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LACLEDE GAS COMPANY
MISSOURI GAS ENERGY

GR-2017-0215
GR-2017-0216

REBUTTAL TESTIMONY

OF

PAULINE M. AHERN, CRRA

OCTOBER 2017

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AHERN REBUTTAL SCHEDULES

INTRODUCTION

Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Pauline M. Ahern. I am an Executive Director of ScottMadden, Inc. My business address is 1900 West Park Road, Suite 250, Westborough, MA 01581. My mailing address is 3000 Atrium Way, Suite 241, Mount Laurel, NJ 08054.

Q. ARE YOU THE SAME PAULINE M. AHERN WHO PREVIOUSLY SUBMITTED PREPARED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. **HAVE YOU PREPARED SCHEDULES WHICH SUPPORT YOUR REBUTTAL TESTIMONY?**

A. Yes, I have. They have been marked for identification as Schedules PMA-R1 through PMA- R19.

PURPOSE

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. The purpose of this testimony is to rebut certain aspects of the Missouri Public Service Commission ("MOPSC" or "the Commission") Staff Report – Cost of Service ("Staff Report", "Mr. David Murray"), as well as the direct testimony of Mr. Michael P. Gorman, Witness for the Office of the Public Counsel ("OPC") on behalf of Laclede Gas Company ("LGC") and Missouri Gas Energy ("MGE") (collectively "the Companies"). Specifically, I will address Mr. Murray's comments relative to the appropriate ratemaking capital structure for the Companies; his application of the Discounted Cash Flow ("DCF") Model and Capital Asset Pricing Model ("CAPM") as well as his failure to include a flotation cost allowance or business risk adjustment to his recommended cost of common equity. With regard to the direct testimony of OPC, I will address the development of his proposed capital structure ratios, his applications of the DCF, Risk Premium Model ("RPM") and CAPM as well as his failure to include a flotation cost allowance or business risk adjustment to his recommended cost of common equity.

SUMMARY

Q. PLEASE BRIEFLY SUMMARIZE YOUR REBUTTAL TESTIMONY.

A. My rebuttal testimony addresses Mr. Murray's suggested use of Spire, Inc.'s capital structure ratios for ratemaking purposes for the Companies and describes a number of errors causing Mr. Murray's estimated common equity cost rate to be well below any reasonable range for the Companies because:

1. Mr. Murray erroneously relies primarily upon the DCF model to arrive at his estimated common equity cost rate despite the Commission's consideration of the results of other cost of common equity models and the wealth of academic literature which supports the use of multiple cost of common equity models in formulating investors' required rates of return.
2. Mr. Murray's test of reasonableness, i.e., his CAPM analysis, is flawed.
3. Mr. Murray also erroneously relies upon an ad hoc "rule of thumb" reasonableness test of his estimated common equity cost rate which does not rely upon prospective bond yields and relies upon a single ten-year-old source of equity risk premium.
4. Mr. Murray fails to include adjustments to reflect flotation costs and the Companies' greater risk relative to his Natural Gas Proxy Group

5. Mr. Murray's recommended range of common equity cost rate is not consistent with the expected returns on book common equity for his Natural Gas Proxy Group.

My rebuttal testimony also describes a number of errors causing Mr. Gorman's recommended common equity cost rate to be well below any reasonable cost rate for the Companies because:

6. Mr. Gorman's applications of the DCF, RPM and CAPM are flawed, leading to an understatement of his recommended return on common equity recommendation; and
7. Mr. Gorman failed to include adjustments to reflect flotation costs and the Companies' greater risk relative to Mr. Gorman's Natural Gas Proxy Group.

TESTIMONY OF MOPSC STAFF WITNESS DAVID MURRAY

Capital Structure Ratios

Q. WHY ARE THE COMPANIES' CAPITAL STRUCTURE RATIOS BASED UPON A TEST YEAR ENDED DECEMBER 31, 2016 (PRO FORMA) APPROPRIATE FOR RATEMAKING PURPOSES?

A. These capital structure ratios at test year end December 31, 2016 (pro forma) are appropriate for ratemaking purposes for four reasons: 1) LGC has an independently determined capital structure; 2) LGC's stand-alone capital structure represents the actual capital financing the Companies' respective jurisdictional rate bases to which the rates of return set in this proceeding will be applied; 3) LGC's stand-alone capital structure is consistent with the capital structure ratios maintained by or authorized for other natural gas utilities; and 4) LGC's stand-alone capital structure supports its bond rating.

Independence of LGC's Capital Structure

Q. PLEASE COMMENT ON THE INDEPENDENCE OF LGC'S STAND-ALONE CAPITAL STRUCTURE.

A. As discussed more fully in the direct testimony of Company Witness Glenn W. Buck ("Mr. Buck"), LGC's capital structure for the test year ended December 31, 2016 (pro forma) is expected to consist of long-term debt comprised of First Mortgage Bonds issued to outside investors. The First Mortgage Bonds are issued under LGC's "Mortgage and Deed of Trust (February 1, 1945) as well as subsequent Supplemental Indentures and are secured by LGC's assets alone.

Thus, LGC's long-term debt is secured by its own assets and not the assets of Spire Inc. ("Spire") or any of Spire's other subsidiaries, Alabama Gas Corporation ("Alagasco" and the subsidiaries of EnergySouth, Inc. Nor do any of LGC's assets guarantee Spire's, Alagasco's and EnergySouth subsidiaries' long-term debt. In addition, the Commission must approve any of LGC's long-term debt issuances.

The Companies' December 31, 2016 (pro forma) capital structure also consists of common equity composed of common stock, paid-in capital, and retained earnings with such earnings obtained directly from the Companies' and gas customers.

Q. WHAT FACTORS SHOULD TYPICALLY BE CONSIDERED WHEN DETERMINING WHETHER TO USE A REGULATED SUBSIDIARY'S OR CONSOLIDATED PARENT'S CAPITAL STRUCTURE FOR RATEMAKING PURPOSES FOR THE REGULATED SUBSIDIARY?

A. The factors typically considered relative to the use of a regulated subsidiary's actual capital structure or a parent holding company's consolidated capital structure for ratemaking are provided by David C. Parcell in The Cost of Capital – A Practitioner's Guide ("CRRA Guide") prepared for SURFA and provided as the study guide to candidates for SURFA's Certified Rate of Return Certification Examination, which Mr. Murray successfully sat for at SURFA's 2007 Financial Forum held in April 2007. The CRRA Guide notes that these factors or "considerations" will "help determine whether the utility vs parent capital structure is appropriate."[1] They are:

1) Whether the subsidiary utility obtains all of its capital from its parent, or issues its own debt and preferred stock;

2) Whether the parent guarantees any of the securities issued by the subsidiary;

3) Whether the subsidiary's capital structure is independent of its parent (i.e., existence of double leverage, absence of proper relationship between risk and leverage of utility and non-utility subsidiaries; and

4) Whether the parent (or consolidated enterprise) is diversified into non-utility operations.

Q. DOES THE APPLICATION OF THESE FACTORS TO LGC SUPPORT THE USE OF LGC'S ACTUAL CAPITAL STRUCTURE FOR RATEMAKING PURPOSES?

A. Yes. LGC's actual capital structure is consistent with the factors enumerated in the CRRI Guide listed above. LGC does not obtain any long-term debt from Spire, but rather issues its own long-term debt and preferred stock to outside investors as discussed above. LGC's long-term debt is secured by its own assets and not the assets of Spire. Moreover, double leverage cannot be said to exist since the proceeds of the $625M 2014 and $165M Spire debt issues were used, respectively, to: 1) finance, in part, Spire's acquisition of

[1] David C. Parcell, The Cost of Capital – A Practitioner's Guide, Prepared for the Society of Utility and Regulatory Financial Analysts, 2010 Edition. Although the citation is from the 2010 Edition, it is identical to the 1998 edition used to prepare for the 2007 exam.

Alagasco and 2) finance, in part, Spire's acquisition of EnergySouth's regulated subsidiaries.

In view of the foregoing, LGC has an independently determined capital structure. Therefore, the only conclusion to be drawn is that LGC's stand-alone capital structure at December 31, 2016, the true-up date, is appropriate for ratemaking purposes.

Relevance of the Actual Capital Financing the Companies' Respective Jurisdictional Rate Bases

Q. WHY IS THE ACTUAL CAPITAL FINANCING LGC'S JURISDICTIONAL RATE BASE RELEVANT AND APPROPRIATE FOR RATEMAKING PURPOSES?

A. The Company's actual capital is relevant and appropriate for ratemaking purposes because it represents the actual dollars which are financing the Companies' respective jurisdictional rate bases to which the rates of return authorized in this proceeding will be applied. In contrast, the consolidated Spire capital structure proposed by Mr. Murray contains capital which does not finance the Companies' respective jurisdictional rate bases. It includes the long-term debt and common equity capital of Alagasco and the subsidiaries of EnergySouth which finance their respective jurisdictional rate bases and is backed by their assets, as well as Spire Marketing. Thus, this capital is not available for any investment in the Companies by Spire.

As shown on the Companies' Schedule F, the Companies' ratemaking capital structure at December 31, 2016 (pro forma) aggregates to approximately \$1.9B. In contrast, Spire's consolidated total capital at December 31, 2016 is expected to aggregate to approximately \$3.6B.[2] Spire's December 31, 2016 total permanent (excluding short-

[2] Spire Inc.'s 2016 Annual Form 10K.

term debt) capital is thus approximately $1.7B greater than LGC's December 31, 2016 total capital. Since Spire's capital also finances Alagasco, the subsidiaries of EnergySouth and Spire Marketing, that portion of the capital is simply not available to finance the Companies' respective jurisdictional rate bases.

Thus, LGC, and its two operating units (Laclede Gas ("LAC") and Missouri Gas Energy ("MGE")) should be evaluated as stand-alone entities, including with regard to capital structure. To do otherwise violates the basic financial principle that the use of the funds invested gives rise to the risk of the investment which will be discussed in detail below.

Q. DOES THE FINANCIAL LITERATURE SUPPORT THIS BASIC FINANCIAL PRINCIPLE?

A. Yes. As Brealey and Myers[3] state:

> *But the company cost of capital rule can also get a firm into trouble if the new projects are more or less risky than its existing business. Each project should be evaluated at its own opportunity cost of capital*. This is a clear implication of the value-additivity principle introduced in Chapter 7. For a firm composed of assets A and B, the firm value is

Firm Value = PV (AB) = PV (A) + PV (B) = sum of separate asset values

> Here PV(A) and PV(B) are valued just as if they were mini-firms in which stockholders could invest directly …If the firm considers investing in a third project C, it should also value C as if C were a mini-firm. *That is*, the firm should discount the cash flows of C at the expected rate of return that investors would demand to make a separate investment in C. *The true cost of capital depends on the use to which the capital is put.* (italics added to first paragraph, italics in original text in last paragraph)

In addition, Haim Levy and Marshall Sarnat[4] state:

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3 Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance (McGraw-Hill Book Company, 1996), at 204-205.

> The cost of capital and the discount rate are two concepts which are used throughout the book interchangeably. However, there is a distinction between the *firm's* cost of capital and specific *project's* cost of capital. (italics in original)
>
> In any case where the risk profile of the individual projects differ from that of the firm, an adjustment should be made in the required discount rate, to reflect this deviation in the risk profile.

It is a fundamental financial principle that individual investors expect a return commensurate with the risk associated with where their capital is invested. In this proceeding, that capital is both provided by and invested in LGC. Hence, LGC must be viewed on its own merits, including the actual capital structure financing the Companies' respective rate bases. As *Bluefield* so clearly states:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; . . .

In other words, it is the "risks and uncertainties" surrounding the property employed for the "convenience of the public" which determines the appropriate level of rates. In this proceeding, the properties employed "for the convenience of the public" are the respective rate bases of the Companies. Therefore, it is the total investment risk of the Companies (including the financial risk inherent in LGC's stand-alone capital structure), and their respective rate bases alone, which are relevant to the appropriate rates of return for the Companies.

In view of the foregoing, the consolidated capital structure of Spire proposed by Mr. Murray contains capital which is clearly not financing the Companies' respective rate

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[4] Haim Levy and Marshall Sarnat, Capital Investments and Decisions, 5^{th} Ed. (Prentice/Hall International, 1986), at 464-465.

bases. Consequently, it is not appropriate for setting an authorized return for the Companies. Once again, the only conclusion to be drawn is that LGC's stand-alone capital structure for the test year ended December 31, 2016 (pro forma) is appropriate for ratemaking purposes.

Comparison of LGC's Common Equity Ratio with Those of Other Natural Gas Utilities

Q. HOW DOES THE COMPANIES' PROPOSED COMMON EQUITY RATIO FOR THE TEST YEAR ENDED DECEMBER 31, 2016 (PRO FORMA) COMPARE WITH THOSE MAINTAINED BY OTHER NATURAL GAS UTILITIES?

A. The Companies' proposed December 31, 2016 (pro forma) common equity ratio is consistent with those maintained, on average, by the regulated operating subsidiaries of the publicly traded utilities in my Natural Gas Proxy Group.

As shown on page 2 of Schedule PMA-D2, the common equity ratios, based upon permanent capital (excluding short-term debt), of the regulated operating subsidiaries of my Natural Gas Proxy Group averaged 55.01%, with a median of 53.39%, for the year 2015, ranging from 45.94% to 69.32%. Thus, the Companies' proposed common equity ratio is consistent with the common equity ratios maintained by regulated operating subsidiaries of other natural gas companies of similar risk.

Once again, the only conclusion to be drawn is that the Companies' proposed capital structure is suitable and appropriate for ratemaking purposes in this proceeding. Such a conclusion is corroborated by Charles F. Phillips[5] who states:

> Debt ratios began to rise in the late 1960s and early 1970s, and the financial condition of the public utility sector began to deteriorate. It became the common practice to use actual or expected capitalizations;

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[5] Charles F. Phillips, Jr., The Regulation of Public Utilities – Theory and Practice, 1993, Public Utility Reports, Inc., Arlington, VA, at 391.

> actual where a historic test year is used, expected when a projected or future test year is used.[83] (footnote omitted)
>
> The objective, in short, shifted from minimization of the short-term cost of capital to protection of a utility's ability "to raise capital at all times. This objective requires that a public utility make every effort to keep indebtedness at a prudent and conservative level."84 (footnote omitted)
>
> A hypothetical capital structure is used only where a utility's actual capitalization is clearly out of line with those of other utilities in its industry or where a utility is diversified."[85] (footnote omitted)

<u>Bond Rating Agency Perspective</u>

Q. MR. MURRAY STATES THAT "S&P STILL DOES NOT RECOGNIZE ANY SEPARATION BETWEEN SPIRE MISSOURI AND SPIRE, INC. WHEN ASSIGNING SPIRE MISSOURI A CORPORATE CREDIT RATING OF A-."[6] PLEASE COMMENT.

A. The citation from Standard & Poor's ('S&P") cited by Mr. Murray[7] is also contained in S&P's July 19, 2017 Research Summary for LGC[8]. However, in my opinion, it is Spire, Inc.'s credit rating which is a function of LGC's based upon S&P's description of the "Group Influence" in credit ratings in its Research Summary of Spire, Inc.[9] where S&P states:

> Spire is subject to the group rating methodology criteria, under which we assess Spire as the parent of the group whose members include Laclede Gas Co. and Alabama Gas Co., all of which we assess as core group members. Spires' group credit profile is 'a-' and the issuer credit rating is 'A-'.

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[6] *Staff Report*, at 28.
[7] *Staff Report*, at 19, lines 35 – 32.
[8] Published the same data as the Moody's Investor Service Credit Opinion on Laclede Gas Company cited on page 20 of the *Staff Report.*
[9] S&P Global Ratings, Research | Summary | Spire Inc., July 19, 2017 (*See* Schedule PMA-R1)

Moreover, Moody's Investor Service provides a more succinct discussion than S&P of the relationship between a parent company and its regulated operating subsidiaries.

Q. PLEASE EXPLAIN.

A. While Mr. Murray cites the first paragraph of Moody's Investor Service's Credit Opinion on LGC,[10] he has ignored several important points made by Moody's in that Opinion relative to the relationship between LGC and Spire as well as the impact of the Missouri regulatory environment on LGC's credit/bond ratings.

Although Moody's notes that the regulatory framework in Missouri is credit supportive for gas utilities, as cited by Mr. Murray,[11] Moody's states on page 2 of Schedule PMA-R2, relative to a potential rating upgrade or downgrade for LGC: "Laclede's rating could be upgraded if our view of the Missouri regulatory environment becomes more credit supportive" and "Laclede's rating could be downgraded if the regulatory environment in Missouri becomes less credit supportive."

Relative to the relationship between LGC and Spire, Moody's is clearer than Mr. Murray implies when he briefly notes that "Moody's tends to give at least some weight to the stand-alone subsidiary risk profile in rating the subsidiary's credit risk"[12] and that "Moody's is concerned about the amount of holding company leverage Spire Inc. issued to complete its recent acquisitions."[13] However, Moody's provides a more detailed characterization of the relationship between LGC and Spire than cited by Mr. Murray. In the section "Detailed Rating Considerations", Moody's provides a discussion of the

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[10] Moody's Investor Service, Credit Opinion: Laclede Gas Company, July 21, 2017. (*See* Schedule PMA-R3)
[11] *Staff Report*, at 20, lines 3 – 4.
[12] *Staff Report*, at 19, lines 18 – 19.
[13] *Staff Report*, at 20, lines 13 – 14.

fact that LGC is "somewhat insulated from Spire's modest but more volatile non-regulated businesses" on pages 4 and 5 of Schedule PMA-R3. Moody's states:

> Spire Marketing Inc. (formerly known as Laclede Energy Resources or LER) accounts for the majority of Spire's non-regulated activities. . . *The existence of Spire's modest non-regulated operations has not impacted Laclede's ratings primarily due to the separation between Laclede and Spire's other operations*. Laclede has its own management and local headquarters and maintains its own books and records. In addition, after multiple acquisitions over the last few years, Spire's regulated gas utilities are the majority of consolidated results as Spire's non-regulated business account for less than 5%. (italics added)

Relative to "Structural Considerations", Moody's states on page 5 of Schedule PMA-R3:

> The A1 rating on Laclede's first mortgage bonds represents the debt's senior position in the capital structure and Moody's standard notching practice which typically involves a two-notch differential between a utility's first mortgage bond rating and its senior unsecured rating. Spire's Baa2 senior unsecured rating is four notches lower than Laclede's A1 first mortgage bond rating and 3 notches lower than Alagasco'A2 senior unsecured rating, *reflecting structural subordination of the parent obligations compared to the debt of its principal subsidiary* as well as parent level debt approaching 40% of consolidated debt. (italics added)

Even more telling is Moody's Credit Opinion on Spire, Inc.[14] which notes on page 1 of Schedule PMA-R3:

> Spire Inc.'s (Spire) Baa2 senior unsecured rating reflects the strong credit profile of the holding company's low-risk natural gas local distribution subsidiaries, Laclede Gas Company (Laclede) and Alabama Gas Company (Alagasco), which operate in credit supportive regulatory jurisdictions of Missouri and Alabama, respectively. The rating incorporates the expectation that financial metrics will remain stable including a ratio of cash flow from operations pre-working capital (CFO pre-W/C) to debt in the mid-teens. The rating also reflects the notching differential between Spire's Baa2 rating and Laclede's A1 first mortgage bond rating and Alagasco's A2 senior unsecured rating driven primarily by Spire's

[14] Moody's Investor Service, Credit Opinion: Spire, Inc., July 21, 2017. (*See* Schedule PMA-R3)

> significant holding company leverage, where parent level debt is approaching 40% of consolidated debt. The rating also considers Spire's modest but more volatile unregulated business, Spire Marketing, which includes its gas marketing segment, and our expectation that Spire Marketing will remain modest (less than 5%) as a percentage of consolidated results and will continue to be self-funding.

Relative to a potential rating upgrade or downgrade for Spire, Moody's states on page 2 of Schedule PMA-R3: "Spire's rating could also be upgraded if the ratings if its utilities were upgraded" and "Spire's rating could be downgraded if the ratings of its utilities were to be downgraded."

In the section "Detailed Rating Considerations", Moody's discusses Spire's increased leverage, stating on page 3 of Schedule PMA-R3:

> Spire used a combination of cash, new equity issuance and new debt at the holding company level to fund the Alagasco transaction. *The increase in debt of about $625 million at the holding company, which in total accounts for why the parent level debt is approaching 40% of total consolidated debt, and was the primary driver for the widening in notching between Spire's rating and the ratings of Laclede and Alagasco.* (italics added)
>
> * * *
>
> While this acquisition [EnergySouth, Inc.] did not impact Spire's ratings at the time, a sustained deterioration of Spire's financial metrics could trigger downward rating pressure.

Moody's concludes its discussion of "Detailed Rating Considerations" on page 6 of Schedule PMA-R3 by noting that Spire's "LDC subsidiaries are somewhat insulated from Spire's modest but more volatile non-regulated businesses", specifically stating:

> The existence of Spire's modest non-regulated operations has not impacted Laclede Gas or Alagasco's ratings primarily due to the separation between the LDC subsidiaries and Spire's other operations. Laclede Gas and Alagasco have their own management teams and local headquarters and maintain their own books and records. In addition, after multiple acquisitions over the last few

> years, Spires' regulated gas utilities are the majority of consolidated results as Spires' non-regulated businesses account for less than 5%.

Finally, relative to "Structural Considerations" on page 7 of Schedule PMA-R3, Moody's also states:

> Spire's Baa2 senior unsecured rating is four notches lower than Laclede's A1 first mortgage bond rating and three notches lower than Alagasco's A2 senior unsecured rating reflecting structural subordination of the parent obligations compared to the debt of its principal operating subsidiaries as well a parent level debt approaching 40% of consolidated debt. The rating reflects the strong credit profile of its largest regulated utility subsidiaries, Laclede and Alagasco, and the expectation that its ore volatile unregulated subsidiary, Spire Marketing, will remain modest and continue to be self-financing.

In my opinion, it is imminently clear from the foregoing that although the credit/bond ratings of its subsidiaries may be constrained by Spire's consolidated debt ratio, it is Spire's credit rating which is dependent upon the ratings of its subsidiaries, especially its regulated subsidiaries and not the other way around.

It is clear, then, that Spire's regulated utilities form the basis for the Moody's opinion relative to the consolidated Spire credit/bond rating. Yet again, the only conclusion to be drawn is that the Companies' proposed ratemaking capital structure at December 31, 2016 (pro forma) is appropriate for ratemaking purposes.

Notwithstanding Mr. Murray's comment that S&P evaluates Spire, Inc.'s consolidated credit profile when assigning corporate credit ratings to all of Spire, Inc.'s companies"[15], Moody's is much clearer in noting that, while the credit profiles of the regulated subsidiaries may be constrained by Spire's financial leverage, in fact, Spire's credit profile is a function of the regulated subsidiaries' credit profiles.

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[15] *Staff Report*, at 7, lines 8 – 11.

Q. YOU HAVE STATED THAT MOODY'S STATES LGC IS SOMEWHAT INSULATED FROM SPIRE'S MORE VOLATILE NON-REGULATED BUSINESSES, YET MR. MURRAY HAS CITED S&P AS STATING THAT "THERE ARE NO MEANINGFUL INSULATION MEASURES IN PLACE THAT PROTECT LACLEDE GAS CO. FROM ITS PARENT." PLEASE COMMENT.

A. I agree with Moody's opinion regarding the insulation between Spire and LGC. Both the Unanimous Stipulation and Agreement ("Holding Company Stipulation") in Case No. GM-2001-342,[16] and Stipulation and Agreement ("MGE Acquisition Stipulation") in Case No. GM-2013-0254[17] contain provisions which do, in fact, assure the insulation between the Parent (now Spire) and the Companies.

Paragraph 3 on page 3 of the Holding Company Stipulation (Schedule PMA-R4) clearly states that:

> Upon completion of the Proposed Restructuring, The Laclede Group, Inc. would become the parent holding company. . . The Laclede Group, Inc. would then hold all of the common stock of Laclede Gas Company as well as the other subsidiaries.

Paragraph 4, also on page 3, of that document states:

> The Proposed restructuring does not involve the transfer of any utility assets currently owned by Laclede Gas Company or any change in the terms and conditions of the regulated utility services provided by Laclede.

In Section III | Financial Conditions of the Holding Company Stipulation on pages 5 – 7, further insulating conditions are detailed:

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[16] The Application of Laclede Gas Company for an Order Authorizing Its Plan to Restructures Itself Into a Holding Company, Regulated Utility Company, and Unregulated Subsidiaries, Case No. GM-2001-342 (filed July 11, 2001).

[17] The Application of Southern Union Company d/b/a Missouri Gas Energy, The Laclede Group, Inc. and Laclede Gas Company for an Order Authorizing Sale, Transfer, and Assignment of Certain Assets and Liabilities from Southern Union Company to Laclede Gas Company and, in Connection Therewith, Certain other Related Transactions, Case No. GM-2013-0254 (filed July 2, 2013).

