$12,126.23	\$0.00	0	0	0	0
Overheads Capitalized - General	\$13,463.92	\$0.00	0	0	0	0
Payroll Taxes	\$2,167.98	\$0.00	0	0	0	0
SubTotal Utility Account:	\$87,354.09	\$0.00	0.00	0.00	0.00	0.00
SubTotal Location:	\$87,354.09	\$0.00	0.00	0.00	0.00	0.00
Laclede-St. Louis County						
376300-Mains - Plastic						
Mains-Plastic 4"						
Retirement Value	\$0.00	\$0.00	0	413	0	0
SubTotal Utility Account:	\$0.00	\$0.00	0.00	413.00	0.00	0.00
SubTotal Location:	\$0.00	\$0.00	0.00	413.00	0.00	0.00

Work Order Authorization Information

***** Unit Estimate *****						
Asset Location	Utility Account	Retirement Unit				
Est. Chg Type	Addition Dollars	Retirement Dollars	Add Qty	Retire Qty	Add Hrs	Retire Hrs
Laclede-St. Louis City						
376300-Mains - Plastic						
Mains-Plastic 4"						
Stores	\$5,277.17	\$0.00	1857	0	0	0
SubTotal Utility Account:	\$5,277.17	\$0.00	1,857.00	0.00	0.00	0.00
SubTotal Location:	\$5,277.17	\$0.00	1,857.00	0.00	0.00	0.00
Laclede-St. Louis County						
376300-Mains - Plastic						
Mains-Plastic 6"						
Retirement Value	\$0.00	\$0.00	0	10	0	0
SubTotal Utility Account:	\$0.00	\$0.00	0.00	10.00	0.00	0.00
376100-Mains - Steel						
Mains-Steel 12"						
Retirement Value	\$0.00	\$0.00	0	11	0	0
Mains-Steel 4"						
Contract Payroll	\$0.00	\$236.40	0	0	0	0
Department Clearings	\$0.00	\$295.50	0	0	0	0
Mechanical Equipment	\$0.00	\$199.35	0	0	0	0
Overheads Capitalized - Benefits	\$0.00	\$198.34	0	0	0	0
Overheads Capitalized - General	\$0.00	\$194.33	0	0	0	0
Payroll Taxes	\$0.00	\$35.46	0	0	0	0
Retirement Value	\$0.00	\$0.00	0	1059	0	0
Stores	\$0.00	\$17.63	0	0	0	0
Mains-Steel 8"						
Retirement Value	\$0.00	\$0.00	0	6	0	0
SubTotal Utility Account:	\$0.00	\$1,177.01	0.00	1,076.00	0.00	0.00
SubTotal Location:	\$0.00	\$1,177.01	0.00	1,088.00	0.00	0.00
Total Unit Estimate:	\$617,584.00	\$47,996.84	4,991	5,365	0	0

***** Class Codes *****	
Class Code	Value
cap_expense	capital
ISRS Reason	01 - Cast Iron Strategic Replacement
isrs_recov	yes
ohbenefits	yes
ohgen_supv	yes
prod_nonprod	prod
Project Classification	both

Work Order Authorization Information

***** As-Built *****

Asset Location

Utility Account

Exp Type

Est Charge Type	Retirement Unit	Job task	Dollars	Quantity
Used In Utilization:				
Laclede-St. Louis City				
376100-Mains - Steel				
Retirement				
Contract Payroll	Mains-Steel 6"		\$5.43	0
Contract Payroll	Mains-Steel 12"		\$16.30	0
Contract Payroll	Mains-Steel 4"		\$217.28	0
Contract Payroll	Mains-Steel 8"		\$2.72	0
Department Clearings	Mains-Steel 6"		\$6.79	0
Department Clearings	Mains-Steel 4"		\$271.60	0
Department Clearings	Mains-Steel 8"		\$3.40	0
Department Clearings	Mains-Steel 12"		\$20.38	0
Mechanical Equipment	Mains-Steel 8"		\$1.13	0
Mechanical Equipment	Mains-Steel 12"		\$7.49	0
Mechanical Equipment	Mains-Steel 4"		\$163.64	0
Mechanical Equipment	Mains-Steel 6"		\$2.69	0
Overheads Capitalized - Benefits	Mains-Steel 8"		\$2.56	0
Overheads Capitalized - Benefits	Mains-Steel 12"		\$15.35	0
Overheads Capitalized - Benefits	Mains-Steel 6"		\$5.12	0
Overheads Capitalized - Benefits	Mains-Steel 4"		\$204.68	0
Overheads Capitalized - General	Mains-Steel 6"		\$1.44	0
Overheads Capitalized - General	Mains-Steel 12"		\$4.07	0
Overheads Capitalized - General	Mains-Steel 4"		\$87.20	0
Overheads Capitalized - General	Mains-Steel 8"		\$0.63	0
Payroll Taxes	Mains-Steel 8"		\$0.41	0
Payroll Taxes	Mains-Steel 4"		\$33.03	0
Payroll Taxes	Mains-Steel 12"		\$2.48	0
Payroll Taxes	Mains-Steel 6"		\$0.83	0
Retirement Value	Mains-Steel 12"		\$18,193.26	25
Retirement Value	Mains-Steel 6"		\$226.58	10
Retirement Value	Mains-Steel 12"		\$557.50	58
Retirement Value	Mains-Steel 8"		\$3,593.00	15
Retirement Value	Mains-Steel 6"		\$111.72	17
Retirement Value	Mains-Steel 12"		\$288.04	13
Retirement Value	Mains-Steel 4"		\$17,508.75	1,182
Stores	Mains-Steel 4"		\$16.62	0
Retirement Total:			\$41,672.12	1,320

376200-Mains - Cast Iron

Retirement

Contract Payroll	Mains-Cast Iron 6"		\$165.68	0
Contract Payroll	Mains-Cast Iron 4"		\$374.81	0
Contract Payroll	Mains-Cast Iron 12"		\$218.98	0
Contract Payroll	Mains-Cast Iron 12"		\$3,167.54	0
Department Clearings	Mains-Cast Iron 12"		\$3,959.43	0
Department Clearings	Mains-Cast Iron 12"		\$273.73	0
Department Clearings	Mains-Cast Iron 4"		\$468.51	0
Department Clearings	Mains-Cast Iron 6"		\$207.10	0
Mechanical Equipment	Mains-Cast Iron 12"		\$1,253.25	0

Schedule KKB-d2

Work Order Authorization Information

***** As-Built *****

Asset Location

Utility Account

Exp Type

Est Charge Type	Retirement Unit	Job task	Dollars	Quantity
Used In Utilization:				
Laclede-St. Louis City				
376200-Mains - Cast Iron				
Retirement				
Mechanical Equipment	Mains-Cast Iron 4"		\$150.07	0
Mechanical Equipment	Mains-Cast Iron 12"		\$82.43	0
Mechanical Equipment	Mains-Cast Iron 6"		\$77.68	0
Overheads Capitalized - Benefits	Mains-Cast Iron 6"		\$156.07	0
Overheads Capitalized - Benefits	Mains-Cast Iron 4"		\$353.07	0
Overheads Capitalized - Benefits	Mains-Cast Iron 12"		\$2,983.82	0
Overheads Capitalized - Benefits	Mains-Cast Iron 12"		\$206.28	0
Overheads Capitalized - General	Mains-Cast Iron 4"		\$98.22	0
Overheads Capitalized - General	Mains-Cast Iron 12"		\$638.21	0
Overheads Capitalized - General	Mains-Cast Iron 6"		\$42.04	0
Overheads Capitalized - General	Mains-Cast Iron 12"		\$896.01	0
Payroll Taxes	Mains-Cast Iron 12"		\$481.47	0
Payroll Taxes	Mains-Cast Iron 4"		\$56.97	0
Payroll Taxes	Mains-Cast Iron 6"		\$25.18	0
Payroll Taxes	Mains-Cast Iron 12"		\$33.28	0
Retirement Value	Mains-Cast Iron 4"		\$32.37	20
Retirement Value	Mains-Cast Iron 6"		\$681.06	195
Retirement Value	Mains-Cast Iron 4"		\$560.87	403
Retirement Value	Mains-Cast Iron 6"		\$158.27	96
Retirement Value	Mains-Cast Iron 6"		\$30.52	20
Retirement Value	Mains-Cast Iron 6"		\$37.39	20
Retirement Value	Mains-Cast Iron 4"		\$302.95	135
Retirement Value	Mains-Cast Iron 12"		\$14,527.19	1,607
Retirement Value	Mains-Cast Iron 6"		\$964.72	577
Stores	Mains-Cast Iron 12"		\$457.33	0
Stores	Mains-Cast Iron 12"		\$1,444.80	0
Stores	Mains-Cast Iron 4"		\$33.25	0
Retirement Total:			\$35,600.55	3,073

376300-Mains - Plastic

Addition

Contract Payroll	Mains-Plastic 2"		\$50,372.65	0
Contract Payroll	Mains-Plastic 2"		\$3,802.40	0
Contract Payroll	Mains-Plastic 2"		\$655.24	0
Contract Payroll	Mains-Plastic 4"		\$18,081.43	0
Department Clearings	Mains-Plastic 2"		\$819.05	0
Department Clearings	Mains-Plastic 2"		\$62,965.81	0
Department Clearings	Mains-Plastic 4"		\$21,084.65	0
Department Clearings	Mains-Plastic 2"		\$4,753.00	0
Mechanical Equipment	Mains-Plastic 2"		\$1,400.60	0
Mechanical Equipment	Mains-Plastic 4"		\$6,564.96	0
Mechanical Equipment	Mains-Plastic 2"		\$14,782.41	0
Mechanical Equipment	Mains-Plastic 2"		\$246.33	0
Overheads Capitalized - Benefits	Mains-Plastic 4"		\$15,889.39	0
Overheads Capitalized - Benefits	Mains-Plastic 2"		\$47,451.04	0

Schedule KKB-d2

Work Order Authorization Information

***** As-Built *****

Asset Location	Utility Account	Exp Type	Est Charge Type	Retirement Unit	Job task	Dollars	Quantity
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Used In Utilization:

Laclede-St. Louis City
376300-Mains - Plastic

Addition

Overheads Capitalized - Benefits	Mains-Plastic 2"					\$617.24	0
Overheads Capitalized - Benefits	Mains-Plastic 2"					\$3,581.86	0
Overheads Capitalized - General	Mains-Plastic 2"					\$11,540.46	0
Overheads Capitalized - General	Mains-Plastic 2"					\$1,190.25	0
Overheads Capitalized - General	Mains-Plastic 4"					\$6,068.44	0
Overheads Capitalized - General	Mains-Plastic 2"					\$2,285.39	0
Payroll Taxes	Mains-Plastic 2"					\$577.96	0
Payroll Taxes	Mains-Plastic 2"					\$99.60	0
Payroll Taxes	Mains-Plastic 2"					\$7,656.64	0
Payroll Taxes	Mains-Plastic 4"					\$2,563.89	0
Stores	Mains-Plastic 2"					\$5,797.92	3,743
Stores	Mains-Plastic 2"					\$933.14	0
Stores	Mains-Plastic 2"					\$5,193.20	0
Stores	Mains-Plastic 4"					\$7,278.32	2,217

Addition Total: \$304,233.27 5,960

Retirement

Contract Payroll	Mains-Plastic 6"					\$2.72	0
Contract Payroll	Mains-Plastic 3"					\$97.78	0
Contract Payroll	Mains-Plastic 2"					\$78.76	0
Contract Payroll	Mains-Plastic 8"					\$54.32	0
Contract Payroll	Mains-Plastic 4"					\$78.76	0
Department Clearings	Mains-Plastic 4"					\$1,615.59	0
Department Clearings	Mains-Plastic 6"					\$3.40	0
Department Clearings	Mains-Plastic 3"					\$122.23	0
Department Clearings	Mains-Plastic 2"					\$98.45	0
Department Clearings	Mains-Plastic 8"					\$67.90	0
Mechanical Equipment	Mains-Plastic 2"					\$37.10	0
Mechanical Equipment	Mains-Plastic 3"					\$45.81	0
Mechanical Equipment	Mains-Plastic 8"					\$25.51	0
Mechanical Equipment	Mains-Plastic 4"					\$37.10	0
Mechanical Equipment	Mains-Plastic 6"					\$1.13	0
Overheads Capitalized - Benefits	Mains-Plastic 3"					\$92.11	0
Overheads Capitalized - Benefits	Mains-Plastic 2"					\$74.19	0
Overheads Capitalized - Benefits	Mains-Plastic 8"					\$51.17	0
Overheads Capitalized - Benefits	Mains-Plastic 6"					\$2.56	0
Overheads Capitalized - Benefits	Mains-Plastic 4"					\$1,217.51	0
Overheads Capitalized - General	Mains-Plastic 6"					\$0.63	0
Overheads Capitalized - General	Mains-Plastic 4"					\$734.57	0
Overheads Capitalized - General	Mains-Plastic 8"					\$13.80	0
Overheads Capitalized - General	Mains-Plastic 2"					\$20.06	0
Overheads Capitalized - General	Mains-Plastic 3"					\$24.80	0
Payroll Taxes	Mains-Plastic 4"					\$196.46	0
Payroll Taxes	Mains-Plastic 2"					\$11.97	0
Payroll Taxes	Mains-Plastic 8"					\$8.26	0