1. The Laclede Group, Inc. represents that it does not intend to take any action that has a material possibility of having a detrimental effect on Laclede Gas Company's utility customers, but agrees that, should such detrimental effects neverthless [sic] occur, nothing in the approval or implementation of the Proposed Restructuring shall impair the Commission's ability to protect such customers from such detrimental effects.

2. Laclede Group, Inc. will not pledge Laclede Gas Company's common stock as collateral or security for the debt of the Holding Company or a Subsidiary without Commission approval.

3. Laclede Gas Company will not guarantee the notes, debentures, debt obligations or other securities of the Holding Company or any of its subsidiaries, or enter into any "make-well" agreements without prior Commission approval.

* * *

8. The Laclede Group, Inc and Laclede Gas Company agree that the Commission has, and will continue to have, the authority after the Proposed Restructuring to regulate, through the lawful exercise of its current statutory powers, any direct or indirect transfer or disbursement of earnings from Laclede Gas Company to an affiliate that would jeopardize the Company's ability to meet its utility obligations. The Laclede Group, Inc, and Laclede Gas Company also agree that the Commission has the authority, through the lawful exercise of its ratemaking powers, to ensure that the rates charged by Laclede Gas Company for regulated utility service are not increased as a result of the unregulated activities of Laclede's affiliates and Laclede agrees, consistent with such standard, that rates should not be increased due to such activities.

Clearly, LGC and its assets / operations have been insulated from its Parent, Spire (formerly The Laclede Group).

More recently, the 2013 MGE Acquisition Stipulation states on pages 15 and 16 in Section II | Conditions, Sub-section 11 | Other Financial Conditions|:

c. Laclede Gas shall not provide LG [The Laclede Group, Inc.] or any affiliates to Laclede gas' credit facilities. LG's credit

> facility shall not be increased to the detriment of Laclede Gas' credit facility.
>
> * * *
>
> e. In the event LG or another affiliate of Laclede Gas voluntary [sic] or involuntarily enters into a bankruptcy proceeding, Laclede Gas shall take all reasonably necessary steps to ensure that Laclede Gas is not consolidated with such affiliated debtor in bankruptcy.
>
> * * *
>
> g. Laclede Gas shall not enter into any "make well" agreements, or guarantee the notes, debentures, debt obligations or other securities of its parent of affiliates, without first seeking receiving Commission authorization.
>
> h. Laclede Gas shall not adopt, indemnify, guarantee, or assume responsibility for payment of the current or future liabilities of any affiliate without first seeking and receiving Commission authorization.
>
> i. Laclede Gas shall not allow any affiliate's debt to be recourse to Laclede Gas without first seeking and receiving Commission authorization.
>
> j. Laclede Gas shall not allow Laclede Gas' equity to be pledged as collateral or security for any affiliate or non-affiliate debt or liabilities, without first seeking and receiving Commission authorization.

Later in the MGE Acquisition Stipulation (Schedule PMA-R5), on page 26, there are additional conditions insulating MGE from LG's business, including the restriction on Laclede Gas from transferring to LG or any subsidiary of LG, "directly of indirectly, assets necessary and useful in providing service to MGE's Missouri customers without Commission approval."[18]

Based upon the conditions detailed in both of these stipulations, LGC and MGE assets and capital are, indeed insulated from Spire. Therefore, there is no basis for the

[18] MGE Acquisition Stipulation, page 26, Section 16, part b.

Commission to adopt Mr. Murray's recommendation that rates set in the proceeding be based upon the consolidated Spire capital structure.

Q. PLEASE COMMENT ON MR. MURRAY'S ASSERTION THAT "SPIRE - MISSOURI'S CAPACITY FOR LEVERAGE IS BEING USED BY ITS PARENT COMPANY"?[19]

A. Mr. Murray bases this assertion on the fact that LGC's stand-alone credit rating (profile) of 'A' ('a' in the July 19, 2017 Summary) instead of the group profile of 'A-' ('a-' in the July 19, 2017 Summary) means that LGC could "attain the same credit rating S&P currently assigns to it" if it were to incur approximately $365M of additional debt. Mr. Murray provided no basis for this supposition. Debt/total capital is no longer one of the credit metrics considered in S&P's rating analyses. However, although leverage is taken into account by S&P when it assigns a financial risk profile, the amount of debt in a utility's capital structure is but one of a myriad of factors considered by S&P when assigning a credit profile. Mr. Murray's assertion is pure conjecture.

Q. PLEASE COMMENT ON MR. MURRAY'S DISCUSSION OF THE COMMON EQUITY RATIOS AUTHORIZED IN RECENT RATE CASES?[20]

A. Both ratemaking and the cost of capital are forward looking or expectational. Ratemaking is forward looking because the rates set in this proceeding will be collected over a future time period. The cost of capital, including the cost of equity, is forward looking because it is based upon investor expectations of future risk as well as capital market and economic conditions. Thus, common equity ratios authorized for LGC and MGE in recent rate cases are irrelevant to this proceeding. Moreover, as discussed above, The

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19 *Staff Report*, at 26 – 27.
20 *Staff Report*, at 26, lines 14 – 16.

Companies' respective rate bases are expected to be financed with the mix of debt and equity contained in their proposed ratemaking capital structure at December 31, 2016 (pro forma).

<u>Conclusion</u>

Q. WHAT DO YOU CONCLUDE REGARDING LGC'S PROPOSED CAPITAL STRUCTURE?

A. In my opinion, based upon the entirety of this Rebuttal Testimony, the Companies' proposed capital structure is appropriate for ratemaking purposes in this proceeding for the five reasons enumerated in the beginning of and supported throughout this Rebuttal Testimony:

- It is independently determined;
- It represents the <u>actual</u> capital financing the Companies' respective jurisdictional rate bases;
- It is consistent with the capital structures maintained by other natural gas utilities;
- It supports LGC's credit/bond ratings, as well as Spire's and
- It is insulated from the assets and capital of Spire and its other subsidiaries.

Therefore, the Commission should accept the Company's proposed capital structure for ratemaking purposes, rejecting Mr. Murray's proposed consolidated Spire capital structure and any other alternative capital structure he proposes.

Common Equity Cost Rate

Discounted Cash Flow Model

Q. MR. MURRAY'S CONCLUDES THAT A RANGE OF COMMON EQUITY COST RATE, 6.90% - 7.70%, WITH A MIDPOINT OF 7.30%, IS APPROPRIATE FOR THE COMPANIES. PLEASE COMMENT.

A. Mr. Murray's conclusion of a range of common equity cost rate 6.90% - 7.70% is woefully inadequate for use in setting rates, as Mr. Murray himself acknowledges when he ultimately recommends a range of common equity cot rate of 9.00% - 9.50%, with a midpoint of 9.25%.

In addition, this range is based exclusively upon a DCF analysis notwithstanding Mr. Murray's use of the CAPM as a check only. As stated previously,[21] "[j]ust as the use of market data for his Natural Gas Proxy Group adds reliability to the informed expert judgment used in arriving at a recommended common equity cost rate, the use of multiple common equity cost rate models also adds reliability when arriving at a recommended common equity cost rate." [22] This is another way of saying that sampling error from the application of a single cost of common equity model, e.g., the DCF, can be reduced through the use of multiple models.

The DCF model utilized by Mr. Murray is market-based since market prices are employed in its application. Therefore, it is based upon the Efficient Market Hypothesis ("EMH"), the foundation of modern investment theory, first pioneered by Eugene F. Fama[23] in 1970. An efficient market is one in which security prices reflect all relevant

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21 Direct Testimony of Pauline M. Ahern, (hereinafter *Ahern*), at 9, lines 29 – 33.

22 *Staff Report*, at 22, lines 4 – 5.

23 Eugene F. Fama, "Efficient Capital Markets: A Review of Theory and Empirical Work" (Journal of Finance, May 1970), at 383-417.

information all the time, implying that prices adjust instantaneously to new information, thus reflecting the intrinsic fundamental economic value of a security.[24]

The semistrong form of the EMH, which asserts that all publicly available information is fully reflected in securities prices, i.e., fundamental analysis cannot "outperform the market", is generally held to be true because the use of insider information often enables investors to "outperform the market" and earn excessive returns. This means that all perceived risks are taken into account by investors in the prices they pay for securities. Investors are also aware of all publicly-available information, including bond ratings; discussions about companies by bond rating agencies and investment analysts; as well as the various cost of common equity methodologies ("models") discussed in the financial literature. Hence, no single common equity cost rate model should be relied upon exclusively in determining a cost rate of common equity and that the results of multiple cost of common equity models should be taken into account.

Q. DO YOU HAVE FURTHER ACADEMIC SUPPORT FOR THE NEED TO RELY UPON MORE THAN ONE COST OF COMMON EQUITY MODEL IN ARRIVING AT A RECOMMENDED COMMON EQUITY COST RATE?

A. Yes. For example, Phillips[25] states:

> Since regulation establishes a level of authorized earnings which, in turn, implicitly influences dividends per share, estimation of the growth rate from such data is an inherently circular process. For these reasons, the DCF model *"suggests a degree of precision which is in fact not present"* and leaves "wide room for controversy and argument about the level of k". (italics added)

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24 Eugene F. Brigham, Financial Management – Theory & Practice, 5th Edition (The Dryden Press, 1989), at 225.

25 Charles F. Phillips, Jr., The Regulation of Public Utilities-Theory and Practice (Public Utility Reports, Inc. 1993), at 396, 398.

* * *

> Despite the difficulty of measuring relative risk, the comparable earnings standard is no harder to apply than is the market-determined standard. The DCF method, to illustrate, requires a subjective determination of the growth rate the market is contemplating. Moreover, as Leventhal has argued: "Unless the utility is permitted to earn a return comparable to that available elsewhere on similar risk, it will not be able in the long run to attract capital."

Also, Morin[26] states:

> Each methodology requires the exercise of considerable judgment on the reasonableness of the assumptions underlying the methodology and on the reasonableness of the proxies used to validate a theory. *The inability of the DCF model to account for changes in relative market valuation, discussed below, is a vivid example of the potential shortcomings of the DCF model when applied to a given company.* Similarly, the inability of the CAPM to account for variables that affect security returns other than beta tarnishes its use. (italics added)

> No one individual method provides the necessary level of precision for determining a fair return, but each method provides useful evidence to facilitate the exercise of an informed judgment. Reliance on any single method or preset formula is inappropriate when dealing with investor expectations because of possible measurement difficulties and vagaries in individual companies' market data.

* * *

> The financial literature supports the use of multiple methods. Professor Eugene Brigham, a widely respected scholar and finance academician, asserts:[1](footnote omitted)

> Three methods typically are used: (1) the Capital Asset Pricing Model (CAPM), (2) the discounted cash flow (DCF) method, and (3) the bond-yield-plus-risk-premium approach. These methods are not mutually exclusive – no method dominates the others, and all are subject to error when used in practice. Therefore, when faced with the task of estimating a company's cost of equity, we generally use all three methods and then choose among them on the basis of our confidence in the data used for each in the specific case at hand.

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26 Roger A. Morin, New Regulatory Finance (Public Utility Reports, Inc., 2006), at 428-431.

Another prominent finance scholar, Professor Stewart Myers, in an early pioneering article on regulatory finance, stated:[2] (footnote omitted)

> Use more than one model when you can. Because estimating the opportunity cost of capital is difficult, *only a fool throws away useful information*. That means you should not use any one model or measure mechanically and exclusively. Beta is helpful as one tool in a kit, to be used in parallel with DCF models or other techniques for interpreting capital market data. (italics added)

> Reliance on multiple tests recognizes that no single methodology produces a precise definitive estimate of the cost of equity. As stated in Bonbright, Danielsen, and Kamerschen (1988), '*no single or group test or technique is conclusive."* Only a fool discards relevant evidence. (italics in original)

* * *

> While it is certainly appropriate to use the DCF methodology to estimate the cost of equity, there is no proof that the DCF produces a more accurate estimate of the cost of equity than other methodologies. Sole reliance on the DCF model ignores the capital market evidence and financial theory formalized in the CAPM and other risk premium methods. The DCF model is one of many tools to be employed in conjunction with other methods to estimate the cost of equity. It is not a superior methodology that supplants other financial theory and market evidence. *The broad usage of the DCF methodology in regulatory proceedings in contrast to its virtual disappearance in academic textbooks does not make it superior to other methods.* The same is true of the Risk Premium and CAPM methodologies. (italics added)

Brigham and Gapenski[27] state:

> In practical work, *it is often best to use all three methods* – CAPM, bond yield plus risk premium, and DCF – and then apply judgment when the methods produce different results. People experienced in estimating equity capital costs recognize that both careful analysis and some very fine judgments are required. It would be nice to pretend that these judgments are un necessary and to specify an easy, precise way of determining the exact cost of equity capital. Unfortunately, this is not possible. Finance is in large part a matter of judgment, and we simply must face this fact. (italics in original)

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[27] Eugene F. Brigham and Louis C. Gapenski, Financial Management – Theory and Practice 4th Edition, (The Dryden Press, 1985), at 256.

Finally, Brigham and Daves[28] reiterate Brigham and Gapenski's comments when they state:

> Recent surveys found that the CAPM approach is by far the most widely used method. Although most firms use more than one method, almost 74 percent of respondents in one survey, and 85 percent in the other, used the CAPM.[12] (footnote omitted)
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> * * *
>
> Approximately 16 percent now use the DCF approach, down from 31 percent in 1982. The bond-yield-plus-risk-premium is used primarily by companies that are not publicly traded.
>
> People experienced in estimating the cost of equity recognize that both careful analysis and sound judgment are required. *It would be nice to pretend that judgment is unnecessary and to specify an easy, precise way of determining the exact cost of equity capital.* Unfortunately, this is not possible – finance is in large part a matter of judgment, and we simply must face this fact.

In view of the foregoing, it is clear that investors are aware of all of the models available for use in determining the common equity cost rate. The EMH requires the assumption that, collectively, investors use them all. Therefore, Mr. Murray's exclusive reliance upon the DCF model, notwithstanding his use of the CAPM as a check, is at odds with the very foundation, i.e., the EMH, upon which the DCF is predicated.

Q. PLEASE COMMENT ON MR. MURRAY'S ESTIMATION OF THE GROWTH COMPONENT FOR HIS DCF ANALYSIS.

A. Mr. Murray discusses his use of historical growth in dividends per share (DPS), earnings per share (EPS), book value per share (BVPS) as well as projected growth in DPS, EPS,

[28] Eugene F. Brigham and Phillip R. Daves, Intermediate Financial Management, (Thomson-Southwestern, 2007), at 332-333.

and BVPS.[29] More appropriately, Mr. Murray should have relied exclusively upon security analysts' forecasts of EPS growth. Security analysts' forecasts reflect historical information as well as all current information likely to impact the future, which is critical, as since both cost of capital and ratemaking are prospective. In addition, Myron Gordon, who first introduced the DCF model adapted for utility ratemaking, came to recognize long after his book, The Cost of Capital to a Public Utility was published in 1974, that the growth component of his original "Gordon Model", which relied upon the sustainable growth method, had a serious limitation. Dr. Gordon, in a presentation on March 27, 1990[30] (some 16 years after the publication of his 1974 book) stated that analysts' growth rate projections were superior to the sustainable growth method:

> The most serious limitation of the Gordon Model is the assumption that the dividend expectation can be represented with just two parameters, D and br … We have seen that earnings and growth estimates by security analysts were found by Malkiel and Cragg to be superior to data obtained from financial statements for the explanation of variation in price among common stocks. That is, better estimates are obtained for the coefficient of the various explanatory variables. …*estimates by security analysts available from sources such as IBES are far superior to the data available to Malkiel and Cragg. Secondly, the estimates by security analysts must be superior to the estimates derived solely from financial statements*. (italics added)

Also, Morin notes:[31]

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of g. The accuracy of these forecasts in the sense of whether they turn out to be correct is not at issue here, as long as they reflect widely held expectations. As long as the forecasts are typical and/or influential in that they are consistent with current stock price levels, they are relevant. The use of

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29 *Staff Report*, at 32, lines 4 – 7.

30 Myron J. Gordon, "The Pricing of Common Stocks", Presented at the Spring 1990 Seminar, Marcy 27, 1990, of the Institute for Quantitative Research in Finance, Palm Beach, FL.

31 Morin, at 298.

> analysts' forecasts in the DCF model is sometimes denounced on the grounds that it is difficult to forecast earnings and dividends for only one year, let alone for longer time periods. This objection is unfounded, however, *because it is present investor expectations that are being priced*; it is the consensus forecast that is embedded in price and therefore in required return, and not the future as it will turn out to be. (italics added)

Published studies in the academic literature demonstrate that growth forecasts made by security analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based upon historical growth. These studies show that investors rely on analysts' forecasts to a greater extent than on historic data only.

Studies performed by Cragg and Malkiel[32] as mentioned by Gordon, demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. While some question the accuracy of analysts' forecasts of EPS growth, it does not really matter what the level of accuracy of those analysts' forecasts is well after the fact. What is important is that they influence investors and hence the market prices they pay.

As discussed above, the DCF is based upon the EMH. Therefore, investors are aware of all publicly-available information, including the many available security analysts' earnings growth forecasts with the academic literature supporting the exclusive use of those forecasts in DCF analyses.

Q. PLEASE COMMENT ON MR. MURRAY'S ASSERTION THAT "A PROJECTED LONG-TERM, STEADY-STATE NOMINAL GDP GROWTH RATE[21(omitted)] SHOULD BE CONSIDERED AS AN UPPER CONSTRAINT

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32 John G. Cragg and Burton G. Malkiel Expectations and the Structure of Share Prices (University of Chicago Press, 1982) Chapter 4.

WHEN TESTING THE REASONABLENESS OF GROWTH RATES USED TO ESTIMATE THE COST OF EQUITY FOR A REGULATED GAS UTILITY."[33]

A. Based upon a review of the growth in value added by industry from 1947 – 2016 to growth nominal Gross Domestic Product ("GDP") for the U.S. as a whole, this statement is incorrect. Schedule PMA-R6 presents Value Added by Industry to U.S. GDP for the years 1947 – 2016 from the Bureau of Economic Analysis ("BEA"). Growth in nominal U.S. GDP for 2011-2016 was 4.92% while only 1.48% for the Utilities sector. In contrast, long-term growth in nominal U.S. GDP for 1947-2016 was 106.22% while 119.02% for the Utilities sector. Hence, Mr. Murray is incorrect in his conclusion that "a projected long-term, steady-state nominal GDP growth rate[21] (omitted) should be considered as an upper constraint when testing the reasonableness of growth rates used to estimate the cost of equity for a regulated gas utility", notwithstanding that Mr. Murray states that "natural gas distribution industry growth has not been highly correlated to GDP growth."[34] In addition, GDP growth is not a market measure; GDP measures the output of goods and services and, as such, also reflects both production and consumption preferences. While I recognize that EPS is also not a market measure, but an accounting measure, of growth, it is well established in the academic literature to be the superior measure of growth in a DCF analysis.

Q. WHAT WOULD MR. MURRAY'S DCF RESULTS HAVE BEEN IF MR. MURRAY HAD PROPERLY RELIED EXCLUSIVLEY UPON SECURITY ANALYSTS' PROJECTED GROWTH IN EPS IN HIS DCF ANALYSIS?

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33 *Staff Report*, at 32, lines 18 – 21.
34 *Staff Report*, at 36, lines 4 – 5.

A. As shown on Schedule PMA-R7, had Mr. Murray relied upon security analysts' projected growth in EPS, a range of DCF cost rates of 8.54% - 10.14%, with a midpoint of 9.34% results. A DCF indicated common equity cost rate of 9.34% clearly demonstrates that Mr. Murray's range of DCF results, ranging from 6.90% - 7.90% is understated, especially since the DCF has a tendency to understate investor required return when market to book ratios exceed 100% as discussed previously.[35]

Capital Asset Pricing Model

Q. DO YOU HAVE ANY COMMENT REGARDING MR. MURRAY'S APPLICATION OF THE CAPM?

A. Yes. Mr. Murray's application of the CAPM is flawed in four respects: 1) his choice of a recent historical yield on 30-year U.S. Treasury bond as the risk-free rate; 2) his use of an historical market equity risk premium which is incorrectly derived; 3) his failure to also include a forecasted market equity risk premium; and, 4) his failure to apply the Empirical Capital Asset Pricing Model ("ECAPM") to account for the fact that the Security Market Line ("SML") as described by the traditional CAPM is not as steeply sloped as the predicted SML.

Q. PLEASE COMMENT ON MR. MURRAY'S USE OF A RECENT HISTORICAL YIELD ON 30-YEAR U.S. TREASURY BONDS AS THE RISK-FREE RATE.

A. Both the cost of capital and ratemaking are prospective in nature. The cost of capital, including the cost of common equity, is prospective because it reflects investors' expectations of future economic and capital market conditions including expectations of future interest rate levels, as well as risk. Mr. Murray has acknowledged the expectational nature of investments throughout his testimony and demonstrated as such

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[35] *Ahern*, at 22, line 1 through 26, line 8.

by considering security analyst estimates of projected growth in his DCF analysis. Therefore, it is inappropriate to use a recent historical yield as the risk-free rate in a CAPM analysis. Rather, a prospective yield on 30-year U.S. Treasury bonds should be used. As shown on Schedule PMA-R8, at the time of the Staff Report, the September 1, 2017 and June 1, 2017 *Blue Chip Financial Forecasts* ("*Blue Chip*") were available, and their estimate for 30-year Treasury securities was 3.64% as derived in Note 2 on Schedule PMA-R8. Mr. Murray's recommended 2.90%[36] average yield on 30-year U.S. Treasury bonds for the three months ended June 30, 2017 significantly understates the prospective yield and resulting CAPM result.

Q. YOU HAVE STATED THAT MR. MURRAY ERRED IN EXCLUSIVELY RELYING UPON AN HISTORICAL MARKET EQUITY RISK PREMIUM WHICH IS INCORRECTLY DERIVED. PLEASE EXPLAIN.

A. Mr. Murray's derivation of an historical market equity premium is incorrect for two reasons. First, Mr. Murray's arithmetic historical market equity risk premium is incorrectly calculated. Second, Mr. Murray also incorrectly relied upon the geometric historical market equity risk premium.

Q. WHY IS MR. MURRAY'S ARITHMETIC HISTORICAL MARKET EQUITY RISK PREMIUM INCORRECTLY CALCULATED?

A. Mr. Murray's arithmetic historical market equity risk premium of 6.0% is derived from the <u>2017 SBBI Yearbook | Stocks, Bonds, Bills, and Inflation | U.S. Capital Markets Performance by Asset Class 1926 – 2016 ("SBBI – 2017")</u> as the difference between the arithmetic mean 1926-2016 total return on large company stocks of 12.0% and the arithmetic mean 1926-2016 total return on long-term government bonds of 6.0%. (6.0%

[36] *Staff Report*, at 42, lines 27 – 28.

= 12.0% - 6.0%).[37] Regarding the use of the income return and not the total return for Treasury securities in deriving an equity risk premium, SBBI – 2017 states[38] :

> Another point to keep in mind when calculating the equity risk premium is that the income return on the appropriate-horizon Treasury security, rather than the total return, is used in the calculation. The total return is comprised of three return components: the income return, the capital appreciation return, and the reinvestment return. The income return is defined as the portion of the total return that results from a periodic cash flow or, in this case, the bond coupon payment. The capital appreciation return results from the price change of a bond over a specific period. Bond prices generally change in reaction to unexpected fluctuations in yields. Reinvestment return is the return on a given month's investment income when reinvested into the same asset class in the subsequent months of the year. *The income return is thus used in the estimation of the equity risk premium because it represents the truly riskless portion of the return*.[2] (footnote omitted) (italics added)

Hence, it is appropriate to use the income return and not the total return on long-term U.S. government bonds when calculating a market equity risk premium. Therefore, the correct derivation of the historical market equity risk premium is the difference between the monthly arithmetic mean 1926-2016 total return on large company stocks, 11.97%, and the monthly arithmetic mean 1926-2016 income return on long-term government bonds, 5.17%, or 6.80%, as derived in Note 1 on Schedule PMA-R8.

Q. PLEASE DISCUSS MR. MURRAY'S USE OF A GEOMETRIC MEAN MARKET RISK PREMIUM FOR 1926-2016.

A. In addition to calculating a CAPM derived common equity cost rate based upon the historical arithmetic mean equity risk premium, albeit, incorrectly derived, Mr. Murray also calculated a CAPM derived common equity cost rate using the long-term historical geometric mean equity risk premium. Using the geometric mean is not a valid means of estimating the cost of capital based upon historical returns.

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37 Duff & Phelps, 2017 SBBI Yearbook | Stocks, Bonds, Bills, and Inflation | U.S. Capital Markets Performance by Asset Class 1926 – 2016, Wiley 2017, at 10-22.

38 Ibbotson 2013 SBBI, at 55.

Only arithmetic mean return rates and yields are appropriate for cost of capital purposes because ex-post (historical) total returns and equity risk premiums differ in size and direction over time, providing insight into the variance and standard deviation of returns. Because the arithmetic mean captures the prospect for variance in returns and equity risk premiums, it provides the valuable insight needed by investors in estimating risk in the future when making a current investment. Absent such valuable insight into the potential variance of returns, investors cannot meaningfully evaluate prospective risk. The geometric mean of ex-post equity risk premiums provides no insight into the potential variance of future returns because the geometric mean relates the change over many periods to a constant rate of change, rather than the year-to-year fluctuations, or variance, *critical to risk analysis* and therefore has little or no value to investors seeking to measure risk. Moreover, from a statistical perspective, stock returns and equity risk premiums are randomly generated. Thus, the arithmetic mean is also expectational, as is the cost of capital and ratemaking as noted above.