Work Order Authorization Information

***** As-Built *****

Asset Location
 Utility Account
 Exp Type
 Est Charge Type Retirement Unit Job task Dollars Quantity

Used in Utilization:

Laclede-St. Louis City
 376300-Mains - Plastic

Retirement

Payroll Taxes	Mains-Plastic 3"		\$14.86	0
Payroll Taxes	Mains-Plastic 6"		\$0.41	0
Retirement Value	Mains-Plastic 8"		\$81,238.85	294
Retirement Value	Mains-Plastic 6"		\$531.67	10
Retirement Value	Mains-Plastic 4"		\$15,072.76	423
Retirement Value	Mains-Plastic 3"		\$25,946.07	538
Retirement Value	Mains-Plastic 2"		\$2,412.85	422
Retirement Total:			\$130,032.12	1,687

380100-Services - Steel

Retirement

Contract Payroll	Services-Steel		\$1,315.56	0
Department Clearings	Services-Steel		\$127.31	0
Department Clearings	Services-Steel		\$1,517.14	0
Mechanical Equipment	Services-Steel		\$38.24	0
Overheads Capitalized - Benefits	Services-Steel		\$95.94	0
Overheads Capitalized - Benefits	Services-Steel		\$1,143.31	0
Overheads Capitalized - General	Services-Steel		\$714.51	0
Overheads Capitalized - General	Services-Steel		\$90.56	0
Payroll Taxes	Services-Steel		\$15.48	0
Payroll Taxes	Services-Steel		\$184.48	0
Retirement Value	Services-Steel		\$470.35	40
Retirement Value	Services-Steel		\$1,384.17	168
Retirement Value	Services-Steel		\$35.10	8
Retirement Value	Services-Steel		\$96.20	53
Retirement Value	Services-Steel		\$7.27	17
Stores	Services-Steel		\$1,730.74	0
Retirement Total:			\$8,966.36	286

380200-Services - Plastic & Copper

Addition

Contract Payroll	Services-Plastic		\$38,935.90	0
Department Clearings	Services-Plastic		\$48,669.88	0
Mechanical Equipment	Services-Plastic		\$13,844.04	0
Overheads Capitalized - Benefits	Services-Plastic		\$36,677.62	0
Overheads Capitalized - General	Services-Plastic		\$12,139.91	0
Payroll Taxes	Services-Plastic		\$5,918.26	0
Stores	Services-Plastic		\$9,935.64	6,563
Addition Total:			\$166,121.25	6,563

Retirement

Retirement Value	Services-Plastic		\$584.05	5
Retirement Value	Services-Plastic		\$2,742.86	28
Retirement Value	Services-Plastic		\$1,872.31	40
Retirement Value	Services-Plastic		\$2,783.15	41
Retirement Value	Services-Plastic		\$66.98	1
Retirement Value	Services-Plastic		\$6,009.08	86

Work Order Authorization Information

***** As-Built *****

Asset Location

Utility Account

Exp Type

Est Charge Type	Retirement Unit	Job task	Dollars	Quantity
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Used In Utilization:

Laclede-St. Louis City

380200-Services - Plastic & Copper

Retirement

Retirement Value	Services-Plastic		\$4,845.08	123
Retirement Value	Services-Plastic		\$10,191.10	237
Retirement Value	Services-Plastic		\$2,131.29	62
Retirement Value	Services-Plastic		\$956.22	25
Retirement Value	Services-Plastic		\$189.31	6
Retirement Value	Services-Plastic		\$4,101.22	120
Retirement Value	Services-Plastic		\$2,202.32	65
Retirement Value	Services-Plastic		\$14,542.68	874
Retirement Value	Services-Plastic		\$7,618.79	744
Retirement Value	Services-Plastic		\$799.06	78
Retirement Value	Services-Plastic		\$7,102.33	866
Retirement Value	Services-Plastic		\$2,080.37	307
Retirement Value	Services-Plastic		\$2,449.52	458
Retirement Value	Services-Copper		\$27.39	51
Retirement Value	Services-Copper		\$1,363.00	138
Retirement Value	Services-Copper		\$247.32	30
Retirement Value	Services-Copper		\$155.68	25
Retirement Value	Services-Copper		\$650.14	118
Retirement Value	Services-Copper		\$819.18	155
Retirement Value	Services-Copper		\$224.56	45
Retirement Value	Services-Copper		\$681.45	155
Retirement Value	Services-Copper		\$176.35	49
Retirement Value	Services-Copper		\$111.38	34
Retirement Value	Services-Copper		\$160.53	46
Retirement Value	Services-Copper		\$154.30	49
Retirement Value	Services-Copper		\$174.76	50
Retirement Value	Services-Copper		\$111.78	29
Retirement Value	Services-Copper		\$2,227.17	656
Retirement Value	Services-Copper		\$1,684.63	534
Retirement Value	Services-Plastic		\$5,083.38	80
Retirement Value	Services-Plastic		\$11,065.37	96
Retirement Value	Services-Plastic		\$7,702.47	55
Retirement Value	Services-Plastic		\$3,439.00	25

Retirement Total: \$109,527.54 6,686

	<u>Additon Dollars</u>	<u>Add Qty</u>	<u>Retirement Dollars</u>	<u>Retire Qty</u>
Location Total:	\$470,354.52	12,523	\$325,698.69	12,952

	<u>Additon Dollars</u>	<u>Add Qty</u>	<u>Retirement Dollars</u>	<u>Retire Qty</u>
Used In Utilization:	\$470,354.52	12,523	\$325,698.69	12,952

	<u>Additon Dollars</u>	<u>Add Qty</u>	<u>Retirement Dollars</u>	<u>Retire Qty</u>
Unit Estimate Total:	\$470,354.52	12,523	\$325,698.69	12,952

Work Order Authorization Information

***** Work Order Retirements *****

Business Segment	GL Account				
Asset Location					
Utility Account					
Retirement Unit					
Asset Description		Vintage	Activity Code	Retire Qty	Retirement Amount
Posted Retirements:					
Missouri East	101000::Gas Plant In Service				
Laclede-St. Louis City					
376100-Mains - Steel					
Mains-Steel 12"					
MAIN 12IN STL CITY		1950	URET	13	\$288.04
MAIN 12IN STL CITY		1951	URET	58	\$557.50
MAIN 12IN STL CITY		2008	URET	25	\$18,193.26
Mains-Steel 4"					
MAIN 04IN ST CITY		1973	URET	1,182	\$17,508.75
Mains-Steel 6"					
MAIN 06IN STL CITY		1950	URET	17	\$111.72
MAIN 06IN STL CITY		1973	URET	10	\$226.58
Mains-Steel 8"					
MAIN 08IN STL CITY		2008	URET	15	\$3,593.00
		Utility Account Total:		1,320	\$40,478.85
376200-Mains - Cast Iron					
Mains-Cast Iron 12"					
MAIN 12IN CI CITY		1947	URET	1,607	\$14,527.19
Mains-Cast Iron 4"					
MAIN 04IN CI CITY		1908	URET	403	\$560.87
MAIN 04IN CI CITY		1911	URET	20	\$32.37
MAIN 04IN CI CITY		1914	URET	135	\$302.95
Mains-Cast Iron 6"					
MAIN 06IN CI CITY		1910	URET	577	\$964.72
MAIN 06IN CI CITY		1911	URET	20	\$30.52
MAIN 06IN CI CITY		1912	URET	96	\$158.27
MAIN 06IN CI CITY		1916	URET	20	\$37.39
MAIN 06IN CI CITY		1925	URET	195	\$681.06
		Utility Account Total:		3,073	\$17,295.34
376300-Mains - Plastic					
Mains-Plastic 2"					
MAIN 02IN PL CITY		1972	URET	422	\$2,412.85
Mains-Plastic 3"					
MAIN 03IN PLS CITY		1997	URET	538	\$25,946.07
Mains-Plastic 4"					
MAIN 04IN PLS CITY		1997	URET	423	\$15,072.76
Mains-Plastic 6"					
MAIN 06IN PLS CITY		1997	URET	10	\$531.67
Mains-Plastic 8"					
MAIN 08IN PLS CITY		2008	URET	294	\$81,238.85
		Utility Account Total:		1,687	\$126,202.20
380100-Services - Steel					
Services-Steel					
SERVICES STL CI		1923	URET	17	\$7.27
SERVICES STL CI		1947	URET	53	\$96.20
SERVICES STL CI		1953	URET	8	\$35.10
SERVICES STL CI		1961	URET	168	\$1,384.17

Schedule KKB-d2

Work Order Authorization Information

***** Work Order Retirements *****

Business Segment	GL Account				
Asset Location					
Utility Account					
Retirement Unit					
Asset Description		Vintage	Activity Code	Retire Qty	Retirement Amount
Posted Retirements:					
Missouri East	101000::Gas Plant in Service				
Laclede-St. Louis City					
380100-Services - Steel					
Services-Steel					
SERVICES STL CI		1966	URET	40	\$470.35
		Utility Account Total:		286	\$1,993.09
380200-Services - Plastic & Copper					
Services-Copper					
SERVICES CPR CI		1952	URET	534	\$1,684.63
SERVICES CPR CI		1953	URET	656	\$2,227.17
SERVICES CPR CI		1955	URET	29	\$111.78
SERVICES CPR CI		1958	URET	50	\$174.76
SERVICES CPR CI		1959	URET	49	\$154.30
SERVICES CPR CI		1960	URET	46	\$160.53
SERVICES CPR CI		1961	URET	34	\$111.38
SERVICES CPR CI		1962	URET	49	\$176.35
SERVICES CPR CI		1963	URET	155	\$681.45
SERVICES CPR CI		1967	URET	45	\$224.56
SERVICES CPR CI		1968	URET	155	\$819.18
SERVICES CPR CI		1969	URET	118	\$650.14
SERVICES CPR CI		1970	URET	25	\$155.66
SERVICES CPR CI		1972	URET	30	\$247.32
SERVICES CPR CI		1973	URET	138	\$1,383.00
SERVICES CPR CI		1974	URET	51	\$27.39
Services-Plastic					
SERVICES PLS CI		1971	URET	458	\$2,449.52
SERVICES PLS CI		1972	URET	307	\$2,080.37
SERVICES PLS CI		1973	URET	866	\$7,102.33
SERVICES PLS CI		1975	URET	78	\$799.06
SERVICES PLS CI		1978	URET	874	\$14,542.68
SERVICES PLS CI		1984	URET	65	\$2,202.32
SERVICES PLS CI		1985	URET	120	\$4,101.22
SERVICES PLS CI		1986	URET	6	\$189.31
SERVICES PLS CI		1994	URET	62	\$2,131.29
SERVICES PLS CI		1997	URET	237	\$10,191.10
SERVICES PLS CITY		1976	URET	744	\$7,618.79
SERVICES PLS CITY		1993	URET	25	\$956.22
SERVICES PLS CITY		2000	URET	123	\$4,845.08
SERVICES PLS CITY		2004	URET	86	\$6,009.08
SERVICES PLS CITY		2006	URET	1	\$66.98
SERVICES PLS CITY		2007	URET	41	\$2,783.15
SERVICES PLS CITY		2008	URET	40	\$1,872.31
SERVICES PLS CITY		2009	URET	28	\$2,742.86
SERVICES PLS CITY		2010	URET	5	\$584.05
SERVICES PLS CITY		2011	URET	25	\$3,439.00
Services-Plastic 9/1/2016 00:00:00		2012	URET	55	\$7,702.47
Services-Plastic 9/1/2016 00:00:00		2013	URET	96	\$11,065.37