The arithmetic mean return and not the geometric mean return is appropriate for cost of capital purposes as noted in SBBI – 2017:[39]

> The equity risk premium data presented in this book are arithmetic average risk premiums as opposed to geometric average risk premiums. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance, since it represents the compound average return.

[39] SBBI – 2017, at 10-22.

The financial literature is quite clear on this point, that risk is measured by the variability of expected returns, i.e., the probability distribution of returns.[40]

In addition, Weston and Brigham[41] provide the standard financial textbook definition of the riskiness of an asset when they state:

> The riskiness of an asset is defined in terms of the *likely variability of future returns from the asset*. (italics added**)**

Morin also states:[42]

> The geometric mean answers the question of <u>what constant return</u> you would have to achieve in each year to have your investment growth match the return achieved by the stock market. *The arithmetic mean answers the question of what growth rate is the best estimate of the <u>future</u> amount of money that will be produced by continually reinvesting in the stock market*. It is the rate of return which, compounded over multiple periods, gives the mean of the probability distribution of ending wealth. (italics added)

In addition, Brealey and Myers[43] note:

> The proper uses of arithmetic and compound rates of return from past investments are often misunderstood. . . Thus the arithmetic average of the returns correctly measures the opportunity cost of capital for investments. . . *Moral*: If the cost of capital is estimated from historical returns or risk premiums, use arithmetic averages, not compound annual rates of return. (italics in original)

As previously discussed, investors gain insight into relative riskiness by analyzing expected future variability. This is accomplished by the use of the arithmetic mean of a distribution of returns / premiums. Only the arithmetic mean takes into account all of the returns / premiums, hence, providing meaningful insight into the variance and standard deviation of those returns / premiums. Therefore, it is inappropriate to use the geometric mean in a CAPM analysis.

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40 Brigham (1989), at 639.

41 J. Fred Weston and Eugene F. Brigham <u>Essentials of Managerial Finance Third Edition</u> (The Dryden Press, 1974), at 272.

42 Morin, at 133.

43 Brealey and Myers, at 146-147.

Q. CAN IT BE DEMONSTRATED THAT THE ARITHMETIC MEAN TAKES INTO ACCOUNT ALL OF THE YEARLY RETURNS AND THEREFORE, IT IS THE APPROPRIATE MEAN TO USE WHEN ESTIMATING THE OPPORTUNITY COST OF CAPITAL IN CONTRAST TO THE GEOMETRIC MEAN?

A. Yes. Pages 1 and 2 of Schedule PMA-R9 graphically demonstrate this fact. Page 1 charts the returns on large company stocks for each and every year, 1926 through 2016 from SBBI – 2017. It is clear from looking at the year-to-year variation of these returns that stock market returns and, hence, equity risk premiums vary.

The distribution of those returns for the period from 1926 through 2016 is shown on page 2, which exhibits a clear bell-shaped pattern to the probability distribution of returns, an indication that the returns are randomly generated and not serially correlated. The arithmetic mean of this distribution of returns considers each and every return in the distribution, thus taking into account the standard deviation or likely variance, i.e., risk, which may be experienced in the future when estimating the rate of return based upon such historical returns.

In contrast, the geometric mean considers only two of the returns, the initial and terminal years, which, in this case, are 1926 and 2016. Based upon only those two years, a constant rate of return is calculated by the geometric mean. That constant return is graphically represented by a flat line, showing no year-to-year variation, for the entire 1926 – 2016 time period, which is obviously far from reality, based upon the histogram, or probability distribution, of returns shown on page 2 and demonstrated on page 1 of Schedule PMA-R9.

Simply stated, using the geometric mean to estimate the equity risk premium is tantamount to reading the first and last page of the complete history of World War II and presuming to know what actually occurred between 1939 and 1945. Consequently, only the arithmetic mean takes the standard deviation of returns which over the period is critical to risk analysis into account. In contrast, the geometric mean is appropriate only when measuring historical performance and should not be used to estimate the investors required rate of return.

Q. YOU HAVE ALSO STATED THAT MR. MURRAY ERRED IN NOT INCLUDING A FORECASTED MARKET EQUITY RISK PREMIUM IN HIS CAPM ANALYSIS. PLEASE EXPLAIN.

A. Mr. Murray relied exclusively upon historical market equity risk premiums, in direct contrast to his use of both historical and projected growth rates in his application of the DCF model. As stated previously, the cost of capital is prospective and while the arithmetic mean of long-term historical stock market returns can provide insight into investors' expectations of stock market returns because it provides investors with the valuable insight needed to estimate future risk, it is also appropriate to use an estimate of the forecasted or projected stock market return. An indication of the forecasted or projected stock market rate can be derived in a manner identical to the way in which I derived the market equity risk premium in my direct testimony,[44] as an average of:

1) The 3-5 year median total market price appreciation projections and expected market dividend yield for the thirteen weeks ending June 30, 2017 reported by *Value Line Investment Survey ("Value Line")*, 9.83%*;*

[44] *Ahern*, at 40, line 15 – 42, line 16.

2) The arithmetic mean monthly equity risk premium of large company common stocks relative to long-term U.S. Treasury bond income yields from SBBI – 2017 from 1926 – 2016, 6.80%;

3) The PRPM predicted market equity risk premium, using monthly equity risk premiums for large company common stocks relative to long-term U.S. Treasury securities from January 1926 through June 2017, 6.88%;

4) The results of a regression analysis of the monthly equity risk premiums of large company common stocks relative to long-term U.S. Treasury bond income yields from SBBI – 2016 from 1926 – 2016, 8.54%; and

5) The market-value weighted projected total return on the S&P 500 minus the projected risk-free rate, 9.81%.

These five market equity risk premiums result in an average total market equity risk premium of 7.66%, as shown on page 2 of Schedule PMA-R10.[45]

Q. YOU HAVE STATED THAT MR. MURRAY ALSO FAILED TO APPLY THE ECAPM TO ACCOUNT FOR THE FACT THAT THE SECURITY MARKET LINE (SML) AS DESCRIBED BY THE TRADITIONAL CAPM IS NOT AS STEEPLY SLOPED AS THE PREDICTED SML. PLEASE COMMENT.

A. As previously discussed,[46] while numerous tests of the CAPM have confirmed its validity, these tests have determined that "the implied intercept term exceeds the risk-free rate and the slope term is less than predicted by the CAPM."[47] These tests have also indicated that the expected return on a security is related to its risk by the following formula:

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45 7.66% = ((9.83% + 6.80% + 6.88% + 8.54% + 9.87%) / 5).

46 *Ahern*, at 39, lines 12 – 35.

47 Morin, at 175.

$$K = RF + 0.25(RM - RF) + 0.75\beta(RM - RF)$$

However, some critics of the ECAPM model claim that using adjusted betas in a traditional CAPM amounts to using an ECAPM, but such a claim is not valid: using adjusted betas in a CAPM analysis is not equivalent to the ECAPM. Betas are adjusted because of the regression tendency of betas to converge toward 1.0 over time, i.e., <u>over successive calculations of beta</u>. Numerous studies have determined that the SML described by the CAPM formula <u>at any given moment in time</u> is not as steeply sloped as the predicted SML. In corroboration, Morin[48] states:

> Some have argued that the use of the ECAPM is inconsistent with the use of adjusted betas, such as those supplied by Value Line and Bloomberg. This is because the reason for using the ECAPM is to allow for the tendency of betas to regress toward the mean value of 1.00 over time, and, since Value Line betas are already adjusted for such trend [sic], an ECAPM analysis results in double-counting. This argument is erroneous. Fundamentally, the ECAPM is not an adjustment, increase or decrease, in beta. This is obvious from the fact that the expected return on high beta securities is actually lower than that produced by the CAPM estimate. The ECAPM is a formal recognition that the observed risk-return tradeoff is flatter than predicted by the CAPM based on myriad empirical evidence. The ECAPM and the use of adjusted betas comprised two separate features of asset pricing. Even if a company's beta is estimated accurately, the CAPM still understates the return for low-beta stocks. Even if the ECAPM is used, the return for low-beta securities is understated if the betas are understated. Referring back to Figure 6-1, the ECAPM is a return (vertical axis) adjustment and not a beta (horizontal axis) adjustment. Both adjustments are necessary.

Moreover, the slope of the SML should not be confused with beta. As noted by Eugene F. Brigham, finance professor emeritus and the author of many financial textbooks states:[49]

> The slope of the SML reflects the degree of risk aversion in the economy – the greater the average investor's aversion to risk, then (1) the steeper is the

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[48] Morin, at 191.

[49] Brigham, Eugene F., <u>Financial Management – Theory and Practice</u>, 4th Ed. (The Dryden Press, 1985), at 203.

> slope of the line, (2) the greater is the risk premium for any risky asset, and (3) the higher is the required rate of return on risky assets.12
>
> [12]Students sometimes confuse beta with the slope of the SML. This is a mistake. As we saw earlier in connection with Figure 6-8, and as is developed further in Appendix 6A, beta does represent the slope of a line, but not the Security Market Line. This confusion arises partly because the SML equation is generally written, in this book and throughout the finance literature, as ki = RF + bi(kM – RF), and in this form bi looks like the slope coefficient and (kM – RF) the variable. It would perhaps be less confusing if the second term were written (kM – RF)bi, but this is not generally done.

Q. WHAT WOULD MR. MURRAY'S CAPM RESULTS HAVE BEEN HAD HE RELIED UPON A CORRECTLY-DERIVED HISTORICAL MARKET EQUITY RISK PREMIUM, INCLUDED A FORECASTED MARKET EQUITY RISK PREMIUM, A FORECASTED RISK-FREE RATE AS WELL AS THE ECAPM?

A. Columns 4, 5 and 6 on Schedule PMA-R8, show the corrected results of Mr. Murray's CAPM analysis. The traditional CAPM result of 9.03% and the ECAPM result of 9.60% result, when averaged, in an indicated common equity cost rate based upon the CAPM of 9.32%. Such a cost rate does not corroborate Mr. Murray's recommended range of common equity cost rates of 6.90% - 7.70%.

Recommended Common Equity Cost Rate

Q. DID MR. MURRAY RELY UPON HIS CONCLUSION OF AN APROPRIATE ESTIMATED RANGE OF COMMON EQUITY COST RATE FOR THE COMPANIES OF 6.90% - 7.70%?

A. No. Mr. Murray rejected his own conclusion of an appropriate range of common equity cost rate for the Companies of 6.90% - 7.70%, implicitly recognizing that this range is inadequate and would provide an insufficient achieved return on the book common equity of the Companies. Instead, Mr. Murray recommended a range of common equity cost rate of 9.00% - 9.50%, with a midpoint of 9.25%, based upon his review of relatively recent authorized returns on common equity for two Missouri electric utilities and Mr. Murray's conclusion, based upon his "analysis of capital market data and market participants' commentary, that an allowed ROE at the midpoint of the range of 9.0% to9.5^% is just and reasonable for LAC and MGE."[50]

Q. PLEASE RESPOND TO MR. MURRAY'S COMMENTS REGARDING THE RECENT AUTHORIZED RETURNS ON COMMON EQUITY OF UNION ELECTRIC COMPANY D/B/A AMEREN MISSOURI ("AMEREN MO") AND KANSAS CITY POWER & LIGHT CO. ("KCP&L") AND THE APPLICABILITY OF THOSE DECISIONS TO THIS PROCEEDING.

A. The standard of the rate of return is based upon *Hope*,[51] which Mr. Murray cites[52] which states:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.

This means that the rate of return set in this proceeding should be set based upon the expected investor return of a proxy group of companies with similar risk to the Companies, plus or minus any relative risk differences between the Companies' and Mr. Murray's Natural Gas Proxy Group, not based upon prior decisions relative to electric operations. Mr. Murray implicitly agrees that Ameren MO and KCP&L are not "enterprises having corresponding risks" because he excluded Ameren Corp.[53] and Great Plains Energy Inc.[54] from his Natural Gas Proxy Group.

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50 *Staff Report*, at 8, lines 12 – 14.
51 Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944).
52 *Staff Report*, at 9, lines 10 – 21.
53 Parent company of Ameren MO.
54 Parent company of KCP&L.

Q. MR. MURRAY ALSO STATES THAT "THE GAS UTILITY INDUSTRY IS WIDELY VIEWED AS LESS RISKY THAN THE VERTICALLY-INTERGRATED ELECTRIC UTILITY INDUSTRY."[55] PLEASE RESPOND.

A. Referring to the *Hope* fair rate of return standard, as long as the rate of return on common equity for the Companies is based upon enterprises with corresponding risks adjusted for relative risk, it satisfies *Hope*. Comparisons of the relative risk between natural gas distribution companies and electric companies are not of any relevance in the determination of the return on common equity for the Companies.

Q. PLEASE RESPOND TO MR. MURRAY'S REASONABLENESS TESTS BASED UPON STAFF's "RULE OF THUMB" METHOD AND AVERAGE AUTHORIZED RETURNS[56].

A. Mr. Murray's "rule of thumb" reasonableness test is nothing more than an ad-hoc risk premium analysis as a check on his DCF results. In this ad-hoc analysis, Mr. Murray does not consider prospective bond yields and relies upon only one source of an equity risk premium which is over ten years old. Schedule PMA-R10 shows the results of an appropriate risk premium analysis based upon Mr. Murray's Natural Gas Proxy Group using the same methodology as my RPM analysis in my direct testimony. It indicates that a properly applied RPM indicated common equity cost rate of 9.71%. An RPM cost rate of 9.71% further demonstrates the inadequacy of Mr. Murray's range of "rule of thumb" risk premium estimates of 7.02% - 8.39%.[57]

Q. HOW DOES MR. MURRAY'S ULTIMATELY RECOMMENDED RANGE OF COMMON EQUITY COST RATE OF 9.00% - 9.50% WITH A MIDPOINT OF

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55 *Staff Report*, at 40, lines 3 – 5.
56 *Staff Report*, at 43, line 17 through 45, line 10.
57 *Staff Report*, at 44, lines 9 – 10.

9.25% COMPARE WITH THE EXPECTED RETURNS ON COMMON EQUITY OF HIS NATURL GAS PROXY GROUP?

A. It is below the level of earnings expected by *Value Line* for the companies in his Natural Gas Distribution Group for which *Value Line* publishes a projected return on common equity for the years 2020-2022. The latest (September 1, 2017) *Value Line* Ratings & Reports (Standard Edition) for the companies in his Natural Gas Proxy Group are shown on pages 2-8 of in Schedule PMA-R12. Page 1 of Schedule PMA-R12 indicates that *Value Line* expects the companies in Mr. Murray's Natural Gas Proxy Group to earn an average 9.90% return on year-end book common equity over the next 3-5 years. While these forecasts are for earnings on book common equity, it must be remembered that the return on common equity authorized in this proceeding will be applied to the book value of the common equity financed portion of the Companies' respective rate bases and will therefore become the Companies' respective opportunities for earnings on book value.

An opportunity to earn a range of return on book common equity of either Mr. Murray's recommended range of 9.00% - 9.50%, or Mr. Murray's recommended midpoint of 9.25%, is inadequate in comparison with the average expected return on book common equity of the Natural Gas Proxy Group of 9.90%.

Thus, Mr. Murray's recommendation is inconsistent with the comparability of returns standard enunciated in the *Hope* decision mentioned above. Mr. Murray's recommended common equity cost rate range should be rejected by the MOPSC in setting rates for the Companies in this proceeding.

In addition, Mr. Murray's ultimate recommended range of common equity cost rate of 9.00% - 9.50% common equity still understates the cost of common equity applicable to the Companies, because it reflects neither flotation costs nor an adjustment to reflect the greater relative risk of the Companies due to their collective smaller size relative to the companies in the Natural Gas Proxy Group.

Adjustments to the Cost of Equity

Q. MR. MURRAY DID NOT INCLUDE A FLOTATION COST ADJUSTMENT TO REFLECT COMMON EQUITY FINANCING COSTS. PLEASE COMMENT.

A. As discussed previously[58], it is important to include a flotation cost adjustment, because there is no other mechanism in the ratemaking paradigm through which such real and legitimate costs can be recovered. As noted by Morin: [59]

> The costs of issuing these securities are just as real as operating and maintenance expenses or costs incurred to build utility plants, and fair regulatory treatment must permit recovery of these costs….
>
> The simple fact of the matter is that common equity capital is not free….[Flotation costs] must be recovered through a rate of return adjustment.

Historical flotation costs are a permanent loss of investment to the utility and should be accounted for whether the market-to-book ratio is 100% or 300%. As also stated previously:[60]

> When any company, including a utility, issues common stock, flotation costs are incurred for legal, accounting, printing fees and the like. For each dollar of issuing market price, a small percentage is expensed and is permanently unavailable for investment in utility rate base. Since these expenses are charged to capital accounts and not expensed on the income statement, the only way to restore the full value of that dollar of issuing price with an assumed investor required return of 10% is for the net investment, $0.95, to earn more than 10% to net back to the investor a fair return on that dollar. In other words, if a company issues stock at $1.00 with 5% in flotation costs, it will net $0.95 in investment. Assuming the

58 *Ahern* at 47 - 50.
59 Morin, at 321.
60 *Ahern*, at 49, lines 3 – 15.

> investor in that stock requires a 10% return on his or her invested $1.00 (*i.e.*, a return of $0.10), the company needs to earn approximately 10.5% on its invested $0.95 to receive a $0.10 return.

Also, all of the cost of equity models used by any of the witnesses in this proceeding assume no transaction costs. The literature cited in my direct testimony[61] is quite clear that these costs are not reflected in market prices paid for common stocks. Consequently, it is proper to include a flotation cost adjustment of 0.16%[62] when using cost of common equity models to estimate the common equity cost rate.

Q. MR. MURRAY ALSO DID NOT INCLUDE A RISK ADJUSTMENT TO REFLECT THE COMPANIES' COLLECTIVELY SMALLER SIZE RELATIVE TO THE SIZE OF HIS NATURAL GAS PROXY GROUP. PLEASE COMMENT.

A. As also discussed previously,[63] company size is a significant element of business risk for which investors expect to be compensated through greater returns.

Evidence of the risk effects of size include the fact that investors demand greater returns to compensate for the lack of marketability and liquidity of the securities of smaller firms. As discussed previously, it is a generally accepted financial principle that the risk of any investment is directly related to the assets in which the capital is invested.

The Commission should focus on the risk and return on the common equity investment in the Companies' respective jurisdictional rate bases because it is the rates of the Companies that will be set in this proceeding and will be applied to those rate bases. The fair rate of return allowed must relate to where capital is invested. In other words, once again, it is the use of the funds invested and not the source of those funds that gives rise to the risk of any investment. The relevant risks reflected in the cost of capital must

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61 *Ahern*, at 48 – 49, footnotes 51 – 53.
62 *Ahern*, at 50, lines 4 – 9 and Schedule D8, page 1.
63 *Ahern*, at 12 – 14 and 50 – 52.

be those of the Companies alone, including the impact of their small collective size on common equity cost rate.

Consistent with the financial principle of risk and return discussed above, such increased risk due to small size must be reflected in the allowed rate of return on common equity.

Q. DOES THE FINANCIAL LITERATURE SUPPORT THE BASIC FINANCIAL PRINCIPLE THAT IT IS THE USE OF THE FUNDS INVESTED WHICH GIVES RISE TO THE RISK OF THE INVESTMENT, NOT THE SOURCE OF THOSE FUNDS?

A. Yes. As previously discussed, Brealey and Myers state: [64]

> *The true cost of capital depends on the use to which the capital is put.* (italics in original)

In addition, Levy and Sarnat[65] state:

> . . . there is a distinction between the *firm's* cost of capital and specific *project's* cost of capital. (italics in original)

Furthermore, as cited previously,[66] Fama and French[67] note that size is indeed a risk factor which must be reflected when estimating the cost of common equity:

> . . . the higher average returns on small stocks and high book-to-market stocks reflect unidentified state variables that produce undiversifiable risks (covariance's) in returns not captured in the market return and are priced separately from market betas.

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64 Brealey and Myers, at 204-205.

65 Levy and Sarnat, at 464-465.

66 *Ahern*, at 13, lines 4 – 14.

67 Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives*, Volume 18, Number 3 (Summer 2004), at 25-44.

Based upon this evidence, Fama and French proposed their three-factor model which includes a size variable in recognition of the effect of size on the cost of common equity.

In addition, it is a fundamental financial principle that individual investors expect a return commensurate with the risk associated with where their capital is invested. Hence, the Companies must be viewed relative to their own situations. As *Bluefield*[68] so clearly states:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties . . . .

Bluefield is clear that it is the "risks and uncertainties" surrounding the property employed for the "convenience of the public" which determines the appropriate level of rates and not the source of the capital financing that property. In this proceeding, the properties employed "for the convenience of the public" are the respective rate bases of the Companies. Therefore, it is the respective investment risks of the Companies and their rate bases alone that is relevant.

In view of the foregoing, a business risk adjustment is warranted based upon the Companies' collectively smaller size relative to Mr. Murray's Natural Gas Proxy Group, since it is the larger size, i.e., less risk, of that group which is reflected in its market data upon which Mr. Murray, has based his cost of equity estimation.

[68] *Bluefield Water Works Improvement Co. v. Public Serv. Comm'n*, 262 U.S. 679 (1922).

Q. IS THERE A WAY TO QUANTIFY AN ADJUSTMENT DUE TO THE COMPANIES' GREATER COLLECTIVE BUSINESS RISK DUE TO SIZE RELATIVE TO THE NATURAL GAS PROXY GROUP?

A. Yes, the previously discussed,[69] empirical evidence on the effect of small size provides insight into the magnitude of such an adjustment to reflect the greater business risk of the Companies' based upon their collective small size relative to Mr. Murray's Natural Gas Proxy Group.

The Companies are collectively smaller than the average company in Mr. Murray's Natural Gas Proxy Group, upon whose market data his estimated common equity cost rate is based. Since his Natural Gas Proxy Group's market data reflect its collective risk, including the lower risk of its greater size based upon market capitalization relative to the Companies, as shown in Table 3 below. An adjustment to his Natural Gas Proxy Group's indicated common equity cost rate must be made to reflect the Companies' greater relative collective risk.

Table 2
Estimated Market Capitalization for Laclede Gas Company / Missouri Gas Energy and Mr. Murray's Natural Gas Proxy Group

	Market Capitalization (1) ($ Millions)	Times Greater than the Companies
Laclede Gas Company / Missouri Gas Energy	$2,247.026	
Mr. Murray's Natural Gas Proxy Group	$4,176.922	1.9X

(1) From page 1 of Schedule PMA-R11.

As shown above, the Companies' estimated market capitalization of $2,247.026 million is lower than the average market capitalization of Mr. Murray's Natural Gas

[69] *Ahern*, at 51 – 54.

Proxy Group, $4,173.922 million, or 1.9 times greater than the Companies, based upon the group's average market prices for the three months ended June 30, 2017.

Consequently, the Companies have greater relative collective business risk than Mr. Murray's Natural Gas Proxy Group because, all else equal, size has a bearing on risk. Because investors demand a higher return as compensation for assuming greater risk, this greater relative collective business risk of the Companies must be reflected in Mr. Murray's estimated cost of common equity derived from the market data of his less business risky Natural Gas Proxy Group.

The magnitude of such an adjustment is based upon the size premiums for decile portfolios of New York Stock Exchange (NYSE), American Stock Exchange (AMEX) and NASDAQ listed companies for the 1926-2016 period and related data from <u>SBBI – 2017</u>. The average size premium for the 4th decile (0.98%) in which the average market capitalization of Mr. Murray's Natural Gas Proxy Group falls has been compared with the average size premium for the 6th decile (1.66%) in which the estimated collective market capitalization of the Companies' falls. As shown on page 1 of Schedule PMA-R11, the size premium spread between the 4th and the 6th deciles is 0.68%.[70] In view of the foregoing, an adjustment of 0.40% is necessary to reflect the greater collective business risk of the Companies due to their smaller collective size relative to Mr. Murray's Natural Gas Proxy Group.

Q. BASED UPON YOUR CORRECTIONS TO MR. MURRAY'S DCF AND CAPM DISCUSSED ABOVE, WHAT WOULD MR. MURRAY'S RECOMMENDATION BE ONCE FLOTATION COSTS AND THE COMPANIES' GREATER COLLECTIVE BUSINESS RISK?

[70] 0.68% = 1.66% - 0.98%

A. As shown on Schedule PMA-R7, the corrected Staff DCF is 9.34%, the corrected Staff CAPM is 9.32% as shown on Schedule PMA-R10, and the properly applied RPM is 9.71% as shown on Schedule PMA-8. These results average 9.46%. Adding flotation costs of 0.16% as derived in Schedule PMA-D8, page 1 and a business risk adjustment of 0.40% as derived above results in a corrected common equity cost rate of 10.02%, highlighting the inadequacy and unreasonableness of Mr. Murray's estimated range of common equity cost rates, 6.90% - 7.70%, with a midpoint of 7.30% as well as his final recommended range of 9.00% - 9.50% with a midpoint of 9.25%.