Schedule KKB-d2

Work Order Authorization Information

***** Work Order Retirements *****						
Business Segment	GL Account					
Asset Location						
Utility Account						
Retirement Unit						
Asset Description			Vintage	Activity Code	Retire Qty	Retirement Amount
Posted Retirements:						
Missouri East	101000::Gas Plant In Service					
Laclede-St. Louis City						
380200-Services - Plastic & Copper						
Services-Plastic						
Services-Plastic 9/1/2016 00:00:00			2016	URET	80	\$5,083.38
			Utility Account Total:		6,586	\$109,527.54
			Location Total:		12,952	\$294,497.02
			GL Account Total:		12,952	\$294,497.02
			Posted Retirements:		12,952	\$294,497.02
			Work Order Total:		12,952	\$294,497.02

**Spire West (Missouri Gas Energy)
Case No. GO-2016-0332**

Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
005274	2,814		2,814	0.00%					
005456	13,111	962	14,073	6.84%					
007394	1,327	310	1,637	18.94%					
007500	1,811	459	2,270	20.22%					
007939	2,718	5	2,723	0.18%					
007970	2,611	30	2,641	1.14%					
008133	1,850	17	1,867	0.91%					
008406	9,915		9,915	0.00%					
008546	3,294	31	3,325	0.93%					
008549	3,151		3,151	0.00%					
008629		35	35	100.00%					
008676	3,706		3,706	0.00%					
008733	108		108	0.00%					
008761	2,100		2,100	0.00%					
008906	6,039	185	6,224	2.97%					
008907	172	10	182	5.49%					
008969	9,638	1,755	11,393	15.40%					
009140	833		833	0.00%					
009224	2,123	1,923	4,046	47.53%					
009225	8,535	908	9,443	9.62%					
009228	6,585	285	6,870	4.15%					
009229	6,943	1,634	8,577	19.05%					
009230	5,805	1,176	6,981	16.85%					
009231	6,564		6,564	0.00%					
009232	7,336		7,336	0.00%					
009236	3,190	21	3,211	0.65%					
009247	6,517	73	6,590	1.11%					

Feet of Mains				
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Feet of Service Lines				
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Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
009248	7,894		7,894	0.00%					
009275	1,408		1,408	0.00%					
009276	2,324	206	2,530	8.14%					
009285	8,819	46	8,865	0.52%					
800016	415	25	440	5.68%			112	112	100.00%
800023	1,750	615	2,365	26.00%			48	48	100.00%
800027	2,568		2,568	0.00%	22		651	673	96.73%
800028					1		399	400	99.75%
800030	1,518	293	1,811	16.18%			446	446	100.00%
800032	1,316	84	1,400	6.00%	10		498	508	98.03%
800038	5,925	231	6,156	3.75%	24		980	1,004	97.61%
800039	9,453		9,453	0.00%	98		2,389	2,487	96.06%
800041	1,825	504	2,329	21.64%	13		160	173	92.49%
800043		637	637	100.00%			204	204	100.00%
800045	4,273	492	4,765	10.33%			1,411	1,411	100.00%
800046	3,800	648	4,448	14.57%	9		516	525	98.29%
800064	2,904	579	3,483	16.62%	13		860	873	98.51%
800068	8,582	457	9,039	5.06%	95		3,460	3,555	97.33%
800069	7,118	190	7,308	2.60%	83		1,233	1,316	93.69%
800070	2,374		2,374	0.00%			225	225	100.00%
800072	10,268	1,355	11,623	11.66%	29		3,209	3,238	99.10%
800073	13,794	436	14,230	3.06%	1		3,011	3,012	99.97%
800075	12,144	534	12,678	4.21%	85		1,830	1,915	95.56%
800078					4		657	661	99.39%
800079							276	276	100.00%
800083	7,482	1,560	9,042	17.25%	86		4,854	4,940	98.26%
800084	5,900	1,680	7,580	22.16%					
800085	4,538	472	5,010	9.42%					
800085	4,669	487	5,156	9.45%			3,250	3,250	100.00%
800086	465	321	786	40.84%	1			1	0.00%
800086	4,662	781	5,443	14.35%	19		4,452	4,471	99.58%

Feet of Mains				
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Feet of Service Lines				
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Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
800087	7,033	489	7,522	6.50%	90		2,384	2,474	96.36%
800088	1,828	260	2,088	12.45%	42		684	726	94.21%
800089	1,327		1,327	0.00%	27		1,865	1,892	98.57%
800104	3,807	12	3,819	0.31%			786	786	100.00%
800105	3,359		3,359	0.00%			1,038	1,038	100.00%
800106	1,690		1,690	0.00%			946	946	100.00%
800115	7,032	219	7,251	3.02%	69		1,473	1,542	95.53%
800116	4,589	81	4,670	1.73%	77		1,118	1,195	93.56%
800129	4,631	602	5,233	11.50%	1,052		1,224	2,276	53.78%
800135	3,284	48	3,332	1.44%			445	445	100.00%
800136	1,598	-	1,598	0.00%			333	333	100.00%
800137	4,201	127	4,328	2.93%	98	-	652	750	86.93%
800138	1,828	36	1,864	1.93%					
800142	4,790	6	4,796	0.13%	927		1,215	2,142	56.72%
800143	3,965	13	3,978	0.33%	1,970		1,214	3,184	38.13%
800144	3,691	8	3,699	0.22%	846		929	1,775	52.34%
800145	5,176	494	5,670	8.71%					
800145	4,666	496	5,162	9.61%	849		1,130	1,979	57.10%
800146	4,869		4,869	0.00%	617		645	1,262	51.11%
800163	5,506	147	5,653	2.60%	42		1,811	1,853	97.73%
800178	4,232	650	4,882	13.31%					
800178	4,202	650	4,852	13.40%	49		3,286	3,335	98.53%
800179	4,058	495	4,553	10.87%			836	836	100.00%
800194	952	50	1,002	4.99%					
800196	53		53	0.00%			46	46	100.00%
800199	742		742	0.00%					
800228	284		284	0.00%			53	53	100.00%
800230	2,935	172	3,107	5.54%	966		394	1,360	28.97%
800235	1,598	124	1,722	7.20%			462	462	100.00%
800236	969		969	0.00%	69		315	384	82.03%
800242	809		809	0.00%	95		151	246	61.38%

Feet of Mains				
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Feet of Service Lines				
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Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
800246	2,885		2,885	0.00%	127		1,163	1,290	90.16%
800249	1,555	369	1,924	19.18%	8		914	922	99.13%
800253	322		322	0.00%					
800254	7,990	391	8,381	4.67%					
800254	7,232	842	8,074	10.43%	13		1,510	1,523	99.15%
800254	7,232	842	8,074	10.43%	13		1,510	1,523	99.15%
800255	3,861	294	4,155	7.08%					
800272	1,080		1,080	0.00%			26	26	100.00%
800346	145		145	0.00%					
800358	296		296	0.00%	19			19	0.00%
800369	325		325	0.00%					
800370	399		399	0.00%					
800372	2,435	529	2,964	17.85%			522	522	100.00%
800377	3,440	1,139	4,579	24.87%	102		127	229	55.46%
800381	6,585	76	6,661	1.14%			1,297	1,297	100.00%
800385	5,671	70	5,741	1.22%	385		1,978	2,363	83.71%
800386	1,195		1,195	0.00%	8	2		10	0.00%
800388	778		778	0.00%	9		84	93	90.32%
800389	2,989	55	3,044	1.81%	23		134	157	85.35%
800397	2,095	149	2,244	6.64%	1		292	293	99.66%
800403	818	68	886	7.67%					
800428	2,339		2,339	0.00%	44		802	846	94.80%
800430	4,371	255	4,626	5.51%	27		552	579	95.34%
800433	843		843	0.00%					
800467	262		262	0.00%	88		31	119	26.05%
800468	28	-	28	0.00%					
800481	1,374	148	1,522	9.72%		49	268	317	84.54%
800481	1,374		1,374	0.00%	148	49	268	465	57.63%
800515	4,128	16	4,144	0.39%	58		1,003	1,061	94.53%
800543	4,017	398	4,415	9.01%					
800543	4,110	463	4,573	10.12%	1		659	660	99.85%

Feet of Mains				
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Feet of Service Lines				
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Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
800549	220		220	0.00%					
800550	774		774	0.00%					
800551	3,317		3,317	0.00%	124		1,090	1,214	89.79%
800557	4,194		4,194	0.00%					
800567	144		144	0.00%	3			3	0.00%
800569	30		30	0.00%					
800582	586	8	594	1.35%	17		226	243	93.00%
800591	40		40	0.00%	7		444	451	98.45%
800602	1,506	5	1,511	0.33%					
800621	1,444	204	1,648	12.38%					
800648	908		908	0.00%					
800707	888	25	913	2.74%					
Total	127,434	8,634	136,068	6.35%	3,063	100	22,899	26,062	87.86%

Spire East (Laclede Gas Company)
Case No. GO-2016-0333

Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
900070	6,755	1,792	8,547	20.97%	426	477	3,452	4,355	79.27%
900071	3,081	3,474	6,555	53.00%	493	1,951	1,591	4,035	39.43%
900075	11	1,920	1,931	99.43%	617	175	469	1,261	37.19%
900076	5,806	262	6,068	4.32%			371	371	100.00%
900104	1,966	149	2,115	7.04%	550		496	1,046	47.42%
900446	2,441	297	2,738	10.85%	922	856	3,664	5,442	67.33%
900498	1,126	426	1,552	27.45%			500	500	100.00%
900520	7,780	496	8,276	5.99%	484	3,017	5,900	9,401	62.76%
900523	4,688	2,194	6,882	31.88%	1,501	979	4,433	6,913	64.13%
900527	6,890	34	6,924	0.49%	1,118	118	709	1,945	36.45%
900537	12,093	629	12,722	4.94%	266	423	5,096	5,785	88.09%
900546	7,262	526	7,788	6.75%	309	2,055	4,022	6,386	62.98%
900547	6,946	2,075	9,021	23.00%	738	1,866	6,654	9,258	71.87%
900548	12,317	224	12,541	1.79%	1,042	1,081	4,972	7,095	70.08%
900549	8,211	606	8,817	6.87%	1,686	4,989		6,675	0.00%
900603	3,968	98	4,066	2.41%	2,478	2,073	2,621	7,172	36.54%
900605	2,340	638	2,978	21.42%	203	1,468	1,765	3,436	51.37%
900609	2,617	1,357	3,974	34.15%	356	2,481	1,842	4,679	39.37%
900611	2,381	127	2,508	5.06%	305	2,566	492	3,363	14.63%
900618	720	2,019	2,739	73.71%	135	901	2,714	3,750	72.37%
900621	4,393	1,687	6,080	27.75%	286	2,164	4,422	6,872	64.35%
900625		18	18	100.00%					
900733	6,326	10	6,336	0.16%	757	1,097	1,710	3,564	47.98%
900747	9,819	123	9,942	1.24%	687	617	2,585	3,889	66.47%
900835					232	135	6,289	6,656	94.49%
900836	4,259	1,409	5,668	24.86%	3,214	477	3,909	7,600	51.43%
900866	1,028		1,028	0.00%					
900869	1,339	1,886	3,225	58.48%	144	115	4,715	4,974	94.79%

Feet of Mains

Feet of Service Lines

Work Order	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
900870	4,327	90	4,417	2.04%	1,804	403	2,159	4,366	49.45%
900871	2,160		2,160	0.00%	1,535	62	3,340	4,937	67.65%
900872	4,546	72	4,618	1.56%	882	585	2,277	3,744	60.82%
900877	4,322	831	5,153	16.13%	2,268	265	2,854	5,387	52.98%
900878					524	2,174	2,969	5,667	52.39%
900879	4,489	273	4,762	5.73%	480	296	5,139	5,915	86.88%
900880	6,044	416	6,460	6.44%	907	817	6,437	8,161	78.88%
900881	3,450		3,450	0.00%	1,840	879	3,151	5,870	53.68%
900882	3,301	1,642	4,943	33.22%	586	565	6,661	7,812	85.27%
900883	4,701	37	4,738	0.78%	126	3,136	3,613	6,875	52.55%
900884	4,991	73	5,064	1.44%	302	552	6,657	7,511	88.63%
900951	4,413	384	4,797	8.01%	3,786	246	1,098	5,130	21.40%
900953					755	244	1,338	2,337	57.25%
900954	1,477	2,822	4,299	65.64%	358	2,258	4,048	6,664	60.74%
900955	5,200	20	5,220	0.38%	2,059	372	1,573	4,004	39.29%
900956	1,712	496	2,208	22.46%	421	479	1,094	1,994	54.86%
900957	2,109	1,056	3,165	33.36%	642	423	3,197	4,262	75.01%
900971		10	10	100.00%					
900974	4,811	264	5,075	5.20%	299	137	3,653	4,089	89.34%
900983	4,269		4,269	0.00%	1,207	1,100	3,568	5,875	60.73%
900987	367	14	381	3.67%	363	149	3,256	3,768	86.41%
900990		391	391	100.00%	2,111	172	3,960	6,243	63.43%
900993	3,364	356	3,720	9.57%	1,174	500	2,866	4,540	63.13%
901041	5,362		5,362	0.00%	221	984	1,009	2,214	45.57%
901056	14	21	35	60.00%	60		20	80	25.00%
901060	373		373	0.00%			89	89	100.00%
901066	5		5	0.00%		27	255	282	90.43%
901081	1,199		1,199	0.00%			326	326	100.00%
901087	5,736	12	5,748	0.21%	1,084	3,230	2,478	6,792	36.48%
901088	4,341		4,341	0.00%	1,542	768	1,867	4,177	44.70%
901089	6,815	248	7,063	3.51%	2,279	569	4,148	6,996	59.29%