TESTIMONY OF OPC WITNESS MICHAEL P. GORMAN

Common Equity Cost Rate

Discounted Cash Flow Model

Q. PLEASE COMMENT ON MR. GORMAN'S DCF COST RATE.

A. Mr. Gorman performed three DCF analyses: 1) a constant growth DCF analysis using security analysts' five-year growth rates in EPS as the growth component, 2) a constant growth DCF analysis using BR+SV, or sustainable growth, as the growth component, 3) a multi-stage DCF analysis,[71] using: a) security analysts' five-year growth in EPS as the first stage (years 1 – 5) growth component; b) a transitional growth rate based upon a linear trend as the second stage (years 6 – 11) growth component; and, c) projected growth in U.S. Gross Domestic Product (years 11 – 200) as the growth component.[72]

While Mr. Gorman correctly relied upon security analysts' projected growth in EPS for his first DCF analysis, I do not agree with his reliance upon sustainable growth

[71] Direct Testimony of Michael. P Gorman's (hereinafter "*Gorman*") at 20, lines 16 - 19.
[72] *Gorman,* at 30, lines 10 – 14.

in second DCF analysis. However, his ultimate conclusion[73] of DCF cost rate of 8.9% is reasonable in my opinion. It is also apparent that Mr. Gorman did not place any weight on his multi-stage DCF analysis because the results are clearly outliers. In view of the foregoing, I will not address the applicability of his sustainable growth or multi-stage DCF models.

Q. PLEASE COMMENT ON MR. GORMAN'S DISCUSSION OF THE RESULTS OF HIS APPLICATION OF THE CONSTANT GROWTH, OR SINGLE STAGE, DCF MODEL.

A. Mr. Gorman, as shown in Table 6, derived an average constant growth DCF model cost rate of 8.93% and a median cost rate of 8.14%[74] based upon an average analysts' growth rate of 6.05%[75] and 9.05% (average) and 8.76% (median)[76] based upon an average long-term sustainable growth rate of 6.18%,[77] for his Natural Gas Proxy Group.

Mr. Gorman asserts that the maximum long-term sustainable growth rate is approximated by the projected growth in gross domestic product (GDP) of 4.2%.[78] Mr. Gorman's conclusion is based upon his flawed contention that "Utilities cannot indefinitely sustain a growth rate of the economy in which they sell services." Mr. Gorman's rationale is not persuasive. As previously discussed and shown in Schedule PMA-R6, growth in the Utilities Sector was 119.02% for the years 1947 – 2016, exceeding nominal U.S. GDP growth of 106.22% by 12.80 percentage points.[79]

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73 *Gorman*, at 25, lines 5 – 7.
74 *Gorman*, Table 6 at 36.
75 *Gorman*, at Schedule MPG-5.
76 *Gorman*, Table 6 at 36.
77 *Gorman*, at Schedule MPG-7, page 1.
78 *Gorman*, at 27, lines 4 – 6.
79 12.80% = 119.02% - 106.22%.

Q. MR. GORMAN QUOTES EUGENE F. BRIGHAM AND JOEL F. HOUSTON ("BRIGHAM & HOUSTON"), IN SUPPORT OF HIS CONTENTION THAT "OVER THE LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT A RATE GREATER THAN THE GROWTH RATE OF THE U.S. GDP." PLEASE COMMENT.

A. After reviewing the complete excerpt from Fundamentals of Financial Management,[80] by Brigham & Houston, the quotation does not end with the conclusion of Mr. Gorman citation. The entire paragraph reads:

> The constant growth model is often appropriate for mature companies with a stable history of growth. Expected growth rates vary somewhat among companies, but dividend growth for most mature firms is generally expected to continue to the future at about the same rate as nominal grow domestic product (real GDP plus inflation). *On this basis, one might expect the dividends of an average, or "normal," company to grow at a rate of 5 to 8 percent a year.* (italics added for emphasis)

Continuing, on pages 301 through 303, the authors provide an example of the application of the non-constant DCF, assuming a normal growth rate of 8% which they identify as "the assumed average for the economy." Thus, although Mr. Gorman relied upon the Brigham & Houston quotation to support the use of the growth in nominal GDP for use in a non-constant DCF model, he ignored the authors' recommendation of an assumed 8% normal growth rate to be used in the non -constant DCF.

Q. MR. GORMAN STATES THAT "THE U.S. GDP NOMINAL GROWTH RATE IS A CONSERVATIVE PROXY (I.E., GENEROUS TO THE UTILITY) FOR THE HIGHEST SUSTAINABLE LONG-TERM GROWTH RATE OF A UTILITY." PLEASE COMMENT.

80 *Gorman*, MPG Confidential WP 23

A. Mr. Gorman has provided no empirical evidence that in the third stage of a multi-stage DCF analysis any company, especially relatively stable and mature utility companies, would grow at the average growth rate of the U.S. economy. The average growth in the U.S. economy is just that, an average. Some companies will grow faster and some will grow more slowly. That the growth in nominal GDP is an average was previously demonstrated on Schedule PMA-R6 which shows the nominal GDP for the years 1947 – 2016 as a whole and by industry.

From 2015 – 2016 and 2007 – 2016, nominal GDP grew 2.95% and 3.14%, respectively. In contrast, the agriculture, forestry, fishing, and hunting sector of nominal GDP declined 8.74% from 2015 – 2016 and grew a meager 1.40% for 2007 – 2016. Likewise, the Utilities' sector of nominal GDP grew 1.33% from 2015 – 2016 and 2.51% for 2007- 2016. In addition, it is a mismatch to use five- to ten-years growth in GDP as a proxy either for the years eleven through 200 in Mr. Gorman's multi-stage DCF analysis. There is no evidence that a five- to ten-years growth rate in GDP accurately represents the in perpetuity growth rate in GDP. Hence, there is no valid rationale for undertaking a multi-stage DCF analysis.

Q. DO YOU HAVE ANY COMMENT ON THE APPLICABILITY OF THE RESULTS OF THE DCF MODEL IN ESTABLISHING A COST OF COMMON EUQITY FOR THE COMPANIES?

A. Yes. As discussed previously,[81] the "simplified" or constant-growth DCF model has a tendency to mis-specify the investor required common equity return rate when the market value of common stock differs significantly from its book value, because it assumes a

[81] *Ahern*, at 22 - 26

market-to-book ratio of one, it understates / overstates investors 'required return rate when market value exceeds or is less than book value.

The DCF model presumes that market-to-book ratios are at unity or 1.00. However, that is rarely the case. In recent years, the market values of natural gas utilities' common stocks have been well in excess of their book values as shown on page 1 of Schedule PMA-D2 ranging between 149.16% and 190.88% for the five years ending 2015. Morin[82] states:

> The third and perhaps most important reason for caution and skepticism is that application of the DCF model produces estimates of common equity cost that are consistent with investors' expected return only when stock price and book value are reasonably similarly, that is, when the M/B is close to unity. As shown below, application of the standard DCF model to utility stocks <u>understates</u> the investor's expected return when the market-to-book (M/B) ratio of a given stock exceeds unity. This was particularly relevant in the capital market environment of the 1990s and 2000s whose utility stocks are trading at M/B ratios well above unity and have been for nearly two decades. The converse is also true, that is, the DCF model overstates that investor's return when the stock's M/B ratio is less than unity. *The reason for the distortion is that the DCF market return is applied to a book value rate base by the regulator, that is, a utility's earnings are limited to earnings on a book value rate base.* (italics added)

Because the "simplified" DCF model traditionally used in rate regulation assumes a market-to-book ratio of one, it will understate/overstate investors' required return rate when market value exceeds or is less than book value. It does so because utility investors evaluate and receive their returns on the <u>market</u> value of a utility's equity, whereas regulators authorize returns on book common equity. By regulatory definition and consistent with the assumptions underlying the DCF model, the market-based DCF result is equivalent to the book-value based authorized rate of return. Mr. Gorman has ignored

[82] Morin, at 434.

or is unaware of this equivalency based upon the DCF's assumption of market-to-book values equal to one. This means the market-based DCF model will produce the total annual dollar return expected by investors only when market and book values are equal, a rare and unlikely situation.

As cited previously,[83] but worth reiterating, market values can diverge from book values for a myriad of reasons including, but not limited to, earnings per share ("EPS") and dividends per share ("DPS") expectations, merger/acquisition expectations, interest rates, etc. As noted by Phillips:[84]

> Many question the assumption that market price should equal book value, believing that "the earnings of utilities should be sufficiently high to achieve market-to-book ratios which are consistent with those prevailing for stocks of unregulated companies."

In addition, Bonbright, Danielson and Kamerschen[85] state:

> In the first place, commissions cannot forecast, except within wide limits, the effect their rate orders will have on the market prices of the stocks of the companies they regulate. In the second place, *whatever the initial market prices may be, they are sure to change not only with the changing prospects for earnings, but with the changing outlook of an inherently volatile stock market.* In short, market prices are beyond the control, though not beyond the influence of rate regulation. Moreover, even if a commission did possess the power of control, any attempt to exercise it ... would result in harmful, uneconomic shifts in public utility rate levels. (italics added)

Q. WHAT IS THE RELVANCE OF MARKET-TO-BOOK RATIOS?

A. Although some view market-to-book ratios as a general indicator of financial well-being and thus useful for establishing the common equity cost rate, it remains important to review the ratio itself, and to bear in mind what it does, and does not indicate. In very general terms, the market-to-book ratio equals the market value (or stock price) per share,

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83 *Ahern*, at 24, lines 1 – 16.
84 Phillips, at 395.
85 James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates (Public Utilities Reports, Inc. 1988), at 334.

divided by the total common equity (or the book equity) per share. Book value is an accounting measure, reflecting historical costs. In contrast, market value per share, i.e., stock price, is forward-looking and a function of many variables, including (but not limited to) expected earnings and cash flow growth, expected payout ratios, measures of "earnings quality", the regulatory climate, the equity ratio, expected capital expenditures, and the expected return on book equity.[86] It naturally follows that the market-to-book ratio is also a function of numerous variables in addition to historical or expected returns on common equity.

In the context of rate-making, the market-to-book ratio often is discussed relative to the constant growth, or "simplified", DCF model. Under certain restrictive assumptions, that model can be rewritten to express the market-to-book ratio as follows[87]

$$\frac{P}{B} = \frac{ROE - G}{R - G} \qquad \text{Equation [1]}$$

Where: ROE is the return on book common equity;

R is the risk-adjusted discount rate; and,

G is the long-term growth rate in dividends per share.

Taking Equation [1] at face value, if P/B exceeds unity, then ROE exceeds R. Branch, Sharma, Chawla and Tu note that a market-to-book ratio is generally greater than or equal to one because the value of the firm as a going concern (price per share) generally exceeds the liquidation value (book value per share) and "…firms having going

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[86] Morin, at 366. Dr. Morin cites several academic articles that address the various factors that affect the Market-to-Book ratio for utilities

[87] B. Branch, A. Sharma, C. Chawla, and F. Tu, *An Updated Model of Price-to-Book*, Journal of Applied Finance, No. 1 (2014).

concern values greater than their liquidation values (most firms) and firms having finite prices (all firms) should have ROE > R> G."[88]

Any inferences drawn as to the relationship among P/B, i.e., market-to-book ratio, ROE, and R from Equation [1] rely upon the acceptance of all assumptions of the constant growth DCF model, including a constant dividend growth rate in perpetuity. Equally important, Equation [1] only can be solved from the constant growth DCF model if we also assume: (1) a constant dividend payout ratio in perpetuity; (2) no stock issuances or repurchases; and (3) that the firm is in a steady state, where book equity growth equals dividend growth. Taken together, those assumptions are quite restrictive, and call into question a definitive link between P/B, ROE, and R.

Market-to-book ratios greater than one simply mean that the firm is worth more as a going concern than the book value of its assets. This is consistent with U.S. Generally Accepted Accounting Principles ("GAAP") and International Financial Reporting Standards ("IFRS"), which require firms to carry the value of assets on their books at the historical cost of those assets; only under specific circumstances may the value of certain financial investments be carried at market value.[89] As a result:

> …given market efficiency, the [P/B] ratio is intrinsically an accounting phenomenon; that is, on first order, [P/B] is determined by how accountants measure book value… If all assets and liabilities were accounted for using unbiased mark-to-market or "fair value" accounting, [P/B] would be equal to unity for all levels of risk….A good example is a pure investment fund where "net asset value" typically equals market value, since accountants apply mark-to-market accounting to these funds….For most other firms, accountants do not mark the net assets involved with operations to market. The application of historical cost accounting, exacerbated

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[88] Branch, et al., at 78.

[89] FASB Rule 157.

> by the application of conservative accounting, introduces a difference between price and book value.[90]

Thus, practically, the market-to-book ratio is used as a measure of relative valuation, typically used by investors to assess the value of an asset or enterprise based upon the prevailing market-to-book ratios of comparable assets or enterprises. It is not typically used as a measure of absolute value. Thus, investors would be more likely to assess the value of any utility relative to the market-to-book ratio of firms of similar risk than, for example, 100.00%. The average market-to-book across all stocks, while varying over time, is almost always greater than 100.00% for firms in the U.S. markets.[91] Although the broad market represents a cross section of risk and return profiles, of which the utility sector is just one, the observed variation in market-level market-to-book ratios speaks to the time-varying influence of general macroeconomic factors on the ratio.

In summary, if regulatory commissions were to set rates with an eye toward moving the market-to-book ratio toward unity, this practice might well impede the ability of the utility to attract the capital required to support its operations, especially in markets where the market-to-book for the overall market is significantly greater than unity.

Moreover, market-to-book ratios slightly greater than unity are preferred, as this prevents equity ownership dilution when new shares are issued.[92] All else equal, when common shares trade at a higher price, fewer shares need to be issued to accomplish a firm's financing objectives, and the dilution of share ownership is mitigated. The

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90 S. H. Penman, S.A. Richardson, and I. Tuna, "*The Book-to-Price Effect in Stock Returns: Accounting for Leverage*", Journal of Accounting Research, 45:2, May 2007. The authors use the reciprocal of the M/B and different notation. In the quote above, I have replaced B/P (where P denotes price per share) with M/B for ease of exposition.

91 Source: Capital IQ, Bloomberg Professional.

92 Morin, at 363.

relevant point is the absolute value of the shares, not their value relative to the book value.

As noted above, because the constant growth DCF model traditionally used in rate regulation assumes a market-to-book of unity, it understates or overstates investors' required return rate when market value exceeds or is less than book value, respectively. It does so because investors evaluate and receive their returns on the market value of a utility's equity, whereas regulators authorize returns on book common equity. Consequently, the market-based DCF model will result in a total annual dollar return on book common equity equal to the total annual dollar return expected by investors only when market and book values are equal, a rare and unlikely situation.

Q. **IS THERE ANOTHER REASON WHY YOU BELIEVE RESULTS OF THE DCF ARE UNDERSTATED AT THIS TIME AND THEREFORE, SHOULD NOT BE UNDULY RELIED ON?**

A. Yes. There is a technical relationship between price-to-earnings ("P/E") ratios and growth rates in the DCF model that indicates that the DCF is currently "broken" in my opinion. Theoretically, when P/E ratios increase, dividend yields decrease, and expected earnings growth increases so that the P/E ratio will revert to its long-term mean. This balance does not mean that indicated DCF cost rates are constant into perpetuity, but that they should theoretically vary around a mean cost rate, consistent with DCF theory. In a review of historical and current P/E ratios and projected EPS growth rates published by Value Line, this balance is not currently being reflected by Mr. Gorman's Natural Gas Proxy Group.

I have examined trailing P/E ratios and projected measures of EPS at three points in time: September 12, 2018, September 6, 2013, and September 1, 2017 on Schedule PMA-R13 to illustrate my point.

As shown on Schedule PMR-R13 as the P/E ratio decreased from 2008 to 2013 (implying increasing dividend yields), there was a corresponding decrease in the projected EPS growth rate, consistent with DCF theory. As the P/E ratio increased from 2008 to 2017, there was a slight decrease in the average EPS growth rate. Since P/E ratios in 2017 are greater than those in 2008, one would expect that expected EPS growth rates in 2017 would be much higher than 6.29%, indicating an understatement of DCF results.

Q. PLEASE SUMMARIZE THE UNDER- OR OVERSTATEMENT OF INVESTORS' REQUIRED RATE OF RETURN BY THE DCF MODEL USING MR. GORMAN'S 9.05% DCF RESULTS USING SUSTAINABLE GROWTH.

A. Schedule PMA-R14 demonstrates how a market-based DCF cost rate of 9.05% when applied to a book value substantially below market value, will understate investors' required return on market value. As shown, there is no realistic opportunity to earn the expected market-based rate of return on book value. Of course, the converse is also true - when the market-to-book value is below one, the DCF cost rate will overstate the investors' required return on market value.

Using data from Mr. Gorman's Schedule MPG-7, page 2, Schedule PMA-R14 demonstrates that his 9.05% constant growth sustainable growth DCF cost rate results in an understatement of the investor required return of 499 basis points. This is because the average market-to-book ratio of his Natural Gas Proxy Group is 2.31 on average for the thirteen weeks ending August 13, 2017, as shown from Schedule MPG-7, page 2.

Risk Premium Model

Q. PLEASE COMMENT ON MR. GORMAN'S RISK PREMIUM ANALYSIS.

A. Mr. Gorman defines the "Risk Premium" as the difference between average annual authorized equity returns for gas utilities, and two measures of long-term interest rates each year from 1986 through mid-2017.[93] Mr. Gorman's first approach estimates the annual equity risk premium by reference to the 30-year U.S. Treasury Bond yield, while the second estimates the premium relative to the average A-rated public utility bond yield.[94] In each case, Mr. Gorman then calculates five and ten year rolling averages for these equity risk premiums. The lower and upper bounds of Mr. Gorman's equity risk premium ranges are defined by the lowest and highest rolling five-averages. Mr. Gorman then applies ad hoc weights of 35.00% and 65.00%, to his lower and upper bound estimates,[95] respectively.

As to the 1986 – mid-2017 period of analysis, Mr. Gorman states that his 30 ½ -year horizon is a "generally accepted period to develop an equity risk premium study using 'expectational' data."[96] Mr. Gorman further notes that "it is reasonable to assume that averages of annual achieved returns over long time periods will generally converge on the investors' expected returns," and concludes that his "risk premium study is based upon expectational data, not actual investment returns, and, thus, need not encompass a very long historical time period."[97]

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93 *Gorman* at 26, line 3 through page 27, line 3.
94 *Gorman* Schedules MPG-12 and MPG-13.
95 *Gorman* at 43, lines 5 – 7.
96 *Gorman* at 39, lines 6 – 7.
97 *Gorman* at 39, line 24 through 40, lines 3 – 4.

Note that Mr. Gorman's equity risk premium analyses produce a 9.5% indicated common equity cost rate relative to U.S. Treasury Bonds and an 8.94% indicated common equity cost rate relative to Baa rated public utility bonds.[98]

Q. DO YOU HAVE SPECIFIC CONCERNS WITH MR. GORMAN'S EQUITY RISK PREMIUM ANALYSIS?

A. Yes. I have three concerns with Mr. Gorman's analysis, namely, 1) the 1986 – mid-2017 time period; 2) that Mr. Gorman's method and recommendation ignore an important relationship revealed by his own data, i.e., that the equity risk premium has a strong negative correlation to the level of interest rates (whether measured by U.S. Treasury Bonds or public utility bond yields); 3) his mismatched application of the U.S. Treasury Bond and public utility bond methods.

Q. WHAT ARE YOUR CONCERNS WITH MR. GORMAN'S 1986 – MID-2017 TIME PERIOD TO DETERMINE AN EQUITY RISK PREMIUM?

A. Mr. Gorman selected the period 1986 – mid-2017 "because public utility stocks consistently traded at a premium to book value during that period."[99] He concludes that "[o]ver this period, regulatory authorized returns were sufficient to support market prices that at least exceeded book value."[100] As discussed previously, it is very clear that the market prices of public utility common stocks are influenced by factors which are beyond the direct influences of the regulatory process.[101]

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98 *Gorman* at 38, lines 10 – 11.
99 *Gorman*, at 38, lines 10 – 11.
100 *Gorman*, at 38, lines 1 – 2.
101 Bonbright, et al, at 334.

Relative to the 1986 – mid-2017 period, SBBI – 2017 makes clear that the arbitrary selection of short historical periods is highly suspect and unlikely to be representative of long-term trends in market data. For example, SBBI - 2017[102] states:

> The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable. Furthermore, because an average of the realized equity risk premium, is quite volatile when calculated using a short history, using a long series makes it less likely that the analyst can justify any number he or she wants.

Q. IS THERE A DIRECT RELATIONSHIP BETWEEN THE MARKET-TO-BOOK RATIOS OF UNREGULATED COMPANIES AND THEIR EARNED RATES OF RETURN ON BOOK COMMON EQUITY?

A. No. Since regulation acts as a surrogate for competition, it is reasonable to look to the competitive environment for evidence of a direct relationship between market-to-book ratios and earned returns on common equity ("ROE"). To determine if Mr. Gorman's implicit assumption of such a direct relationship has any merit, I observed the market-to-book ratios and the ROEs of the S&P Industrial Index and the S&P 500 Composite Index over a long period of time. On Schedule PMA-R15, I have shown the market-to-book ratios, rates of return on book common equity (earnings / book ratios), annual inflation rates, and the earnings / book ratios net of inflation (real rate of earnings) annually for the years 1947 through 2016. In each year, the market-to-book ratios of the S&P Industrial Index equaled or exceeded 1.00 times. In 1949, the only year in which the market-to-book ratio was 1.00 (or 100%), the real rate of earnings on book equity, adjusted for

[102] SBBI - 2017, at 10-23.

deflation, was 18.1% (16.3% + 1.8%). In contrast, in 1961, when the S&P Industrial Index experienced a market-to-book ratio of 2.01 times, the real rate of earnings on book equity for the Index was only 9.1% (9.8% - 0.7%). In 1997, the market-to-book ratio for the Index was 5.88 times, while the average real rate of earnings on book equity was 22.9% (24.6% - 1.7%).

This analysis clearly demonstrates that competitive, unregulated companies have never sold below book value, on average, and have sold at book value in only one year since 1947, showing that there is no relationship between earnings / book ratios and market-to-book ratios.

Because this lack of a relationship between earnings / book ratios and market-to-book ratios covers a 70-year period, 1947 through 2016, it cannot be validly argued that going forward a relationship would exist between earnings / book ratios and market-to-book ratios. The analysis shown on Schedule PMA-R15 coupled with the supportive academic literature, demonstrate the following:

1. that while regulation is a substitute for marketplace competition, it can influence but not directly control market prices, and, hence, market-to-book ratios; and
2. that the rates of return investors expect to achieve and which influence their willingness to pay market prices well in excess of book values have no meaningful, direct relationship to rates of earnings on book equity.

Thus, no valid conclusion of equity risk premiums can be drawn for the 1986 – mid-2017 period because of market-to-book ratios in excess of one.

Q. HAVE YOU REVIEWED THE RANGE OF DATA INCLUDED IN MR. GORMAN'S RISK PREMIUM ANALYSIS?

A. Yes. There are several important points that can be gleaned from the data. First, the low end of Mr. Gorman's risk premium range, 4.17%, was observed on average for the five years ending 1991. In my view, discrete observations from economic environments approximately more than 26 years ago have little, if anything, to do with current economic conditions. A very visible measure of such differences is the fact that in 1991, U.S. Treasury Bond yields exceeded the equity risk premium. As Schedule MPG-10 demonstrates, however, since 2002, the opposite has been true, the risk premium has consistently exceeded U.S. Treasury Bond yields. By that measure alone, it is clear that the low end of Mr. Gorman's range has little, if any, relevance to the current market environment.

On the other hand, the high end of his range, i.e. 6.67%, occurred more recently, i.e., on average from 2012 –2015. This measure is more appropriate since it incorporates a more recent interest rate environment. In addition, the equity risk premium tends to move inversely with changes in interest rates. In other words, as interest rates have fall, the equity risk premium increases.

Q. PLEASE EXPLAIN.

A. As can be determined from empirical analyses of the data on Schedules MPG-12 and MPG-13, equity risk premiums have moved inversely with changes in U.S. Treasury Bond yields for 1986 – mid-2017 are A rated public utility bonds. This inverse relationship between equity risk premiums and interest rates is also well-supported in the academic literature as noted by Morin:[103]

[103] Morin, at 128.

> Published studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carleton, Chambers, and Lakonishok (1983), Morin (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates - rising when rates fell and declining when interest rates rose.

Q. HAVE YOU PERFORMED AN ALTERNATIVE EQUITY RISK PREMIUM ANALYSIS USING DATA FROM SCHEDULE MPG-12?

A. Yes. On page 1 of Schedule PMA-R16, I have used the indicated equity risk premiums over U.S. Treasury Bond yields shown by Mr. Gorman in Schedule MPG-12 over the period 1986 through mid-2017. Relying upon averages over such a short period of time to establish proper equity risk premiums is incorrect for two reasons: 1) due to the reasons provided by SBBI – 2017 discussed previously; and 2) due to the wealth of empirical evidence in the financial literature confirming the inverse relationship between interest rates and equity risk premiums noted above. I have used two different regression analyses based upon the data in Mr. Gorman's Schedule MPG-12 to demonstrate this inverse relationship between interest rates and equity risk premiums. The results are shown on page in Schedule PMA-R16.

The first regression analysis is based upon regressing the trend of equity risk premium in excess of U.S. Treasury Bonds over time and shown on pages 1 and 2 of Schedule PMA-R16. The regression predictions shown on page 1 of Schedule PMA-R16 indicate that, 6.73% as the predicted estimate of the equity risk premium. When added to a projected U.S. Treasury Bond yield of 3.70%, an RPM indicated cost of common equity of 10.43% results as shown on the top half of page 1 of Schedule PMA-16.

The second regression analysis is based upon the relationship between the equity risk premiums and interest rate levels shown on Schedule MPG-12, with the results shown on pages 3 and 4 of Schedule PMA-R16. The graph shown on page 4 of Schedule PMA-R16 clearly confirms the inverse relationship between interest rate levels and equity risk premium. The indicated equity risk premium over a projected U.S. Treasury Bond yield of 3.70% is 6.26%, based upon the resultant regression equation shown at the bottom of page 4 of Schedule PMA-R18, which results in an RPM indicated cost of common equity of 9.96%, also shown in the top half of Schedule PMA-R18.

Q. DID YOU CONDUCT A SIMILAR ANALYSIS USING MR. GORMAN'S A RATED PUBLIC UTILITY BOND YIELD DATA AS SHOWN ON SCHEDULE MPG-13?

A. Yes. Those results are shown in Schedule PMA-R17 and are consistent with my analysis of Mr. Gorman's U.S. Treasury Bond yield-based equity risk premium.

The first regression analysis is based upon regressing the trend of equity risk premium in excess of A rated public utility over time and shown on pages 1 and 2 of Schedule PMA-R17. The regression predictions shown on page 1 of Schedule PMA-R17 indicate that, 5.39% as the predicted estimate of the equity risk premium. When added to a properly calculated projected A rated public utility bond yield of 5.07%[104], an RPM indicated cost of common equity of 10.46% results as shown on the bottom half of page 1 of Schedule PMA-R17.

The second regression analysis is based upon the relationship between the equity risk premiums and interest rate levels shown on Schedule MPG-13, with the results shown on pages 3 and 4 of Schedule PMA-R17. The graph shown on page 4 of Schedule PMA-R17 again clearly confirms the inverse relationship between interest rate levels and equity risk premium. The indicated equity risk premium over a projected A rated public

[104] Derived on page 2 of Schedule PMA-R18.

utility bond of 5.07% is 4.91%, based upon the resultant regression equation shown at the bottom of page 4 of Schedule PMA-R17, which results in an RPM indicated cost of common equity of 9.98%, also shown in the bottom half of Schedule PMA-R18.

Q. MR. GORMAN USED A CURRENT BAA RATED PUBLIC UTILITY BOND YIELD IN HIS EQUITY RISK PREMIUM ANALYSIS. PLEASE COMMENT.

A. Mr. Gorman's use of a Baa rated public utility bond yield is incorrect for two reasons: 1) he applies a Baa rated public utility bond yield to an equity risk premium derived from A rated public utility bonds, improperly matching the estimated equity risk premium relative to A rated public utility bond yields with a Baa rated public utility bond yield; and 2) his use of a current Baa rated public utility bond yield is inconsistent with his entire return on common equity analysis. For example, Mr. Gorman used an expected risk-free rate in both his CAPM analysis and his U.S. Treasury Bond based equity risk premium analysis, analyst projections of EPS and sustainable growth in his constant DCF model applications and projected inflation in his derivation of his projected market equity risk premium. For internal consistency in his analyses and to be theoretically correct, as well as consistent with the prospective nature of both ratemaking and the cost of capital, a projected A rated (not Baa rated) public utility bond yield should be used in Mr. Gorman's equity risk premium analyses.

Q. HOW CAN A PROJECTED A RATED PUBLIC UTILITY BOND YIELD BE ESTIMATED?

A. One source *Blue Chip's*[105] forecast of Aaa corporate bond yields adjusted to reflect a recent spread between A rated public utility bond and Aaa corporate bond yield. *Blue*

[105] *Blue Chip* is s source relied upon by Mr. Gorman for projected inflation in developing his projected market equity risk premium for his CAPM analysis.

Chip forecasts Aaa rated corporate bonds to yield an average 4.80%, based upon the fourth quarter 2018 (from the August 1, 2017 *Blue Chip*[106]). However, the 4.80% projected Aaa corporate bond yield needs to be adjusted to estimate an equivalent A rated public utility bond yield. Using a 3-month average bond yield spread (approximately 13 weeks, consistent with Mr. Gorman's DCF analysis), an upward adjustment of 27 basis points is necessary, resulting in a prospective A rated public utility bond yield of 5.07% as derived on page 2 of Schedule PMA-R18.

Q. PLEASE SUMMARIZE THE RPM INDICATED COMMON EQUITY COST RATES AFTER CORRECTING MR. GORMAN'S RPM ANALYSIS?

A. As shown in the upper half of on Schedule PMA-R18, the average RPM indicated common equity cost rate based upon a forecasted long-term government bond yield is 10.20%. Based upon a forecasted A-rated public utility bond yield, the average RPM indicated common equity cost rate of 10.22% as shown in the bottom half of Schedule PMA-R18. These RPM results average 10.21%. As discussed previously, while I do not agree with Mr. Gorman's basic equity risk premium approach, the corrected average RPM results of 10.22% based upon regression analyses of his data are far more appropriate indicators of common equity cost rate than his conclusions of 9.5% and 8.94% relative to both U.S. Treasury and Baa rated public utility bonds, respectively.

Capital Asset Pricing Model

Q. PLEASE SUMMARIZE MR. GORMAN'S CAPM ANALYSES.

A. Mr. Gorman's CAPM analysis produces two results: 1) 9.42% based upon the his "High Market Risk Premium" of 7.80%; and 2) 8.10% based upon his "Low Market Risk

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106 Consistent with Mr. Gorman's use of the fourth quarter 2018 *Blue Chip* forecast of long-term government bonds as the risk-free rate in his CAPM analysis.

Premium" of 6.00%; and *Blue Chip*'s projected 30-year U.S. Treasury Bond yield of 3.70% for the fourth quarter 2018 (as the risk-free rate), and a *Value* Line average beta of 0.73 for his Natural Gas Distribution Group.[107]

For the market equity risk premium component of the CAPM, Mr. Gorman uses: 1) an estimate of 7.80% based upon the long-term historical arithmetic average real market return from 1926 through 2016 as reported by SBBI-2017, which he then adjusts for an inflation forecast from *Blue Chip*; and 2) an estimate of 6.00% based upon the historical difference between the average return on the S&P 500 and the average total return on long-term government bonds.[108]

Q. PLEASE COMMENT ON MR. GORMAN'S CAPM ANALYSIS.

A. Mr. Gorman's CAPM analysis is flawed for three reasons: 1) his miscalculation of the historical market equity risk premium by relying upon total returns on long-term government bonds in deriving his historical equity risk premium and not the appropriate income returns; 2) his failure to also include forecasted market equity risk premiums; and 3) his failure to perform an ECAPM analysis, although numerous tests of the CAPM have confirmed its validity determining that the empirical SML described by the traditional CAPM is not as steeply sloped as the predicted SML as stated previously.

Q. PLEASE COMMENT ON MR. GORMAN'S USE OF THE HISTORICAL MEAN TOTAL RETURN ON U.S. TREASURY SECURITIES.

A. Although relying upon SBBI – 2017 historical returns in his CAPM analysis, Mr. Gorman disagrees with its recommendation regarding the use of the income return and

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[107] *Gorman*, Schedule MPG-17.
[108] *Gorman*, at 46 and 47.

not the total return on U.S. Treasury securities in deriving an equity risk premium. His disagreement is unfounded. As stated previously, SBBI – 2017[109] notes that:

> The income return is thus used in the estimation of the equity risk premium because it represents the truly riskless portion of the return.

Thus, it is appropriate to use the income return and not the total return on long-term U.S. government bonds when calculating a market equity risk premium. Therefore, the correct derivation of the historical market equity risk premium is the difference between the arithmetic mean monthly[110] total return on large company common stocks of 11.97% and the arithmetic mean 1926 – 2016 income return on long-term government bonds of 5.17% which results in a monthly market equity risk premium of 6.80%[111] as derived in Note 1 on Schedule PMA-R19. Thus, Mr. Gorman's 6.00% historical market equity risk premium is incorrect and should not be used in a CAPM analysis.

Q. YOU HAVE ALSO STATED THAT MR. GORMAN ERRED IN NOT INCLUDING FORECASTED MARKET EQUITY RISK PREMIUMS IN HIS CAPM ANALYSIS. PLEASE EXPLAIN.

A. Mr. Gorman relied exclusively upon historical real market equity risk premiums, despite his inclusion of forecasted inflation, which is in direct contrast to Mr. Gorman's use of projected growth rates in his application of the DCF model as well as a forecasted risk-free rate. As stated previously, the cost of capital and ratemaking are prospective and while the arithmetic mean of long-term historical stock market returns can provide insight into investors' expectations of stock market returns because the arithmetic mean of historical returns provides investors with the valuable insight needed to estimate future

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109 SBBI-2017, at 10-22

110 Monthly arithmetic mean to be consistent with the Predictive Risk Premium Model ("PRPM") use of monthly risk premiums as detailed in Ms. Ahern's direct testimony.

111 (6.80% = 11.97% - 5.17%).

risk; it is also appropriate to use an estimate of the forecasted or projected market equity risk premium. An indication of the forecasted or projected market equity risk premium can be derived in a manner identical that in my direct testimony,[112] as an average of:

1) The arithmetic mean monthly equity risk premium of large company common stocks relative to long-term U.S. Treasury bond income yields from Morningstar - 2016 from 1926 – 2016, 6.80%;
2) The PRPM predicted market equity risk premium, using monthly equity risk premiums for large company common stocks relative to long-term U.S. Treasury securities from January 1926 through July 2017, 6.79%;
3) The results of a regression analysis of the monthly equity risk premiums of large company common stocks relative to long-term U.S. Treasury bond income yields from Morningstar - 2016 from 1926 – 2016, 8.48%;
4) The 3-5 year median total market price appreciation projections and expected market dividend yield for the thirteen weeks ending August 11, 20017 reported by *Value Line Investment Survey ("Value Line"),* 5.90%; and
5) The market-value weighted projected total return on the S&P 500 minus the projected risk-free rate, 9.67%.

These five market equity risk premiums result in an average total market equity risk premium of 7.53%, as shown on page 2 of Schedule PMA-R19.[113]

Q. DID MR. GORMAN INCORPORATE AN ECAPM ANALYSIS?

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112 *Ahern*, at 40, line 15 – 42, line 16.
113 7.53% = ((6.80% + 6.79% + 8.48% + 5.90% + 9.67%) / 5).

A. No. As discussed previously, the empirical SML described by the traditional CAPM is not as steeply sloped as the predicted SML. To reiterate, Morin[114] notes:

> . . . low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.

Hence, both the traditional CAPM and ECAPM should be used in deriving a CAPM-based common equity cost rate.

Q. WHAT WOULD MR. GORMAN'S CAPM RESULTS HAVE BEEN HAD HE UTILIZED THE APPROPRIATE PROSPECTIVE YIELD ON LONG-TERM U.S. TREASURY BONDS; A CORRECTLY ESTIMATED THE HISTORICAL MARKET EQUITY RISK PREMIUM USING THE CORRECT INCOME RETURN ON LONG-TERM GOVERNMENT BONDS; INCORPORATED FULLY PROJECTED MARKT EQUITY RISK PREMIUMS; AND THE ECAPM?

A. Schedule PMA-R19 presents the results of the correct application of both the traditional CAPM and the ECAPM for Mr. Gorman's Natural Gas Proxy Group. Page 1 shows the average CAPM / ECAPM results: 9.22% and 9.72%, respectively, which average 9.47%[115].

Although the 9.47% corrected CAPM result is only slightly higher than Mr. Gorman CAPM conclusion of 9.42%, it is the result of properly applied CAPM and ECAPM analyses.

Q. BASED UPON THE ABOVE CORRECTIONS TO MR. GORMAN'S ANALYSES, WHAT WOULD BE HIS RANGE OF COMMON EQUITY COST RATES?

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114 Morin, at 175.

115 (9.47% = (9.22% + 9.72%) / 2).

A. Based upon the corrections to Mr. Gorman's RPM and CAPM results, his three analyses produce the following:

Summary of Gorman's Corrected Results

Principal Model	Indicated Results
Discounted Cash Flow	8.90% (1)
Risk Premium	10.21% (2)
Capital Asset Pricing Model	9.47% (3)

(1) *Gorman*, at 36, line 14.
(2) From Schedule PMA-R18, page 1.
(3) From Schedule PMA-R19, page 1.

Based upon there corrected results, a range of indicated common equity cost rate based upon Mr. Gorman's two proxy group is 8.90% - 10.21%, averaging 9.53%. However, these cost rates are still understated because they do not reflect flotation of any additional risk of the Companies due to their smaller relative size as will be discussed below.

Adjustments to the Cost of Equity

Q. MR. GORMAN DID NOT INCLUDE A FLOTATION COST ADJUSTMENT TO REFLECT COMMON EQUITY FINANCING COSTS. PLEASE COMMENT.

A. As discussed previously,[116] it is important to include a flotation cost adjustment, because there is no other mechanism in the ratemaking paradigm through which such real and legitimate costs can be recovered.

Also, all of the cost of equity models used by any of the rate of return witnesses in this proceeding assume no transaction costs. The literature cited in my direct

[116] *Ahern*, at 47 - 50.

testimony[117] is quite clear that these costs are not reflected in market prices paid for common stocks. Consequently, it is proper to include a flotation cost adjustment when using cost of common equity models to estimate the common equity cost rate.

Q. YOU PREVIOUSLY STATED THAT YOUR CORRECTION TO MR. GORMAN'S COMMON EQUITY COST RATE ANALYSIS DOES NOT REFLECT THE RISK IMPLICATIONS OF THE COMPANIES' COLLECTIVELY SMALL SIZE RELATIVE TO MR. GORMAN'S NATURAL GAS PROXY GROUP. HOW DOES THE SIZE OF THE COMPANIES COMPARE WITH THAT OF MR. GORMAN'S PROXY GROUP?

A. As previously discussed, company size is a significant element of business risk for which investors expect to be compensated through greater returns. Consistent with the financial principle of risk and return discussed above, such increased risk due to small size must be taken into account in the allowed rate of return on common equity.

Also, as previously discussed, the risk of any investment is directly related to the assets in which the capital is invested. Thus, the Commission should focus on the risk and return on the common equity investment in the Companies' jurisdictional rate base because it is the Companies' rates which will be set in this proceeding. The fair rate of return must relate to where capital is invested, which is the Companies' jurisdictional rate bases. As demonstrated below, The Companies are significantly smaller than the average gas company in Mr. Gorman's Natural Gas Proxy Group based upon estimated market capitalization.

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117 *Ahern*, at 48 – 49, footnotes 51 – 53.

Once again, consistent with the financial principle of risk and return discussed above, such increased risk due to small size must be taken into account in the allowed rate of return on common equity.

Q. IS THERE A WAY TO QUANTIFY AN ADJUSTMENT DUE TO THE COMPANIES' GREATER BUSINESS RISK DUE TO SIZE RELATIVE TO HIS NATURAL GAS PROXY GROUP?

A. Yes, the previously discussed[118] empirical evidence on the effect of small size provides insight into the magnitude of such adjustments to reflect the greater business risk of the Companies' based upon their collective small size relative to Mr. Gorman's Natural Gas Proxy Group.

The Companies are collectively smaller than the average company in Mr. Gorman's Natural Gas Proxy Group, upon whose market data his recommended common equity cost rate is based. Since his Natural Gas Proxy Group's market data reflects its collective risk, including the lower risk of its greater size based upon market capitalization relative to the Companies as shown in Table 3 below, an adjustment must be made to reflect their greater collective relative risk

Table 3
Estimated Market Capitalization for Laclede Gas Company / Missouri Gas Energy and Mr. Gorman's Natural Gas Proxy Group

	Market Capitalization (1) ($ Millions)	Times Greater than the Companies
Laclede Gas Company / Missouri Gas Energy	$2,472.299	
Mr. Gorman's Natural Gas Proxy Group	$3,969.904	1.6X

(1) From page 1 of Schedule PMA-R11.

118 *Ahern*, at 51 – 54.

As shown above, the Companies' estimated market capitalization of $2,472.299 million is lower than the average market capitalization of Mr. Gorman's Natural Gas Proxy Group, $3,969.904 million, or 1.6 times greater than the Companies, based upon average market prices for the thirteen weeks ended August 13, 2017.

Consequently, the Companies have greater relative collective business risk than Mr. Gorman's Natural Gas Proxy Group because, all else equal, size has a bearing on risk. Because investors demand a higher return as compensation for assuming greater risk, this greater relative business risk of the Companies must be reflected in the recommended cost of common equity derived from the market data of Mr. Gorman's less business risky Natural Gas Proxy Group.

The magnitude of such an adjustment is based upon the size premiums for decile portfolios of New York Stock Exchange (NYSE), American Stock Exchange (AMEX) and NASDAQ listed companies for the 1926-2016 period and related data from <u>SBBI - 2017</u>. The average size premium for the 4th and 5th deciles (1.25%) between which the market capitalization of the Natural Gas Proxy Group falls has been compared with the average size premium for the 5th and 6th deciles (1.59%) between which the estimated market capitalization of the Companies' falls. As shown on page 1 of Schedule PMA-R11, the size premium spread between the 4th and 5th and the 5th and 6th deciles is 0.34%.[119] In view of the foregoing, I am recommending a business risk adjustment of 0.20% to reflect the greater business risk of the Companies due to their smaller collective size.

In view of the foregoing, a business risk adjustment of 20 basis points, due to its smaller size is necessary. Adding flotation costs of 0.16% as derived in Schedule PMJA-

[119] 0.34% = 1.59% - 12.5%.

D8, page 1 and a business risk adjustment of 0.20% as derived above to the Mr. Gorman's corrected 9.53% common equity cost rate results in a flotation cost and business risk-adjusted common equity cost rate of 9.89%[120] results, significantly higher than Mr. Gorman's recommended common equity cost rate of 9.2%.

Q. DOES THAT CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

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[120] (9.89% = 9.53% + 0.16% + 0.20%).

S&P Global Ratings

Research

Summary:

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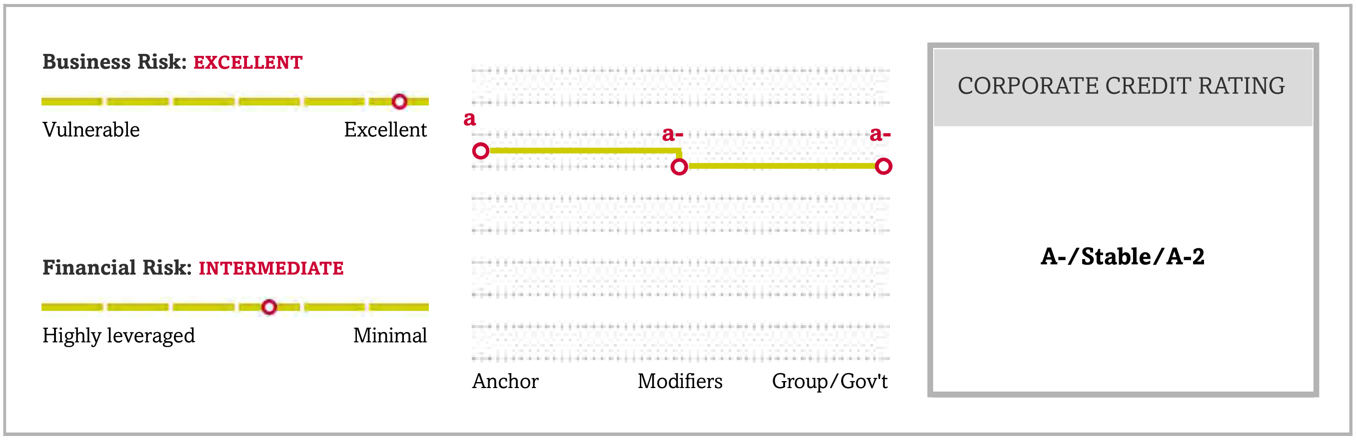

Rationale

Business Risk: Excellent	Financial Risk: Intermediate
• Low-risk, regulated gas utility operations with unregulated operations contributing less than 5% of EBITDA. • Use of various regulatory mechanisms that allow the company to recover capital with limited regulatory lag, allowing the company to earn authorized returns. • Company benefits from regulatory and geographical diversity, serving approximately 1.7 million customers in Missouri, Alabama, and Mississippi.	• Use of our most relaxed credit benchmarks, reflecting a vast majority of cash flows from low-risk utility operations with strong regulatory support. • Core financial measures that are consistent with the intermediate financial risk profile category. • Elevated capital spending through 2019 related to the Spire STL Pipeline. • Financial policy commitment to maintain current financial risk profile and regulator-approved capital structure.

Outlook: Stable

The stable outlook on Spire Inc. is based on S&P Global Ratings' assessment of the company's excellent business and intermediate financial risk profiles. Under our base-case scenario, we expect that funds from operations (FFO) to debt will range from 16%-18% over the next few years, while debt to EBITDA will remain around 4.5x-5x. Fundamental to our forecast is our expectation that Spire will continue to both generate the majority of its cash flow from its regulated natural gas utility business and effectively manage regulatory risk, enabling the utility to earn its allowed return on equity.

Downside scenario

We could lower the ratings on Spire and its subsidiaries if core credit ratios weaken such that FFO to debt is consistently below 15%, largely as a result of the company's inability to recover its investment in a timely manner while capital spending remains elevated. We could also lower the ratings if the contribution of non-utility operations increases without a corresponding improvement in the core credit ratios.

Upside scenario

Given our assessment of business risk and our base-case scenario for financial performance, we do not anticipate higher ratings during the outlook period. However, higher ratings would largely depend on Spire achieving FFO to debt of more than 21% on a consistent basis or on incremental reduction of business risk through reduced exposure to non-utility operations.

Our Base-Case Scenario

Assumptions

- Gross margins growth driven by regulatory recovery mechanisms across all jurisdictions and intermittent rate cases in Missouri;
- Stable economic conditions in the service territories with modest customer growth;
- Capital spending of about $450 million annually through 2018;
- Dividend payout ratio in the range of 55%-65%;
- Negative discretionary cash flow; and
- All debt maturities are refinanced.

Key Metrics

	2016A	2017E	2018E
FFO/debt (%)	14.6	16-18	16-18
Debt/EBITDA (x)	5.4	4.5–5	4.5-5
OCF/debt (%)	13.6	14-16	15-17

A--Actual. E—Estimate. FFO—Funds from operations. OCF—Operating cash flow.

Business Risk: Excellent

Spire's business risk profile assessment is based on the company's low-risk regulated utility business that we expect to contribute more than 95% of operating income and its unregulated operations, which contributes the balance.

 1886317

Spire's regulated utility operations are conducted through Laclede Gas Co., Alabama Gas Corp., Mobile Gas Services Co., and Willmut Gas and Oil Co., benefiting from operations under constructive regulatory frameworks in Missouri, Alabama, and Mississippi that provide regulatory mechanisms for timely recovery of capital investments and fuel costs. In Missouri, Spire utilizes the Infrastructure System Replacement Surcharge (ISRS), which enables accelerated recovery of infrastructure investments, and has other mechanisms to address purchased gas costs, pensions, and energy efficiency investments. The Missouri utilities also file rate cases every three years using a historical test year. We view Alabama's regulation as incrementally more supportive as the jurisdiction uses a formulaic mechanism to adjust rates, giving utilities the ability to earn their allowed return on equity without the need to file rate cases. Mississippi regulation also supports credit by providing various recovery mechanisms such as a rate stabilization adjustment that entails an annual rate performance review in lieu of rate cases, which reduces regulatory lag. Spire has historically managed its regulatory risk effectively, leading to earned returns that are consistently close to or at the authorized levels.

The customer base, which exhibits modest growth, is somewhat large at about 1.7 million customers. The preponderance of the customer base is residential, which can mitigate the effects of economic stress.

Currently the company is focused on the integration of Mobile Gas Services Co. and Willmut Gas and Oil Co., which it acquired in late 2016. The company's capital expenditure plan is focused on replacing and upgrading aging infrastructure across its service territories while moving forward with the Spire STL Pipeline, which is on track to be in service in 2019.

Spire's unregulated operations consist primarily of natural gas marketing, an activity to which we ascribe significantly higher risk than the regulated utility operations, in large part due to exposure to competitive market forces as well as to greater variability in cash flow generation. Importantly, we view these operations as requiring a higher degree of risk management and disciplined hedging practices to limit a company's exposure to commodity price fluctuations.