Feet of Mains

Feet of Service Lines

Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
901090	4,128	1,162	5,290	21.97%	1,608	786	3,876	6,270	61.82%
901124						117	1	118	0.85%
901162	505		505	0.00%	725		129	854	15.11%
901163	2,077	443	2,520	17.58%	151	253	1,106	1,510	73.25%
901179	1,074	115	1,189	9.67%	62	118	1,795	1,975	90.89%
901180	4,377	334	4,711	7.09%	289	402	1,267	1,958	64.71%
901181	1,829	33	1,862	1.77%	17	298	423	738	57.32%
901182	3,260	407	3,667	11.10%	967	663	5,605	7,235	77.47%
901183	871	184	1,055	17.44%	233	810	1,408	2,451	57.45%
901185	1,652	31	1,683	1.84%	538	3,527	482	4,547	10.60%
901186	3,970	1,829	5,799	31.54%	195	180	2,534	2,909	87.11%
901187	1,346	447	1,793	24.93%	540	141	2,684	3,365	79.76%
901188	1,325		1,325	0.00%	100	166	1,950	2,216	88.00%
901189	1,481		1,481	0.00%	526	274	3,210	4,010	80.05%
901190	645		645	0.00%	333	407	1,690	2,430	69.55%
901191	1,267	48	1,315	3.65%	29	166	2,245	2,440	92.01%
901193	4,455		4,455	0.00%	1,484	2,143	4,974	8,601	57.83%
901196	986		986	0.00%		144	102	246	41.46%
901197	1,721	1,093	2,814	38.84%	341	1,874	4,910	7,125	68.91%
901198	3,088		3,088	0.00%	583	1,190	4,621	6,394	72.27%
901199	732		732	0.00%	622	242	892	1,756	50.80%
901200	1,330		1,330	0.00%	505	458	1,590	2,553	62.28%
901201	1,164	592	1,756	33.71%	229	633	3,576	4,438	80.58%
901202	1,390	636	2,026	31.39%	249	1,042	2,574	3,865	66.60%
901203	963		963	0.00%	48	65		113	0.00%
901204	1,216		1,216	0.00%	315	430	1,461	2,206	66.23%
901205	2,914	28	2,942	0.95%	707	285	914	1,906	47.95%
901213		327	327	100.00%			102	102	100.00%
901217	469	12	481	2.49%			328	328	100.00%
901229	4,737		4,737	0.00%	876	3,263	2,999	7,138	42.01%
901230	4,716	193	4,909	3.93%	202	2,578	2,082	4,862	42.82%

Feet of Mains

Feet of Service Lines

Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
901252	1,215	109	1,324	8.23%	599		246	845	29.11%
901266	271	240	511	46.97%					
901289	234	9	243	3.70%					
901297	345		345	0.00%					
901353	98		98	0.00%					
901365	487		487	0.00%	12	80	215	307	70.03%
901381	302		302	0.00%					
901435	333		333	0.00%					
901444	757	393	1,150	34.17%			512	512	100.00%
901445	645		645	0.00%	127			127	0.00%
901451	1,065		1,065	0.00%	528	37		565	0.00%
901478		62	62	100.00%					
901501	73		73	0.00%					
901508	725		725	0.00%			184	184	100.00%
901510	2,387	1,055	3,442	30.65%			449	449	100.00%
901514	702	17	719	2.36%			532	532	100.00%
901515	1,080	40	1,120	3.57%	29	197	916	1,142	80.21%
901533	210	120	330	36.36%			20	20	100.00%
Total	36,355	4,926	41,281	11.93%	5,972	12,518	29,225	47,715	61.25%

Spire West (Missouri Gas Energy)
Case No. GO-2017-0201

Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
008406	9,915		9,915	0%					0%
008790	648		648	0%					0%
800031	189		189	0%			36	36	100%
800152	1,931		1,931	0%	218		1,222	1,440	85%
800099	4,294	148	4,442	3%			2,510	2,510	100%
800046	3,800	648	4,448	15%	9		516	525	98%
800137	4,201	127	4,328	3%	98		652	750	87%
800073	13,794	436	14,230	3%	1		3,011	3,012	100%
800246	2,885		2,885	0%	127		1,163	1,290	90%
800255	3,861	294	4,155	7%					0%
800112	3,094	111	3,205	3%			155	155	100%
800441	7,931	256	8,187	3%	397		1,662	2,059	81%
800439	5,738	54	5,792	1%	953		996	1,949	51%
800440	5,275		5,275	0%	901		1,449	2,350	62%
800383	1,701	3,489	5,190	67%	113		1,546	1,659	93%
800431	3,899	154	4,053	4%	75		1,440	1,515	95%
800121	4,239	639	4,878	13%					0%
800224	4,068		4,068	0%					0%
800528	2,510		2,510	0%					0%
800411	9,313	380	9,693	4%			1,488	1,488	100%
800256	9,418	325	9,743	3%	125		2,332	2,457	95%
800189		2,678	2,678	100%			253	253	100%
800044		10	10	100%			599	599	100%
800122	11,149	979	12,128	8%	23		1,327	1,350	98%
800261	8,796	100	8,896	1%			2,130	2,130	100%
800260	7,827	993	8,820	11%			617	617	100%