Based on these factors, we view the business risk profile as excellent.

Financial Risk: Intermediate

Under our base-case scenario we expect that Spire's core credit ratios will strengthen over time but remain largely in the middle of the intermediate category throughout the forecast period, with FFO to debt that ranges from 16%-18% over the next few years and debt to EBITDA that trends toward 4.5x. We expect annual capital spending for the next few years to be about $450 million with a dividend payout ratio of 55%-65%, which will result in negative discretionary cash flows. Therefore, we expect Spire to require external funding coupled with steady and reliable cost recovery to maintain cash flow coverage measures.

We assess Spire's financial risk profile as intermediate using our most relaxed credit benchmarks.

Spire's excellent business and intermediate financial risk profiles lead to an anchor of 'a/a+'. We select the 'a' anchor in large part to account for the company's ownership of the higher business risk, non-utility operations.

Liquidity: Adequate

We assess Spire Inc.'s liquidity as adequate to cover its needs over the next 12 months. We expect liquidity sources to exceed uses by 1.1x or more, the minimum threshold for regulated utilities under our criteria, and that the company will also meet our other requirements for such a designation. We view Spire Inc. as having well established and solid bank relationships, the ability to absorb high-impact, low-probability events without the need for refinancing, and a satisfactory standing in credit markets.

As per the new credit agreement signed in December 2016, Spire Inc. has total available credit facility of $975 million that matures in December 2021.

Principal liquidity sources	Principal liquidity uses
• Cash on hand of $20 million as of March 31, 2017; • Revolving credit facilities totaling $975 million; and • Cash FFO of about $395 million annually.	• Total debt maturities of about $567 million over the next 12 months, including short-term debt; • Capital spending of about $450 million annually; and • Dividends of about $100 million in 2017.

Other Credit Considerations

We assess the financial policy modifier as negative, which results in a one-notch negative adjustment to the anchor, largely to capture the company's acquisitive strategy and plans to maintain and grow its riskier unregulated operations, developments which could lead to higher debt leverage. Our assessment of the remaining modifiers does not further affect the anchor determination.

Group Influence

Spire is subject to the group rating methodology criteria, under which we assess Spire as the parent of the group whose members include Laclede Gas Co. and Alabama Gas Co., all of which we assess as core group members. Spire's group credit profile is 'a-' and the issuer credit rating is 'A-'.

Ratings Score Snapshot

Corporate Credit Rating

A-/Stable/A-2

Business risk: Excellent

- **Country risk:** Very low
- **Industry risk:** Very low
- **Competitive position:** Strong

Financial risk: Intermediate

- **Cash flow/Leverage:** Intermediate

Anchor: a

Modifiers

- **Diversification/Portfolio effect:** Neutral (no impact)
- **Capital structure:** Neutral (no impact)
- **Financial policy:** Negative (-1 notch)
- **Liquidity:** Adequate (no impact)
- **Management and governance:** Satisfactory (no impact)
- **Comparable rating analysis:** Neutral (no impact)

Stand-alone credit profile : a-

- **Group credit profile:** a-

Issue Ratings

We rate Spire's senior unsecured debt one notch below the issuer credit rating to reflect the priority obligations that encumber a meaningful portion of total assets, thereby disadvantaging senior unsecured bond holders.

The 'A-2' short-term rating on Spire indicates the use of standard mapping and an issuer credit rating of 'A-'. The rating on Spire's commercial paper program is 'A-2'.

Related Criteria

- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- Criteria - Corporates - General: Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Criteria - Corporates - General: Corporate Methodology: Ratios And Adjustments, Nov. 19, 2013
- Criteria - Corporates - General: Corporate Methodology, Nov. 19, 2013
- Criteria - Corporates - Utilities: Key Credit Factors For The Regulated Utilities Industry, Nov. 19, 2013
- General Criteria: Group Rating Methodology, Nov. 19, 2013
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- Criteria - Corporates - Utilities: Collateral Coverage And Issue Notching Rules For '1+' And '1' Recovery Ratings On Senior Bonds Secured By Utility Real Property, Feb. 14, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities And Insurers, Nov. 13, 2012
- General Criteria: Use Of CreditWatch And Outlooks, Sept. 14, 2009
- Criteria - Insurance - General: Hybrid Capital Handbook: September 2008 Edition, Sept. 15, 2008
- Criteria - Corporates - General: 2008 Corporate Criteria: Rating Each Issue, April 15, 2008

Business And Financial Risk Matrix

Business Risk Profile	Financial Risk Profile					
	Minimal	Modest	**Intermediate**	Significant	Aggressive	Highly leveraged
Excellent	aaa/aa+	aa	**a+/a**	a-	bbb	bbb-/bb+
Strong	aa/aa-	a+/a	a-/bbb+	bbb	bb+	bb
Satisfactory	a/a-	bbb+	bbb/bbb-	bbb-/bb+	bb	b+
Fair	bbb/bbb-	bbb-	bb+	bb	bb-	b
Weak	bb+	bb+	bb	bb-	b+	b/b-
Vulnerable	bb-	bb-	bb-/b+	b+	b	b-

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21 July 2017

Update

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RATINGS

Laclede Gas Company

Domicile	St. Louis, Missouri, United States
Long Term Rating	A1
Type	First Mortgage Bonds - Dom Curr
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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Laclede Gas Company

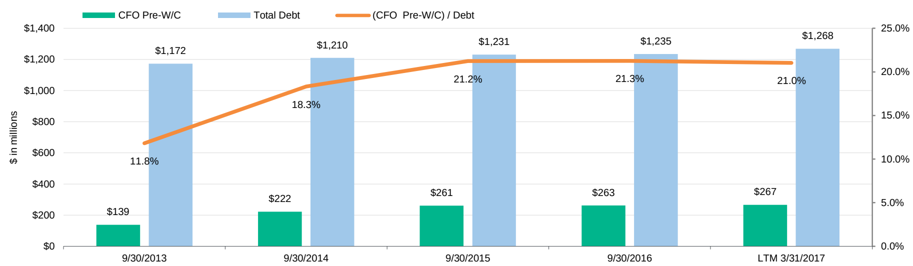
Regulated natural gas local distribution utility subsidiary of Spire Inc.

Summary Rating Rationale

Laclede Gas Company's (Laclede) A1 first mortgage bond rating reflects its low-risk business profile as a regulated natural gas local distribution company (LDC) and the credit supportive regulatory framework for gas utilities in Missouri, which has allowed Laclede to utilize several timely cost recovery rate adjustment mechanisms. The rating incorporates Laclede's solid financial profile as reflected by its stable financial metrics including a ratio of cash flow from operations pre-working capital (CFO pre-W/C) to debt of about 20%. The rating also considers the significant leverage (approaching 40% of consolidated debt) at its parent company, Spire Inc. that constrains the rating.

Exhibit 1

Historical CFO Pre-W/C, Total Debt, and CFO Pre-W/C to Debt



Source: Moody's Financial Metrics

Credit Strengths

» Low-risk business profile as a regulated natural gas distribution utility

» Credit supportive regulatory framework in Missouri and availability of several timely cost recovery mechanisms

» Financial metrics expected to remain stable and supportive of current rating

» Somewhat insulated credit profile from parent's modest non-regulated businesses

Credit Challenges

» Single state utility with modest economic growth opportunities

» Rating constrained by significant leverage at the parent

» Substantial capex program although somewhat mitigated by timely cost recovery associated with its pipeline infrastructure replacement rider

Rating Outlook

The stable outlook reflects our expectation that Laclede's financial profile will remain steady, such that its ratio of cash flow pre-W/C to debt remains about 20%, and that Laclede will not be overburdened by future dividend payments to its parent. The stable outlook also anticipates that the credit supportive regulatory framework in Missouri will continue and that its parent, Spire Inc., will not undertake significant debt financed acquisitions, investments or shareholder friendly activities that will be a detriment to the credit quality of the utility.

Factors that Could Lead to an Upgrade

Laclede's rating could be upgraded if our view of the Missouri regulatory environment becomes more credit supportive, financial metrics improve such that its ratio of CFO pre-W/C to debt is expected to approach the mid-20% range on a sustained basis, and Spire does not significantly increase its non-regulated businesses or parent level debt as a proportion of consolidated debt that would add contagion risk to its LDCs.

Factors that Could Lead to a Downgrade

Laclede's rating could be downgraded if the regulatory environment in Missouri becomes less credit supportive or if Laclede's financial metrics deteriorate to levels not appropriate for its current rating, including a ratio of CFO pre-W/C to debt in the mid-teens on a sustained basis. The rating could also be pressured if contagion risk exposure to its parent or affiliate businesses increases due to incremental leverage from additional unregulated business investments; or if Laclede undertakes aggressive debt-financed shareholder friendly activities such that the risk profile of the utility deteriorates.

Key Indicators

Exhibit 2

KEY INDICATORS [1]

Laclede Gas Company

	9/30/2013	9/30/2014	9/30/2015	9/30/2016	3/31/2017(L)
CFO pre-WC + Interest / Interest	5.4x	6.2x	7.2x	7.2x	7.1x
CFO pre-WC / Debt	11.8%	18.3%	21.2%	21.3%	21.0%
CFO pre-WC – Dividends / Debt	8.2%	13.6%	14.8%	14.4%	15.3%
Debt / Capitalization	46.4%	46.3%	44.7%	43.2%	41.9%

[1]All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
Source: Moody's Financial Metrics

Detailed Rating Considerations

LOW-RISK BUSINESS PROFILE AS A REGULATED NATURAL GAS DISTRIBUTION UTILITY

As regulated LDC's, Laclede and its wholly-owned operating division, Missouri Gas Energy (MGE), are viewed as having a business profile that is of lower risk compared to vertically integrated regulated electric utilities given that LDCs generally have moderate risk exposure to volume and/or price volatility of natural gas distributed to customers. In addition, LDC's do not encounter the many operating risks related to power generation and the higher capital expenditures that such generation usually entails.

Laclede and MGE's location in the Midwest presents some distinct operational opportunities that differentiate them from other LDCs. Numerous interstate pipelines cross their service territory transporting gas to and from the Gulf coast and the Mid-Continent supply regions. Consequently, Laclede holds transportation and storage capacity on a number of pipelines, which the company can temporarily lend (capacity release) or use to sell excess gas (off-system sales) when it does not need them. These capacity release and off-system sales have been a modest additions to Laclede's revenues, typically accounting for about 5% of FY2016 total revenues. Laclede is allowed to retain up to 25% of the first $6 million of income from such transactions and 30% of income exceeding $6 million, with the remainder shared with its ratepayers. MGE is allowed to retain 15% to 25% of the first $3.6 million of income from off-system sales and a similar 30% of income exceeding $3.6 million, with the remainder shared with its ratepayers.

Combined, Laclede and MGE serve over 1.1 million residential customers, which account for about 91% of their total customers and about 72% of total revenues. We view the company's combined high residential customer base as a credit positive given the usual stability of such revenues.

CREDIT SUPPORTIVE MISSOURI REGULATORY ENVIRONMENT AND AVAILABILITY OF TIMELY COST RECOVERY MECHANISMS SUPPORT CREDIT QUALITY

Gas utilities typically operate under a straight fixed/variable rate design in Missouri. However, Laclede incorporates a weather mitigation rate design that factors in the impact of changes in customer usage due to variations in weather and conservation. This rate design allows the utility to recover its fixed costs more evenly throughout the year. Under Laclede's rate design, the utility's customers' monthly bill includes a fixed charge and an accompanying variable component designed to recover remaining costs at relatively low usage levels. The year-round fixed charge comprises most of Laclede's non-commodity billings and provides for margin stability. However, due to the seasonality of the business, the majority of Laclede's earnings are generated during the winter heating season from November through April, which is when the variable component of a customer's bill is more heavily weighted. This rate design protects the company's margins from unanticipated declines in sales volume, while preventing rate shock for customers during the peak winter months. During the summer, this variable charge is reduced to discourage customers from turning off their service.

MGE utilizes a straight fixed/variable rate design, where a fixed fee is charged to customers, which is designed to recover all of a utility's fixed costs. Effective 1 October 2014, MGE lowered its fixed charge for residential and small commercial customers and instead incorporated a volumetric charge on customer monthly bills. The fixed monthly charge still allows the utility to recover about 80% of its distribution costs from customers. The monthly fixed charge provides an even revenue stream throughout the year, while the usage charge fluctuates based on seasonality, increasing during the traditional heating load months when usage of natural gas increases.

Laclede and MGE both utilize a purchased gas adjustment mechanism (PGA) that allows changes in natural gas commodity costs to be recovered from customers on a timely basis. The PGA allows Laclede and MGE to adjust the gas cost component of their rates up to four times each year, with a mandatory adjustment in November to coincide with the beginning of the winter heating season. While these interim adjustments are virtually unconditional as long as there is a two month period between rate increases, gas costs under the PGA are subject to annual prudence reviews by the MPSC. The PGA also allows Laclede and MGE to pass on to their customers the carrying costs incurred in procuring its gas supply needs as well as the derivative gains and losses associated with hedging its natural gas supply. Under a regulatory-approved hedging program, Laclede may hedge up to 70% of its gas supply for the upcoming 36 months.

To help mitigate the impact of capital investments between rate cases, Laclede and MGE are authorized to utilize a fixed monthly infrastructure system replacement surcharge (ISRS), through which the utilities recover depreciation, taxes and an overall return on investment component on certain incurred capital programs. We view this accelerated cost recovery mechanism as credit positive. Under the ISRS, Laclede and MGE may file two rate increases during a twelve month period to incorporate costs associated with the replacement and pipeline safety program. This allows for the recovery of costs and a return on investment until these capital projects are fully incorporated into rate base as part of the company's next general rate filing. Laclede has invested over $400 million from FY2012 - FY2016 under the ISRS program.

Laclede is expected to incur pipeline replacement investments of over $100 million in 2017. Prior to the acquisition by Spire, MGE's infrastructure replacement spend had been considerably less than Laclede Gas as MGE incurred total capital expenditures of $40 million from 2011 – 2013. However, during the 10-year period beginning in 2014 under the ISRS program, MGE is expected to spend $135 million. The MPSC currently requires LDCs utilizing the ISRS infrastructure replacement mechanism to file a rate case every three years.

Laclede's last general rate case was a settlement approved by the MPSC on 26 June 2013. The MPSC authorized a rate increase of $14.8 million, which represented the amount already being collected under the ISRS surcharge. As a result, there was no net increase to rate payers. The approved settlement authorized Laclede to utilize a 9.7% ROE and a 53% equity ratio on prospective ISRS-related rate adjustments. The original rate case filing asked for a $58.4 million revenue increase, including ISRS rider costs of $10 million, which was then increased to $14.8 million by the MPSC to reflect additional ISRS filings subsequent to December 2012. The original rate case was also based on a 10.5% authorized ROE and an equity ratio of 56.7%. The final settlement did not disclose the general rate case factors.

MGE's last general rate case was approved through a settlement on 23 April 2014 with new rates effective 1 May 2014. MGE initially requested a $23.4 million rate increase based on a 9.7% ROE and a 51.6% equity ratio. The $23.4 million requested increase reflected the $6.3 million already being recovered through the ISRS mechanism. MGE reached a settlement to increase base rates by $7.8 million which largely represented the amount that was already being collected through the ISRS rider, therefore did not result in a material rate increase for ratepayers. The MPSC's final order also allowed MGE to recover pension and OPEB costs through a tracking mechanism and MGE was authorized to use a 9.75% pre-tax weighted average cost of capital to calculate future ISRS-related rate adjustments.

On 11 April 2017, Laclede and MGE each filed general rate case applications with the MPSC for distribution rate increases of $58.1 million for Laclede Gas and a $50.4 million increase for MGE. Included in the rate increase requests was $29.5 and $13.4 million for Laclede Gas an MGE, respectively, already being collected under the ISRS surcharge. Both utilities are requesting an authorized ROE of 10.35% based on an equity ratio of 57.2%. A final decision is expected in early 2018 with new rates effective by the end of March 2018.

FINANCIAL METRICS EXPECTED TO REMAIN STABLE AND SUPPORT THE RATING

Laclede's financial metrics support its A1 first mortgage bond rating and we expect them to remain stable going forward. For the twelve months ended 31 March 2017, cash flow interest coverage was 7.1x and its ratio of CFO pre-W/C to debt was 21%. Over the next two years, we expect cash flow interest coverage to be above 6.5x and its ratio of CFO pre-W/C to debt to remain around 20%, which would be consistent with low-risk US regulated gas utilities in its rating category.

SOMEWHAT INSULATED FROM SPIRE'S MODEST BUT MORE VOLATILE NON-REGULATED BUSINESSES

Spire Marketing Inc. (formerly known as Laclede Energy Resources or LER) accounts for the majority of Spire's non-regulated activities through its involvement in the marketing of natural gas and gas services to more than 225 retail customers and 120 wholesale customers primarily in the Midwest region. To date, Spire Marketing has required a minimal amount of capital; however, Spire typically guarantees performance on a portion of Spire Marketing's gas supply contracts. Although the company's stated focus is on the physical delivery of gas which mitigates some risk, gas marketing margins have decreased over the last few years primarily due to the growing supply of shale gas in the US that is eroding regional price differentials, which is a key component of earnings potential for Spire Marketing.

The existence of Spire's modest non-regulated operations has not impacted Laclede's ratings primarily due to the separation between Laclede and Spire's other operations. Laclede has its own management and local headquarters and maintains its own books and records. In addition, after multiple acquisitions over the last few years, Spire's regulated gas utilities are the majority of consolidated results as Spire's non-regulated businesses account for less than 5%.

Liquidity Analysis

Laclede has sufficient liquidity driven by its stable cash flow generation and good access to external liquidity sources. As of 31 March 2017, Laclede had a cash balance of about $4 million, which is included in Spire's total cash balance of about $20 million.

Historically, Laclede's cash flow from operations had been able to largely cover its capex and dividends to the parent. Over the last couple of years, Laclede's capital expenditures have increased, primarily due to an acceleration in pipeline infrastructure replacements under the ISRS program. We estimate over 50% of capex investments are recoverable through the ISRS mechanism. Including MGE's capital expenditures, which account for about 40% of Laclede's annual capex.

We expect capital spending levels to remain elevated for the next few years as Laclede continues with substantial infrastructure replacement investments. Laclede's capital expenditures are expected to be about $280 million in FY2017 compared to about $200 million in FY2016. Going forward, we anticipate cash flow from operations should largely cover Laclede's capex levels. Any shortfalls in funding capital expenditures and dividends to its parent will likely be supplemented with short and long-term debt issuances. However, we would expect Laclede to maintain its targeted capital structure.

In December 2016, Spire launched a commercial paper program backstopped by a new $975 million senior unsecured revolving credit facility expiring December 2021. The facility includes sublimits for Spire of $300 million, Laclede Gas of $475 million and Alagasco of $200 million. At 31 March 2017, Laclede had approximately $282 million of commercial paper borrowings outstanding. The facility has same-day borrowing ability and no material adverse change representation for ongoing borrowings. It also has one financial maintenance covenant which limits consolidated debt to capitalization at 70%. As of 31 March 2017, Spire reported that all of the borrowing entities were in compliance with this covenant with Laclede's ratio at 49%.

LDCs need sizeable lines of credit to support seasonal swings in working capital requirements consistent with the LDC business model. The volatility in natural gas prices can be high, particularly for a company like Laclede, which operates in a cold-weather climate and has large amounts of gas in storage. However, the utility's program to hedge up to 70% of its normal volumes purchased for up to a three year period helps mitigate these seasonal price swings.

Laclede's next significant debt maturity is $100 million of notes due in August 2018.

Structural Considerations

The A1 rating on Laclede's first mortgage bonds represents the debt's senior position in the capital structure and Moody's standard notching practice which typically involves a two-notch differential between a utility's first mortgage bond rating and its senior unsecured rating. Spire's Baa2 senior unsecured rating is four notches lower than Laclede's A1 first mortgage bond rating and 3 notches lower than Alagasco's A2 senior unsecured rating, reflecting structural subordination of the parent obligations compared to the debt of its principal subsidiary as well as parent level debt approaching 40% of consolidated debt.

Corporate Profile

Laclede Gas Company is a regulated natural gas local distribution company currently serving over 1.1 million customers, primarily residential, in Missouri, including the cities of St. Louis and Kansas City. Laclede is Missouri's largest gas distributor and is owned by Spire Inc. (Baa2 stable), a utility holding company. Spire acquired Missouri Gas Energy (MGE: not rated) from Southern Union Company on September 1, 2013 and MGE is wholly owned by Laclede. Together, Laclede and MGE represent about 67% of Spire's consolidated results. Both Laclede and MGE's operations are regulated by the Missouri Public Service Commission (MPSC).

Following the acquisitions of Alabama Gas Corporation (Alagasco: A2, stable) in August 2014, and Mobile Gas Service Corp. in Alabama and Willmut Gas & Oil Co. in September 2016. Spire's regulated utilities now account for approximately 98% of consolidated results. Spire also has non-regulated businesses that account for the remainder, including a gas marketing business through its wholly-owned subsidiary, Spire Marketing (not rated), as well as propane distribution and other non-regulated operations.

Rating Methodology and Scorecard Factors

Exhibit 3

Rating Factors				
Laclede Gas Company				
Regulated Electric and Gas Utilities Industry Grid [1][2]	**Current LTM 3/31/2017**		**Moody's 12-18 Month Forward View As of Date Published [3]**	
Factor 1 : Regulatory Framework (25%)	**Measure**	**Score**	**Measure**	**Score**
a) Legislative and Judicial Underpinnings of the Regulatory Framework	A	A	A	A
b) Consistency and Predictability of Regulation	A	A	A	A
Factor 2 : Ability to Recover Costs and Earn Returns (25%)				
a) Timeliness of Recovery of Operating and Capital Costs	A	A	A	A
b) Sufficiency of Rates and Returns	A	A	A	A
Factor 3 : Diversification (10%)				
a) Market Position	Baa	Baa	Baa	Baa
b) Generation and Fuel Diversity	N/A	N/A	N/A	N/A
Factor 4 : Financial Strength (40%)				
a) CFO pre-WC + Interest / Interest (3 Year Avg)	7.3x	Aa	6.6x - 7x	Aa
b) CFO pre-WC / Debt (3 Year Avg)	22.6%	A	18% - 22%	A
c) CFO pre-WC – Dividends / Debt (3 Year Avg)	16.4%	A	15% - 19%	A
d) Debt / Capitalization (3 Year Avg)	42.3%	A	42% - 46%	A
Rating:				
Grid-Indicated Rating Before Notching Adjustment		A2		A2
HoldCo Structural Subordination Notching	0	0		
a) Indicated Rating from Grid		A2		A2
b) Actual Rating Assigned		A1		A1

[1]All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
[2]As of 3/31/2017(L)
[3]This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.
Source: Moody's Financial Metrics

Ratings

Exhibit 4

Category	Moody's Rating
LACLEDE GAS COMPANY	
Outlook	Stable
First Mortgage Bonds	A1
PARENT: SPIRE INC.	
Outlook	Stable
Senior Unsecured	Baa2
Commercial Paper	P-2

Source: Moody's Investors Service

REPORT NUMBER 1082990

MOODY'S
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CREDIT OPINION
21 July 2017

Update

Rate this Research

RATINGS

Spire Inc.

Domicile	St. Louis, Missouri, United States
Long Term Rating	Baa2
Type	Senior Unsecured - Dom Curr
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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Spire Inc.

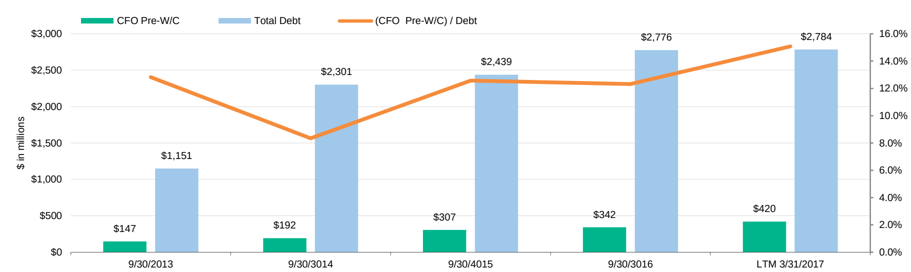
Holding company of regulated natural gas local distribution companies

Summary Rating Rationale

Spire Inc.'s (Spire) Baa2 senior unsecured rating reflects the strong credit profile of the holding company's low-risk natural gas local distribution subsidiaries, Laclede Gas Company (Laclede) and Alabama Gas Company (Alagasco), which operate in credit supportive regulatory jurisdictions of Missouri and Alabama, respectively. The rating incorporates the expectation that financial metrics will remain stable including a ratio of cash flow from operations pre-working capital (CFO pre-W/C) to debt in the mid-teens. The rating also reflects the notching differential between Spire's Baa2 rating and Laclede's A1 first mortgage bond rating and Alagasco's A2 senior unsecured rating driven primarily by Spire's significant holding company leverage, where parent level debt is approaching 40% of consolidated debt. The rating also considers Spire's modest but more volatile unregulated business, Spire Marketing, which includes its gas marketing segment, and our expectation that Spire Marketing will remain modest (less than 5%) as a percentage of consolidated results and will continue to be self-funding.

Exhibit 1

Historical CFO Pre-W/C, Total Debt, and CFO Pre-W/C to Debt



Source: Moody's Financial Metrics

Credit Strengths

» Low-risk business profile as a holding company of regulated natural gas local distribution companies (LDCs)

» Credit supportive regulatory jurisdictions in Missouri and Alabama that include several regulatory mechanisms that allow for timely recovery of prudent costs and investments

» Key financial metrics expected to remain stable and support current rating

Credit Challenges

» Acquisition growth strategy has increased leverage and credit risk

» High parent level debt approaching 40% of consolidated debt impacts rating notching within the corporate family and constrains ratings

» Elevated capital investment spending somewhat mitigated by timely cost recovery through pipeline infrastructure replacement riders

Rating Outlook

Spire's stable rating outlook reflects our expectation that Spire's overall operating performance going forward will remain at levels consistent with its current rating, such that its ratio of CFO pre-W/C to debt will be in the mid-teens range. The stable outlook also reflects our view that the credit supportive regulatory jurisdictions of Missouri and Alabama will continue to support the credit quality of its larger regulated utility subsidiaries (Laclede and Alagasco) and that Spire will not undertake significant debt financed acquisitions, investments or shareholder friendly activities that will be a detriment to the credit quality of its utilities.

Factors that Could Lead to an Upgrade

Spire's rating could be upgraded if holding company debt is reduced to less than 25% of consolidated debt; its financial performance improves such that its consolidated ratio of CFO pre-W/C to debt increases to the high teens on a sustained basis; the regulatory environments in which its subsidiaries operate remain credit supportive; and Spire's unregulated businesses remain modest. Spire's rating could also be upgraded if the ratings of its utilities were upgraded.

Factors that Could Lead to a Downgrade

Spire's ratings could be downgraded if additional M&A activity were to be undertaken that would materially increase parent level debt; or if its financial metrics deteriorate due to poor operating performance or aggressive shareholder friendly debt financed activities such that its ratio of CFO pre-W/C to debt was to decline to below 13% on a sustained bases. In addition, Spire's ratings could be downgraded if the regulatory environments in which Spire's subsidiaries operate become less credit supportive or if Spire were to grow its more volatile unregulated businesses. Further, Spire's ratings could be downgraded if the ratings of its utilities were to be downgraded.

Key Indicators

Exhibit 2

KEY INDICATORS [1]

Spire Inc.

	9/30/2013	9/30/2014	9/30/2015	9/30/2016	3/31/2017(L)
CFO pre-WC + Interest / Interest	5.3x	4.7x	4.7x	4.9x	5.5x
CFO pre-WC / Debt	12.8%	8.3%	12.6%	12.3%	15.1%
CFO pre-WC – Dividends / Debt	9.1%	5.6%	9.3%	9.2%	11.8%
Debt / Capitalization	44.7%	54.4%	53.9%	53.5%	51.6%

[1]All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
Source: Moody's Financial Metrics

Detailed Rating Considerations

ACQUISITION GROWTH STRATEGY HAS INCREASED LEVERAGE AND CREDIT RISK

Over the past four years, Spire has focused on a more growth-oriented strategy, which included investing more in rate base and unregulated emerging technologies, but primarily growth through acquisitions.

The company acted on this strategy with the $975 million acquisition of Missouri Gas Energy (MGE) on 1 September 2013. As a result of acquiring MGE, Laclede almost doubled its customer base. Although we considered the MGE acquisition price to be high (about 11x EBITDA), Laclede realized operating synergies from the acquisition given that MGE was an LDC operating within the same state.

On 31 August 2014, Spire continued its acquisition strategy by acquiring Alagasco, the largest LDC in Alabama, from Energen Corporation (B1 negative) for a total of $1.6 billion. The purchase price included $1.35 billion for the equity value of Alagasco plus the assumption of $250 million of debt. The acquisition of Alagasco increased Spire's regulated earnings to over 95% of consolidated earnings and diversified its geographical and regulatory exposure, both credit positives. However, the increase in leverage at the holding company level to fund the Alagasco acquisition signaled a much higher threshold to risk tolerance by the board of directors.

Spire used a combination of cash, new equity issuance and new debt at the holding company level to fund the Alagasco transaction. The increase in debt of about $625 million at the holding company, which in total accounts for why parent level debt is approaching 40% of total consolidated debt, and was the primary driver for the widening in notching between Spire's rating and the ratings of Laclede and Alagasco.

On 12 September 2016, Spire closed on its transaction to acquire EnergySouth, Inc., which was an intermediate holding company of Sempra Energy (Baa1 stable) and the parent of two small natural gas LDCs, Mobile Gas Service Corp. (not rated) in Alabama and Willmut Gas & Oil Co. (not rated) in Mississippi. The purchase price was $344 million before any working capital adjustments with the assumption of $67 million in debt. The deal added a total of 103,000 customers: Mobile Gas Service Corp. (84,500 customers) and Willmut Gas & Oil Co. (18,500 customers). Although the acquisition was financed with a balanced mix of debt and equity, the additional debt incurred by Spire did increase holding company debt as a percentage of total consolidated debt to above 40% at that time. However, we recognized that on 3 April 2017, approximately $144 million of Spire's mandatory convertible bonds converted to equity. This reduced Spire's holding company debt to slightly less than 40% and provided modest relief to Spire's financial metrics. While this acquisition did not impact Spire's ratings at the time, a sustained deterioration of Spire's financial metrics could trigger downward rating pressure.

LOW BUSINESS RISK PROFILE AS HOLDING COMPANY OF REGULATED GAS DISTRIBUTION UTILITIES

As regulated LDCs, Laclede, MGE and Alagasco are viewed as having a business profile that is of lower risk compared to vertically integrated regulated electric utilities given that LDCs generally have moderate risk exposure to volume and/or price volatility of natural gas distributed to customers. In addition, LDCs do not encounter the many operating risks related to power generation and the higher capital expenditures it usually entails. Laclede and MGE's location in the Midwest provides some distinct operational opportunities that differentiate them from other LDCs. In this region, numerous interstate pipelines cross their service territory transporting gas to and from the Gulf and the Mid-Continent supply regions. Consequently, Laclede holds transportation and storage capacity on a number of pipelines, which the company can temporarily lend (capacity release) or use to sell excess gas (off-system sales) when it does not need it. These capacity release and off-system sales have been modest additions to Laclede's revenues, typically accounting for about 5% of FY2016 total revenues. Laclede is allowed to retain up to 25% of the first $6 million of income from such transactions and 30% of income exceeding $6 million with the remainder shared with its ratepayers. MGE is allowed to retain 15% to 25% of the first $3.6 million of income from off-system sales and a similar 30% of income exceeding $3.6 million with the remainder shared with its ratepayers.

Combined, Laclede and MGE serve over 1.15 million residential, commercial and industrial customers. However, residential customers account for about 91% of their total customers and about 72% of total revenues. We view the company's combined high residential customer base as a credit positive given the typical stability of such revenues.

Alagasco is also a low risk LDC operating in a highly credit supportive regulatory jurisdiction. Alagasco provides natural gas service to approximately 420,500 primarily residential customers throughout Alabama including the cities of Birmingham and Montgomery, which approximates 40% of the state's total population and its distribution network covers over 23,000 pipeline miles. Spire's regulated earnings account for approximately 98% of consolidated earnings.

CREDIT SUPPORTIVE REGULATORY JURISDICTIONS IN MISSOURI AND ALABAMA INCLUDE TIMELY COST RECOVERY MECHANISMS SUPPORTING CREDIT QUALITY

Laclede incorporates a weather mitigation rate design that factors in the impact of changes in customer usage due to variations in weather and conservation. This design allows the utility to recover its fixed costs more evenly throughout the year. Under Laclede's rate design, the utility's customers' monthly bill includes a fixed charge and an accompanying variable component designed to recover remaining costs at relatively low usage levels. The year-round fixed charge comprises most of Laclede's non-commodity billings and provides for margin stability. However, due to the seasonality of the business, the majority of Laclede's earnings are generated during the winter heating season from November through April, which is when the variable component of a customer's bill is more heavily weighted. This rate design protects the company's margins from unanticipated declines in sales volume, while preventing rate shock for customers during the peak winter months. During the summer, this variable charge is reduced to discourage customers from turning off their service.

MGE utilizes a straight fixed/variable rate design, which is a more credit supportive rate construct because a fixed fee is charged to customers that is designed to recover a majority of a utility's fixed costs. Effective 1 October 2014, MGE lowered its fixed charge for residential and small commercial customers. Instead, MGE incorporated a volumetric charge on customer monthly bills. The fixed monthly charge still allows the utility to recover about 80% of its distribution costs from customers. The monthly fixed charge provides an even revenue stream throughout the year, while the usage charge fluctuates based on the seasonality of the business, increasing during the traditional heating load months when usage of natural gas increases.

Laclede and MGE both utilize a purchased gas adjustment mechanism (PGA) that allows changes in natural gas commodity costs to be recovered from customers on a timely basis. The PGA allows Laclede and MGE to adjust the gas cost component of their rates up to four times each year, with a mandatory adjustment in November to coincide with the beginning of the winter heating season. While these interim adjustments are virtually unconditional as long as there is a two month period between rate increases, gas costs under the PGA are subject to annual prudence reviews by the Missouri Public Service Commission (MPSC). The PGA also allows Laclede and MGE to pass on to their customers the carrying costs incurred in procuring its gas supply needs as well as the derivative gains and losses associated with hedging its natural gas supply. Under a regulatory-approved hedging program, Laclede may hedge up to 70% of its gas supply for the upcoming 36 months.

To help mitigate the impact of capital investments between rate cases, Laclede and MGE are authorized to utilize a fixed monthly infrastructure system replacement surcharge (ISRS), through which the utilities recover depreciation, taxes and an overall return on investment component on certain incurred capital programs. We view this accelerated cost recovery mechanism as credit positive. Under the ISRS, Laclede and MGE may file two rate increases during a twelve month period to incorporate costs associated with the replacement and pipeline safety program. This allows for the recovery of costs and a return on investment until these capital projects are fully incorporated into rate base as part of the company's next general rate filing. Laclede has invested over $400 million from FY2012 - FY2016 under the ISRS program.

Laclede is expected to incur pipeline replacement investments of over $100 million in 2017. Prior to the acquisition by Spire, MGE's infrastructure replacement spend had been considerably less than Laclede Gas as MGE incurred total capital expenditures of $40 million from 2011 – 2013. However, during the 10-year period beginning in 2014 under the ISRS program, MGE is expected to spend $135 million. The MPSC currently requires LDCs utilizing the ISRS infrastructure replacement mechanism to file a rate case every three years.

Laclede's last general rate case was a settlement approved by the MPSC on 26 June 2013. The MPSC authorized a rate increase of $14.8 million, which represented the amount already being collected under the ISRS surcharge. As a result, there was no net increase to rate payers. The approved settlement authorized Laclede to utilize a 9.7% ROE and a 53% equity ratio on prospective ISRS-related rate adjustments. The original rate case filing asked for a $58.4 million revenue increase, including ISRS rider costs of $10 million, which was then increased to $14.8 million by the MPSC to reflect additional ISRS filings subsequent to December 2012. The original rate case was also based on a 10.5% authorized ROE and an equity ratio of 56.7%. The final settlement did not disclose the general rate case factors.

MGE's last general rate case was approved through a settlement on 23 April 2014 with new rates effective 1 May 2014. MGE initially requested a $23.4 million rate increase based on a 9.7% ROE and a 51.6% equity ratio. The $23.4 million requested increase reflected the $6.3 million already being recovered through the ISRS mechanism. MGE reached a settlement to increase base rates by $7.8 million which largely represented the amount that was already being collected through the ISRS rider, therefore did not result in a material rate increase for ratepayers. The MPSC's final order also allowed MGE to recover pension and OPEB costs through a tracking mechanism and MGE was authorized to use a 9.75% pre-tax weighted average cost of capital to calculate future ISRS-related rate adjustments.

On 11 April 2017, Laclede and MGE each filed general rate case applications with the MPSC for distribution rate increases of $58.1 million for Laclede Gas and a $50.4 million increase for MGE. Included in the rate increase requests was $29.5 and $13.4 million for Laclede Gas an MGE, respectively, already being collected under the ISRS surcharge. Both utilities are requesting an authorized ROE of 10.35% based on an equity ratio of 57.2%. A final decision is expected in early 2018 with new rates effective by the end of March 2018.

Alagasco operates, in our view, in one of the more credit supportive regulatory jurisdictions in the US. In November 2013, the Alabama Public Service Commission (APSC) voted to modify Alagasco's Rate Stabilization and Equalization (RSE) rate design, which went into effect on 1 January 2014 through 30 September 2018. Alagasco's allowed ROE is in the range of 10.5% - 10.95% with an adjusting point set at 10.8%. Alagasco can also receive a performance-based adjustment of 5 basis points to the ROE adjusting point, based on meeting certain customer satisfaction levels.

Alagasco's total authorized ROE for 2017 is 10.85%, which we expect the utility to achieve or come close to achieving for the year. If Alagasco's ROE is outside of the range, rates are adjusted to achieve the adjusting point. The current ROE range is down from its previous authorized ROE range of 13.15% to 13.65% with an adjusting point of 13.4%. However, the 10.8% base ROE is still higher than most allowed ROEs granted to state regulated electric and gas utilities nationally. Annual rate increases are capped at 4% of the prior year's revenue. Alagasco is allowed to utilize a 56.5% equity ratio under the latest RSE framework.

The rate design includes several credit supportive recovery mechanisms that provide for automatic annual rate adjustments that allow for timely recovery of prudent costs and investments. Alagasco utilizes a Gas Supply Adjustment (GSA) rider, which allows for the recovery of changes in the cost of gas supply from its rate payers. Also included in the GSA is a temperature adjustment mechanism that moderates the impact of deviations from normal weather patterns. In addition, Alagasco can utilize a Competitive Fuel Clause (CFC) mechanism, which allows the LDC to immediately adjust prices to compete with any alternate fuel or gas supply source, and not lose earnings margin.

Alagasco strengthens Spire's regulatory and geographic diversity given that Alabama is viewed as a more credit supportive regulatory environment compared to Missouri. However, Alagasco's service territory is considered mature with limited customer growth opportunities.

FINANCIAL METRICS EXPECTED TO REMAIN STABLE AND SUPPORT THE RATING

Spire's financial metrics support its Baa2 rating. For the last twelve months ended 31 March 2017, Spire's cash flow interest coverage was 5.5x and ratio of CFO pre-W/C to debt was 15.1%. The LTM metrics due not incorporate a full year of cash flow associated with the recent acquisitions of Mobile Gas Service Corp. and Willmut Gas & Oil Co. in September 2016 as well as the equity conversion of $144 million mandatory convertible notes in April 2017. Over the next two years we expect Spire's financial metrics to remain stable including cash flow interest coverage to remain in the low 5x range and its ratio of CFO pre-W/C to debt to be in the mid-teens range which would be consistent with low risk US regulated gas utilities in the Baa2 rating category.

ELEVATED CAPITAL INVESTMENTS SOMEWHAT MITIGATED THROUGH RECOVERY FROM INFRASTRUCTURE RIDERS

Over the last couple of years, Spire's capital expenditures have increased substantially compared to historical levels. For the four fiscal years ending FY2014, Spire's average annual capital expenditures was about $120 million. However, over the last two fiscal years, Spire's capital expenditures averaged about $290 million. The increase is primarily due to an acceleration in pipeline infrastructure replacements under the ISRS program. We estimate over 50% of capex investments are recoverable through the ISRS mechanism. Including MGE's capital expenditures, which account for about 40% of Laclede's annual capex.

We expect capital spending levels to remain elevated for the next few years as Laclede and Alagasco continue with infrastructure replacement. For FY2017, Spire's capital expenditures are expected to be about $450 million, which is substantially higher than the $293 million in FY2016. Over the next 5 fiscal years (2017-2021), Spire plans to spend a total of about $2.3 billion on capital investments, which is $300 million higher than its previous forecast of $2.0 billion. The additional increase is attributed to planned capital expenditures associated with the acquisitions of Mobile Gas Service Corp. and Willmut Gas & Oil Co. A large portion of the capital investment will be associated with the LDCs' accelerated pipeline replacement programs, which are recovered with minimal regulatory lag due to the rider and tracking mechanisms the utilities utilize.

The capital expenditures forecast also includes other non-utility investments including the planned Spire STL Pipeline LLC. The 65 mile 400 MMcf/d planned natural gas pipeline is estimated to cost about $190-$210 million with costs peaking in 2019. Spire is expected to own 100% of the pipeline with Laclede as the foundation shipper. In an effort to add diversity to its gas supply mix, the FERC regulated pipeline will flow gas from the Marcellus/Utica region off of the Rockies Express pipeline. Spire filed for an amended FERC application on 26 April 2017 that adjusts the preferred route and expects to begin construction in early 2018 with an in-service date in 2019.

LDC SUBSIDIARIES ARE SOMEWHAT INSULATED FROM SPIRE'S MODEST BUT MORE VOLATILE NON-REGULATED BUSINESSES

Spire Marketing Inc. (formerly known as Laclede Energy Resources or LER) accounts for the majority of Spire's non-regulated activities through its involvement in the marketing of natural gas and gas services to more than 225 retail customers and 120 wholesale customers primarily in the Midwest region. To date, Spire Marketing has required a minimal amount of capital; however, Spire typically guarantees performance on a portion of Spire Marketing's gas supply contracts. Although the company's stated focus is on the physical delivery of gas which mitigates some risk, gas marketing margins have decreased over the last few years primarily due to the growing supply of shale gas in the US that is eroding regional price differentials, which is a key component of earnings potential for Spire Marketing.

The existence of Spire's modest non-regulated operations has not impacted Laclede Gas or Alagasco's ratings primarily due to the separation between the LDC subsidiaries and Spire's other operations. Laclede Gas and Alagasco have their own management teams and local headquarters and maintain their own books and records. In addition, after multiple acquisitions over the last few years, Spire's regulated gas utilities are the majority of consolidated results as Spire's non-regulated businesses account for less than 5%.

Liquidity Analysis

Spire has a sufficient liquidity profile reflecting upstream dividends from its regulated subsidiaries and adequate access to external liquidity resources. As of 31 March 2017, Spire had a cash balance of $20 million.

Given the aforementioned elevated capex levels over the next few years, we anticipate Spire's internally generated cash flow will be less than planned capital expenditures and shareholder dividends. As such, we expect Spire will use a balanced mix of debt and equity to supplement its cash flow generation to meet its capital investment requirements. That said, we expect Spire will do so in a manner that maintains its current financial profile.

In FY2016, Spire's dividend payout ratio was about 60% of net income, which is in-line with management's targeted range of 55% to 65%. Historically, Spire's dividend had been largely funded by its principal operating subsidiary, Laclede. Going forward, we expect Laclede to fund approximately half of its dividend with the remainder being funded from its other subsidiaries.

Spire had a relatively low 75% funded position on its pension plans as of 30 September 2016. The $254 million underfunding is considered a debt-like obligation in our standard adjustments, representing about 10% of total debt. Spire expects to contribute about $30 million to the Laclede Gas plan in FY2017.

In December 2016, Spire launched a commercial paper program backstopped by a new $975 million senior unsecured revolving credit facility expiring December 2021. The facility includes sublimits for Spire of $300 million, Laclede Gas of $475 million and Alagasco of $200 million. At 31 March 2017, Spire, on a consolidated basis, had approximately $567 million of commercial paper borrowings outstanding. The facility has same-day borrowing ability and no material adverse change representation for ongoing borrowings. It also has one financial maintenance covenant which limits consolidated debt to capitalization at 70%. As of 31 March 2017, Spire reported that all of the borrowing entities were in compliance with this covenant with the consolidated company's ratio at 57%.

Spire's next long-term debt maturity is $125 million of senior unsecured notes due August 2019. While Laclede's next scheduled debt maturity is $100 million of notes due in August 2018 and Alagasco's next debt maturity is $40 million of fixed-rate notes due in January 2020.

Structural Considerations

Spire's Baa2 senior unsecured rating is four notches lower than Laclede's A1 first mortgage bond rating and three notches lower than Alagasco's A2 senior unsecured rating reflecting structural subordination of the parent obligations compared to the debt of its principal operating subsidiaries as well as parent level debt approaching 40% of consolidated debt. The rating reflects the strong credit profile of its largest regulated utility subsidiaries, Laclede and Alagasco, and the expectation that its more volatile unregulated subsidiary, Spire Marketing, will remain modest and continue to be self-financing.

Corporate Profile

Spire Inc. is a utility holding company based in St. Louis, Missouri. Spire's principal operating subsidiary is the Laclede Gas Company ((P)A3 stable), a regulated natural gas local distribution company serving over 1.1 million customers, primarily residential, in the eastern and western part of Missouri, including the cities of St. Louis and Kansas City. Spire acquired Missouri Gas Energy (MGE: not rated) from Southern Union Company on September 1, 2013 and MGE is wholly owned by Laclede. Together, Laclede and MGE represent about 67% of LG's consolidated results. Both Laclede and MGE's operations are regulated by the Missouri Public Service Commission (MPSC).

Spire's second largest operating subsidiary is Alabama Gas Corporation (Alagasco: A2 stable), the largest regulated natural gas local distribution company in Alabama serving over 420,500 customers. Spire owns Mobile Gas Service Corp. (not rated) and Willmut Gas & Oil Co. (not rated), which are small LDCs in Alabama and Mississippi, respectively, that were acquired in September 2016. Spire's regulated utilities now account for approximately 98% of consolidated results. Spire also has non-regulated businesses that account for the remainder of Spire's operations, including a gas marketing business through its wholly-owned subsidiary, Spire Marketing (formerly Laclede Energy Resources: not rated), as well as a propane pipeline and other non-regulated operations.

Rating Methodology and Scorecard Factors

Exhibit 3

Rating Factors				
Spire Inc.				
Regulated Electric and Gas Utilities Industry Grid [1][2]	**Current LTM 3/31/2017**		**Moody's 12-18 Month Forward View As of Date Published [3]**	
Factor 1 : Regulatory Framework (25%)	**Measure**	**Score**	**Measure**	**Score**
a) Legislative and Judicial Underpinnings of the Regulatory Framework	A	A	A	A
b) Consistency and Predictability of Regulation	A	A	A	A
Factor 2 : Ability to Recover Costs and Earn Returns (25%)				
a) Timeliness of Recovery of Operating and Capital Costs	A	A	A	A
b) Sufficiency of Rates and Returns	A	A	A	A
Factor 3 : Diversification (10%)				
a) Market Position	A	A	A	A
b) Generation and Fuel Diversity	N/A	N/A	N/A	N/A
Factor 4 : Financial Strength (40%)				
a) CFO pre-WC + Interest / Interest (3 Year Avg)	5.2x	A	4.9x - 5.3x	A
b) CFO pre-WC / Debt (3 Year Avg)	14.3%	Baa	13% - 17%	Baa
c) CFO pre-WC – Dividends / Debt (3 Year Avg)	10.9%	Baa	9% - 13%	Baa
d) Debt / Capitalization (3 Year Avg)	51.5%	Baa	49% - 53%	Baa
Rating:				
Grid-Indicated Rating Before Notching Adjustment		A3		A3
HoldCo Structural Subordination Notching	-2	-2	-2	-2
a) Indicated Rating from Grid		Baa2		Baa2
b) Actual Rating Assigned		Baa2		Baa2

[1]All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
[2]As of 3/31/2017(L)
[3]This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.
Source: Moody's Financial Metrics

Ratings

Exhibit 4

Category	Moody's Rating
SPIRE INC.	
Outlook	Stable
Senior Unsecured	Baa2
Commercial Paper	P-2
LACLEDE GAS COMPANY	
Outlook	Stable
First Mortgage Bonds	A1
ALABAMA GAS CORPORATION	
Outlook	Stable
Senior Unsecured	A2

Source: Moody's Investors Service

REPORT NUMBER 1082983

MOODY'S
INVESTORS SERVICE

JUL 1 1 2001

FILED

BEFORE THE PUBLIC SERVICE COMMISSION OF THE
STATE OF MISSOURI

In the Matter of the Application of Laclede	)	
Gas Company for an Order Authorizing	)	
Its Plan to Restructure Itself Into a Holding	)	Case No. GM-2001-342
Company, Regulated Utility Company, and	),	
Unregulated Subsidiaries		

UNANIMOUS STIPULATION AND AGREEMENT

COME NOW Laclede Gas Company ("Laclede" or "Company"), the Staff of the Missouri Public Service Commission ("Staff"), the Office of the Public Counsel ("Public Counsel") the Paper, Allied-Industrial, Chemical, and Energy Workers Local Nos. 5-6 and 5-194, AFL-CIO (collectively known as "PACE"), and Barnes-Jewish Hospital, DaimlerChrysler Corporation, The Doe Run Company, Emerson Electric Company, Lone Star Industries, Inc., River Cement Company, SSM HealthCare, and Unity Health System (collectively known as the "Missouri Energy Group"), and represent to the Missouri Public Service Commission ("Commission") that they have reached a Unanimous Stipulation and Agreement (hereinafter "Stipulation") or otherwise resolved all of their differences in the above-captioned case. For their Stipulation, each of the parties identified above, with the exception of the Missouri Energy Group (hereinafter "the Parties") state as follows:[1]

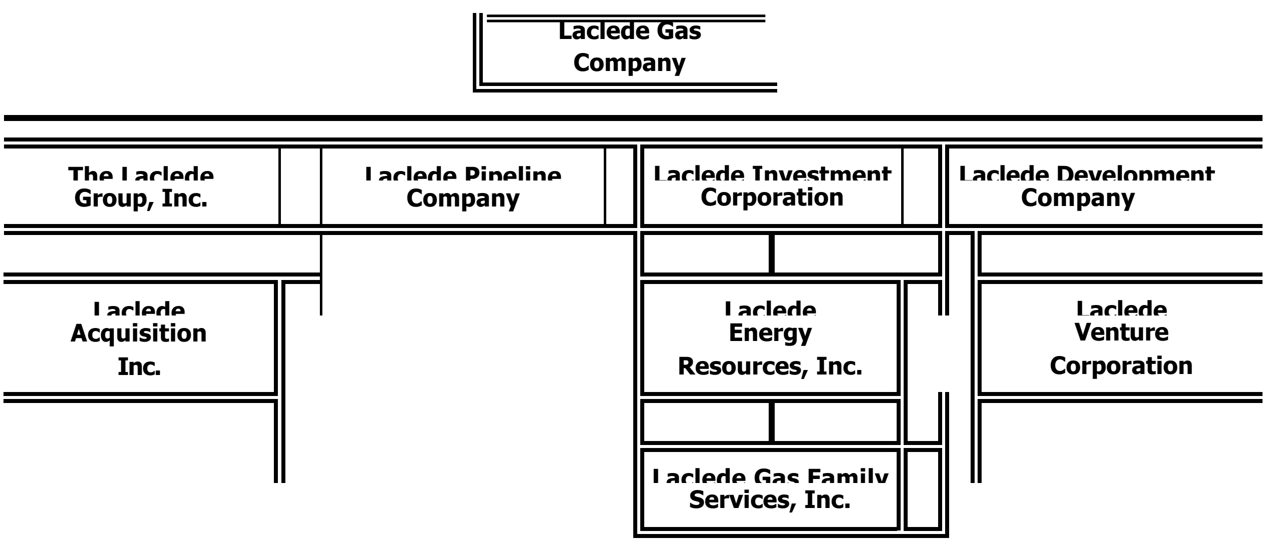
[1] The Missouri Energy Group are signing this Stipulation solely for purposes of indicating to the Commission that they neither support nor oppose the Stipulation and that such Stipulation may therefore be treated as Unanimous pursuant to the Commission's Rules of Practice and Procedure.