Feet of Mains

Work Order	Cast Iron and Steel	Plastic	Total	Plastic %
800146	4,869		4,869	0%
800100	10,845	410	11,255	4%
800551	3,317		3,317	0%
800623	833		833	0%
800378	2,398	1,742	4,140	42%
800406	984	10	994	1%
800124	4,153	14	4,167	0%
800125	2,636	261	2,897	9%
800622	5,304	243	5,547	4%
800475	3,855	36	3,891	1%
800604	249	2	251	1%
800726	580	205	785	26%
800193	6,172	847	7,019	12%
800596	8,815	498	9,313	5%
800766	30		30	0%
800402	1,193	151	1,344	11%
800697	1,661		1,661	0%
800714	2,614	529	3,143	17%
800724	2,399	154	2,553	6%
800123	4,342	1,580	5,922	27%
800834	1,471	87	1,558	6%
800866	351	17	368	5%
800624	2,828	748	3,576	21%
800912	1,600	56	1,656	3%
800605	1,204	59	1,263	5%
800476	1,971	29	2,000	1%
800636	1,633	430	2,063	21%
800818	562	52	614	8%
800839	395		395	0%
800897	2,103	279	2,382	12%
800404	835	20	855	2%

Feet of Service Lines

Steel	Copper	Plastic	Total	Plastic %
617		645	1,262	51%
79		4797	4,876	98%
124		1090	1,214	90%
				0%
		230	230	100%
				0%
1		1004	1,005	100%
		226	226	100%
				0%
70		2648	2,718	97%
				0%
				0%
45		1471	1,516	97%
				0%
34		633	667	95%
73		643	716	90%
		396	396	100%
9		1074	1,083	99%
		209	209	100%
				0%
123		751	874	86%
		737	737	100%
				0%
				0%
				0%
52		94	146	64%
		914	914	100%
				0%

Feet of Mains

Feet of Service Lines

Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
800938		680	680	100%					0%
800817	475	44	519	8%					0%
800727	2,268	112	2,380	5%					0%
800728	1,645	984	2,629	37%			422	422	100%
800409	2,448	124	2,572	5%					0%
800401	968	25	993	3%					0%
800474	2,571	22	2,593	1%	6		234	240	98%
Total	223,053	22,271	245,324	9.08%	4,273	-	43,322	47,595	91.02%

Spire East (Laclede Gas Company)
Case No. GO-2017-0202

Work Order	Feet of Mains				Feet of Service Lines				
	Cast Iron and Steel	Plastic	Total	Plastic %	Steel	Copper	Plastic	Total	Plastic %
005392	443		443	0%					
900821	119		119	0%					
901003	134		134	0%					
900955	5,200	20	5,220	0%	2,059	372	1,573	4,004	39%
900993	3,364	356	3,720	10%	1,174	500	2,866	4,540	63%
900879	4,489	273	4,762	6%	480	296	5,139	5,915	87%
901042	4,856	327	5,183	6%	265	862	409	1,536	27%
901091	4,124		4,124	0%	893	2,548	3,800	7,241	52%
901081	1,199		1,199	0%			326	326	100%
901182	3,260	407	3,667	11%	967	663	5,605	7,235	77%
901269	4,260	79	4,339	2%	799	819	4,574	6,192	74%
901287	4,572	682	5,254	13%	446	388	3,790	4,624	82%
901288	7,083	862	7,945	11%	1,073	758	8,483	10,314	82%
901440	2,960		2,960	0%					
901395				0%	543	354	3,099	3,996	78%
901396				0%	334		30	364	8%
901398	4,039	216	4,255	5%	1,006	204	5,643	6,853	82%
901517	302		302	0%		348	242	590	41%
901664	203	4	207	2%	242		6	248	2%
901710	122		122	0%					
Total	50,729	3,226	53,955	5.98%	10,281	8,112	45,585	63,978	71.25%

Spire East (Laclede Gas Company) and Spire West (Missouri Gas Energy)

	GO-2016-0332 Spire West		GO-2016-0333 Spire East		GO-2017-0201 Spire West		GO-2017-0202 Spire East	
	Amount	% of Total*						
Work Orders with Full Recovery (Cathodic Protection, Main Leak Clamps, Relocations)	\$ 4,677,974	14%	\$ 1,471,842	3%	\$ 3,449,808	16%	\$ 664,096	5%
Work Orders with Actual Percentages	\$ 24,080,765	70%	\$ 32,968,028	64%	\$ 14,299,841	68%	\$ 5,359,941	41%
Work Orders using Average Percentages (Work Orders less than \$25,000 and blanket work orders)	\$ 5,391,008	16%	\$ 17,456,634	33%	\$ 3,417,201	16%	\$ 7,129,618	54%
Total	\$ 34,149,747	100%	\$ 51,896,504	100%	\$ 21,166,849	100%	\$ 13,153,655	100%

*% of Total Work Orders included in the Company's ISRS filing

Staff's Calculation for Remand in Cases Nos. GO-2016-0332, GO-2016-0333, GO-2017-0201 and GO-2017-0202

Case No.	Company	Revenue Requirement in Original Filing	Average % of Plastic Mains	Average % of Plastic Service Lines	Revenue Requirement for Option 1	Amount of Refund for Option 1	Revenue Requirement for Option 2	Amount of Refund for Option 2
GO-2016-0332	MGE (Spire West)	\$3,186,298	11.93%	61.25%	\$2,524,571	\$827,159	\$2,429,550	\$945,935
GO-2016-0333	Laclede Gas Company (Spire East)	\$4,505,138	6.35%	87.86%	\$2,678,236	\$2,283,628	\$1,823,565	\$3,351,966
GO-2017-0201	MGE (Spire West)	\$3,000,749	9.08%	91.02%	\$2,420,379	\$532,006	\$2,338,420	\$607,135
GO-2017-0202	Laclede Gas Company (Spire East)	\$3,044,481	5.98%	71.25%	\$2,479,136	\$518,233	\$2,153,979	\$816,294
Total		\$13,736,666			\$10,102,322	\$4,161,025	\$8,745,514	\$5,721,330
Total for MGE Only		\$6,187,047			\$4,944,950	\$1,359,165	\$4,767,970	\$1,553,070
Total for Laclede Only		\$7,549,619			\$5,157,372	\$2,801,860	\$3,977,544	\$4,168,260

Option 1 is Staff's calculation of applying the average of the provided work orders to the work orders not provided.
 Option 2 is Staff's calculation of removing all costs for the work orders that were not provided.