SECTION I
BACKGROUND

1. On December 1, 2000, Laclede filed a Verified Application with the Commission in which it requested that the Commission issue an Order authorizing the Company to restructure itself into a holding company, regulated utility company and unregulated subsidiaries (hereinafter "the Proposed Restructuring").

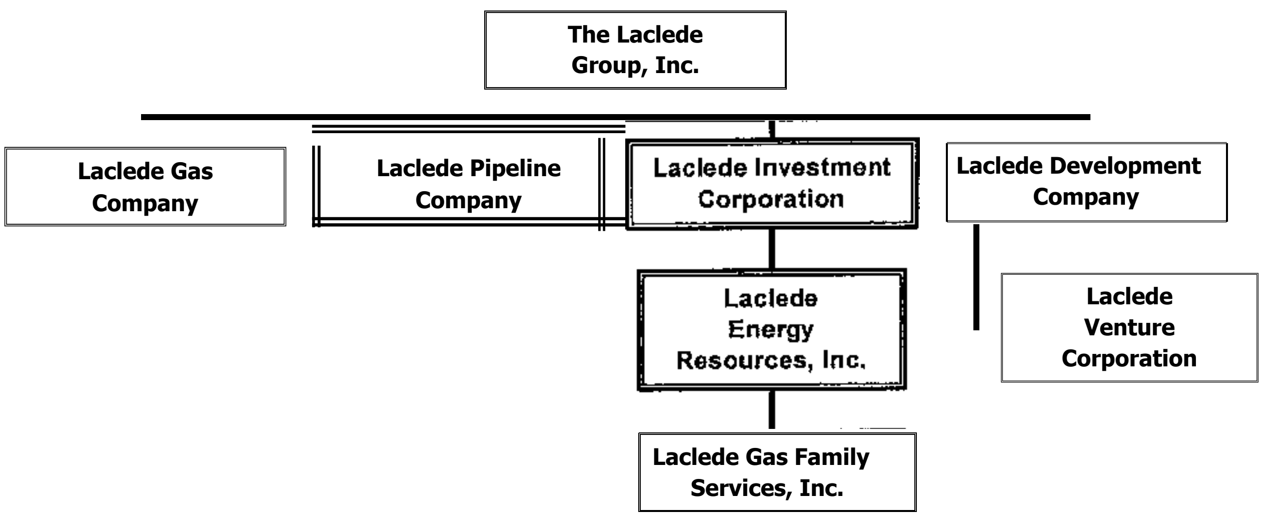
2. As described in that Verified Application, under its present corporate structure, Laclede Gas Company is the parent corporation of a number of unregulated subsidiaries, including Laclede Development Company, which has its own subsidiary Laclede Venture Corp.; Laclede Investment Corporation, which has two subsidiaries, Laclede Energy Resources, Inc. and Laclede Gas Family Services, Inc.; and Laclede Pipeline Company. Laclede has also created two other subsidiaries, The Laclede Group, Inc., and its subsidiary, Laclede Acquisition Inc., to facilitate the Proposed Restructuring. The organization chart presented below shows Laclede's present corporate structure:

Present Corporate Structure



3. Upon completion of the Proposed Restructuring, The Laclede Group, Inc. would become the parent holding company. Laclede Gas Company and the remaining unregulated subsidiaries would, in turn, become separate and independent subsidiaries of The Laclede Group, Inc. This Proposed Restructuring would be accomplished pursuant to a procedure commonly known as a "Reverse Triangular Merger." Under that procedure, Laclede Acquisition Inc. would be merged into Laclede Gas Company. Upon completion of the merger, Laclede Acquisition Inc. would no longer exist. The Laclede Group, Inc. would then hold all of the common stock of Laclede Gas Company as well as the other subsidiaries. The Organizational Chart presented below depicts this structure that would be in place following the Proposed Restructuring.

Proposed Corporate Structure



4. As discussed in the Verified Application, the Proposed Restructuring does not involve the transfer of any utility assets currently owned by Laclede Gas Company or any change in the terms and conditions of the regulated utility services provided by Laclede.

5. On December 29, 2000, and February 27, 2001, applications to intervene in this proceeding were filed by PACE and the Missouri Energy Group, respectively. Both applications to intervene were subsequently granted by the Commission.

6. On January 5, 2001, the Commission issued notice of Laclede's Application and established a deadline for parties wishing to intervene in this proceeding. By subsequent Order dated February 13, 2001, the Commission scheduled a prehearing conference for the purpose of permitting the parties to engage in settlement discussions and, if necessary, to develop a procedural schedule for addressing any remaining, unresolved issues. The prehearing conference was subsequently held on March 13, 2001.

7. As a result of their discussion both during and following the prehearing conference in this case, the Parties have agreed to a resolution of all of the issues in this case, and hereby stipulate and agree as follows:

SECTION II
APPROVAL OF PROPOSED RESTRUTURING

1. The Parties (except PACE) recommend that the Commission grant the relief requested by the Company in its Verified Application. Specifically, the Parties (except PACE) recommend that the Commission issue an Order, as soon as practicable , authorizing the Company to restructure itself into a holding company, regulated utility company and unregulated subsidiaries, as more fully described in the Company's Verified Application, and to perform and complete any transactions required to effectuate the Proposed Restructuring.

2. The Parties further recommend that such approval be conditioned on the agreements, understandings and requirements set forth in Sections III, IV, V, VI and VII of this Stipulation and Agreement. Provided such approval is so conditioned, PACE does

not object to the Commission granting the relief requested by the Company in its Verified Application.

SECTION III
FINANCIAL CONDITIONS

1. The Laclede Group, Inc. represents that it does not intend to take any action that has a material possibility of having a detrimental effect on Laclede Gas Company's utility customers, but agrees that, should such detrimental effects neverthless occur, nothing in the approval or implementation of the Proposed Restructuring shall impair the Commission's ability to protect such customers from such detrimental effects.

2. Laclede Group, Inc. will not pledge Laclede Gas Company's common stock as collateral or security for the debt of the Holding Company or a Subsidiary without Commission approval.

3. Laclede Gas Company will not guarantee the notes, debentures, debt obligations or other securities of the Holding Company or any of its subsidiaries, or enter into any "make-well" agreements without prior Commission approval.

4. The Laclede Group, Inc. agrees to maintain consolidated equity of no less than 30 percent of its total permanent consolidated capitalization and Laclede Gas Company agrees to maintain its equity at no less than 35% of its total capitalization, unless they are unable to do so due to events or circumstances beyond their control, including, but not limited to, acts of God, war, insurrection, strikes, civil unrest, material changes in market conditions that could not have been reasonably anticipated, or changes in the application, character or impact of laws, taxing requirements, regulations, or regulatory practices and standards governing the Company's regulated operations. Total capitalization is defined as common equity, preferred stock, long-term debt, and short-

term debt, excluding short-term debt supporting natural gas and propane inventories, purchased gas costs and cash working capital. Common equity is defined as par value of common stock, plus additional paid in capital, plus retained earnings, minus treasury stock. The Laclede Group, Inc. and Laclede Gas Company agree to notify the Staff and Public Counsel in the event they become aware of any material possibility that either or both companies will be unable to maintain their respective equity ratios. In the event either Company's equity ratio should fall below these specified levels, Laclede Gas Company shall file a plan with the Commission within 90 days of such occurrence proposing alternatives for raising the ratios to or above the levels specified herein.

5. Laclede Gas Company shall submit quarterly to the Staffs Financial Analysis Department and Public Counsel certain key financial ratios that will be calculated, to the extent practical, consistent with the methodology employed by Standard and Poor's Credit Rating Service. These key financial ratios shall include:

(a) Pre-tax interest coverage;

(b) After-tax coverage of interest and preferred dividends;

(c) Funds flow interest coverage;

(d) Funds from operations to total debt;

(e) Total debt to total capital (including preferred); and

Total common equity to total capital.

6. Laclede Gas Company's total long-term instruments payable at periods of more than twelve months shall not exceed Laclede Gas Company's regulated rate base.

7. Laclede Gas Company agrees to maintain its debt and, if outstanding, its preferred stock rating at an investment grade credit rating, unless it is unable to do so due

to events or circumstances beyond its control, including, but not limited to, acts of God, war, insurrection, strikes, civil unrest, material changes in market conditions that could not have been reasonably anticipated, or changes in the application, character or impact of laws, taxing requirements, regulations, or regulatory practices and standards governing the Company's regulated operations. Laclede Gas Company agrees to notify the Staff and Public Counsel in the event it becomes aware of any material possibility that it will not be able to maintain such a credit rating with any established agency that typically rates Laclede's debt. In the event Laclede Gas Company's credit rating should fall below investment grade, Laclede shall file a plan with the Commission within 90 days of such occurrence proposing alternatives for raising its credit rating above investment grade.

8. The Laclede Group, Inc and Laclede Gas Company agree that the Commission has, and will continue to have, the authority after the Proposed Restructuring to regulate, through the lawful exercise of its current statutory powers, any direct or indirect transfer or disbursement of earnings from Laclede Gas Company to an affiliate that would jeopardize the Company's ability to meet its utility obligations. The Laclede Group, Inc, and Laclede Gas Company also agree that the Commission has the authority, through the lawful exercise of its ratemaking powers, to ensure that the rates charged by Laclede Gas Company for regulated utility service are not increased as a result of the unregulated activities of Laclede's affiliates and Laclede agrees, consistent with such standard, that rates should not be increased due to such activities.

SECTION IV
ACCESS TO INFORMATION CONDITIONS

1. The Laclede Group, Inc. and Laclede Gas Company shall provide the Staff and Public Counsel with access, upon reasonable written notice during normal working

hours and subject to appropriate confidentiality and discovery procedures, to all written information provided to common stock, bond, or bond rating analysts, which directly or indirectly pertains to Laclede Gas Company or any affiliate that exercises influence or control over Laclede Gas Company or has affiliate transactions with Laclede Gas Company. Such information includes, but is not limited to, reports provided to, and presentations made to, common stock analysts and bond rating analysts. For purposes of this condition, "written" information includes but is not limited to, any written and printed material, audio and videotapes, computer disks, and electronically stored information. Nothing in this condition shall be deemed to be a waiver of The Laclede Group, Inc.'s or Laclede Gas Company's right to seek protection of the information or to object, for purposes of submitting such information as evidence in any evidentiary proceeding, to the relevancy or use of such information by any party.

2. Upon request, Laclede Gas Company and The Laclede Group, Inc. agree to make available to Staff, Public Counsel and PACE, upon written notice during normal working hours and subject to appropriate confidentiality and discovery procedures, all books, records and employees of The Laclede Group, Inc., Laclede Gas Company and its affiliates as may be reasonably required to verify compliance with the CAM and the conditions set forth in this Stipulation and Agreement and, in the case of PACE, to ensure that it continues to have the same degree and kind of access to information relevant to the investigation and processing of grievances and the enforcement of collective bargaining agreements, whether from affiliates or otherwise, as it currently has under Laclede's existing corporate structure. In addition to following standard discovery procedures, Staffs and Public Counsel's access to bargaining unit employees shall also be conditioned

on Staff and Public Counsel providing reasonable notice to the employee's Union of their intent to seek such access and the right of such employee to be represented by the Union. Laclede Gas Company and The Laclede Group, Inc. shall also provide Staff and Public Counsel any other such information (including access to employees) relevant to the Commission's ratemaking, financing, safety, quality of service and other regulatory authority over Laclede Gas Company; provided that Laclede Gas Company and any affiliate or subsidiary of The Laclede Group, Inc. shall have the right to object to such production of records or personnel on any basis under applicable law and Commission rules, excluding any objection that such records and personnel of affiliates or subsidiaries: (a) are not within the possession or control of Laclede Gas Company; or (b).are either not relevant or are not subject to the Commission's jurisdiction and statutory authority by virtue of or as a result of the implementation of the Proposed Restructuring.

3. Laclede Gas Company, each affiliate and The Laclede Group, Inc. will maintain records supporting its affiliated transactions for at least five years.

SECTION V
COMMISSION AUTHORIZATION CONDITIONS

1. The Laclede Group, Inc. agrees that it will not, directly or indirectly, acquire or merge with or allow itself to be acquired by or merged with, a public utility or the affiliate of a public utility, where the affiliate has a controlling interest in a public utility, or seek to become a registered holding company, or take any action which has a material possibility of making it a registered holding company or of subjecting all or a portion of its Missouri intrastate gas distribution operations to FERC jurisdiction, without first requesting and, if considered by the Commission, obtaining prior approval from the Commission and a finding that the transaction is not detrimental to the public, provided

that for purposes of acquisitions by the Holding Company only, public utility shall mean a natural gas or electric public utility.

2. Laclede Gas Company shall not sell, lease, assign or transfer to any affiliate or third party any of its utility assets that are used and useful in the performance of Laclede's public utility obligations without obtaining Commission approval.

SECTION VI
COST ALLOCATION MANUAL CONDITIONS

1. Upon implementation of the Proposed Restructuring, transactions involving transfers of goods or services between Laclede Gas Company and one or more of the Company's affiliated entities shall be conducted and accounted for in compliance with the provisions of a Cost Allocation Manual ("CAM") which shall be submitted to Staf Public Counsel and PACE on or before April 15,, 2003, and on an annual basis thereafter. The CAM shall be in the form contained in the direct testimony of Patricia A. Krieger, provided that the CAM, and the information that the Company is required to maintain and submit thereunder, shall be revised and supplemented within 120 days of the approval of this Stipulation and Agreement to include any and all of the following information as required to administer, audit and verify the Transfer Pricing and Costing Methodologies set forth in Section VIII of the CAM or such other Transfer Pricing and Costing Methodologies as may become applicable to the Company in the future:

(a) For all Laclede Gas Company functions that will provide support to nonregulated affiliates and the holding company:

(1) A list and description of each function;

(2) The positions and numbers of employees providing each function; and

(3) The procedures used to measure and assign costs to nonregulated affiliates and the holding company for each function.

(b) A list and description of each service and good that will be provided to Laclede Gas Company from each affiliate and the holding company.

(c) A list and description of each service and good that will be provided by Laclede Gas Company to each affiliate and the holding company.

(d) The dollar amount of each service and good charged to each affiliate and the holding company by Laclede Gas Company, and the total cost related to each service and good listed.

(e) The dollar amount of each service and good purchased from each affiliate and the holding company by Laclede Gas Company, and the total cost related to each service and good listed.

(f) A detailed discussion of the basis for determining the charges from Laclede Gas Company and each affiliate and the holding company, including:

(1) If costs are allocated, a detailed description of the allocation process employed for each service and good;

(2) Detailed descriptions of how direct, indirect and common activities are assigned for each service and good;

(3) A detailed description of how market values are determined for each service and good; and

(4) A detailed discussion of the criteria used to determine whether volume discounts and other pricing considerations are provided to Laclede Gas Company, affiliates, and the holding company.

(g) For each line of business that will be engaged in by Laclede Gas Company with non-affiliated third party customers following formation of a holding company and that would not reasonably be considered as a component of its regulated utility business, Laclede shall provide:

(1) A list and description of each nonregulated activity;

(2) The total amount of revenues and expenses for each nonregulated activity for the last calendar year; and

(3) A listing of all Laclede Gas Company cost centers and/or functions that directly assign cost, indirectly assign cost and/or allocate cost to each nonregulated activity engaged in by Laclede Gas Company with non-affiliates.

2. Laclede agrees to make compliance with the procedures and requirements set forth in the CAM and the other terms of this Stipulation and Agreement a standard element of its Code of Conduct and to provide employee training and oversight in a manner that is reasonably designed to achieve such compliance. Laclede will conduct regularly scheduled audits to confirm compliance with its CAM and will annually review and update the CAM where necessary and submit such updates with its next CAM filing. Laclede will identify a function or position with responsibility for enforcing and updating the CAM.

3. As part of its CAM submittal, Laclede Gas Company will provide a list of all jurisdictions in which Laclede Gas Company, the holding company, affiliates, and service company, if formed, file affiliate transaction information.

4. As part of its CAM submittal, Laclede Gas Company will also provide Organizational Charts for The Laclede Group, Inc. (corporate structure), Laclede Gas Company and any other affiliate doing business with Laclede Gas Company and a copy of the annual holding company filing the Laclede Group, Inc. is required to file with the Securities and Exchange Commission.

SECTION VII
MISCELLANEOUS CONDITIONS

1. Laclede Gas Company will not seek to recover any costs related to the Proposed Restructuring from ratepayers. These costs will be identified, described and accounted for in a manner that would enable the Staff and Public Counsel to seek disallowance from rates, if necessary, in a future proceeding.

2. Laclede Gas Company will provide the Staff and Public Counsel with an explanation for any final reorganization journal entry that deviates by more than ten percent (10%) from the estimated proforma entries provided in Exhibit 4 of the Application. Copies of the actual journal entries will be provided to the General Counsel's Office no later than thirty days following the preparation of the final merger closing entries.

3. The Laclede Group and its affiliates (including Laclede) will provide the following documents to Staff and Public Counsel on an annual basis:

(a) All new, revised and updated business plans for The Laclede Group and its affiliates (including Laclede);

(b) Descriptions of any and all joint marketing/promotional campaigns between Laclede and The Laclede Group and any of its affiliates;

(c) Narrative description of all products and services offered by The Laclede Group and its affiliates (including Laclede), provided that Laclede shall not be required to provide narrative descriptions of its tariffed products and services;

(d) All information provided under this subsection shall be considered "highly confidential" or "proprietary" as those terms are used in 4 CSR 240-2.085, and shall be treated as highly confidential or proprietary information by the Staff and Public Counsel;

(e) The Laclede Group, Inc. and its affiliates (including Laclede) shall also notify Staff, Public Counsel and PACE in the event and at such time as they commence a line of business that neither Laclede nor its affiliates were actively engaged in at the time of the Proposed Restructuring. Such notification can take the form of public announcements, press releases or other means of notification provided to the parties.

4. Laclede Gas agrees to notify the Staff, Public Counsel, and PACE in the event and at such time as any decision is made to transfer any department or function relating to the Company's provision of regulated utility services from the regulated gas corporation to a non-regulated affiliated entity or other third party; provided that nothing herein shall be construed as limiting or modifying in any manner any notice or other requirement Laclede may have relating to the transfer of bargaining unit employees or the work performed by such employees pursuant to the existing collective bargaining unit

agreements between Laclede and Pace or applicable federal labor law. At the time of its annual CAM filing, Laclede will also provide Public Counsel, Staff and PACE information detailing the name, job description, and transfer dates of any employees that were permanently or temporarily transferred between Laclede and any affiliate during the preceding fiscal year.

5. Nothing in this Stipulation and Agreement shall be deemed to change in any way any of the rights and obligations of Laclede Gas Company or PACE under the collective bargaining agreements between them or under any non-PSC law, and by entering into this Stipulation and Agreement, neither Laclede Gas Company or PACE waives any such rights.

6. Nothing in this Stipulation and Agreement or the implementation of the Proposed Restructuring shall affect in any way the scope of any existing ratemaking authority the Commission has over Laclede Gas Company relating to activities undertaken by Laclede Energy Resources or Laclede Pipeline Company prior to implementation of the Proposed Restructuring or over ratemaking issues that may arise as the result of the formation of a service company.

SECTION VIII
STANDARD PROVISIONS

1. This Stipulation represents a negotiated settlement for the purpose of disposing of all of the identified issues in this case. None of the Parties to the Stipulation shall have been deemed to have approved or acquiesced in any ratemaking, procedural or legal principle, any method of cost determination or cost allocation, or any service or payment standard, and none of the Parties shall be prejudiced or bound in any manner by

the terms of this Stipulation in any other proceeding, except as otherwise expressly specified herein.

2. In the event the Commission approves this Stipulation and Agreement, all of the prefiled testimony submitted by the Parties in this proceeding may be received into evidence, and the Parties waive their respective rights to cross-examination, to submit oral argument or briefs, and their rights to judicial review of such determination.

3. The Staff shall file suggestions or a memorandum in support of this Stipulation and Agreement and the other parties shall have the right to file responsive suggestions. All memoranda submitted by the Parties shall be considered privileged in the same manner as are settlement discussions under the Commission's rules; shall be maintained on a confidential basis by all Parties; and shall not become a part of the record of this proceeding or bind or prejudice the Party submitting such memorandum in any future proceeding or in this proceeding, whether or not the Commission approves this Stipulation. The contents of any memorandum provided by any Party are its own and are not acquiesced in or otherwise adopted by the other signatories to this Stipulation, whether or not the Commission approves and adopts this Stipulation.

4. The Staff shall have the right to provide, at any agenda meeting at which this Stipulation is noticed to be considered by the Commission, whatever oral explanation the Commission requests; provided that the Staff shall, to the extent reasonably practicable, promptly provide other Parties with advance notice of when the Staff shall respond to the Commission's request for such explanation once such explanation is requested from the Staff. Staff's oral explanation shall be subject to public disclosure,

except to the extent it refers to matters that are privileged or protected from disclosure pursuant to any protective order in this case.

5. The agreements contained in this Stipulation have resulted from extensive negotiations among the Parties and are interdependent. In the event the Commission does not approve or adopt the provisions of this Stipulation in total, then this Stipulation shall be void and no signatory shall be bound by any agreements or provisions hereof.

6. To assist the Commission in its review and consideration of this Stipulation, the Parties also request that the Commission advise them of any additional information that the Commission may desire from the Parties relating to the matters addressed in this Stipulation, including any procedures for furnishing such information to the Commission.

WHEREFORE, the signatories hereto respectfully request that the Commission approve this Unanimous Stipulation and Agreement as expeditiously as possible.

Respectfully submitted,

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CERTIFICATE OF SERVICE

Michael C. Pendergast, Assistant Vice-President, Associate General Counsel for Laclede Gas Company, hereby certifies that the foregoing Unanimous Stipulation and Agreement has been duly served upon all parties of record to this proceeding by placing a copy thereof in the United States mail, postage prepaid, or by hand delivery, on this 9th day of July 2001:

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es M. Fischer

BEFORE THE PUBLIC SERVICE COMMISSION
STATE OF MISSOURI

In the Matter of the Application of Southern Union Company d/b/a Missouri Gas Energy, The Laclede Group, Inc. and Laclede Gas Company for an Order Authorizing Sale, Transfer, and Assignment of Certain Assets and Liabilities from Southern Union Company to Laclede Gas Company and, in Connection Therewith, Certain other Related Transactions	)	**Case No. GM-2013-0254**

STIPULATION AND AGREEMENT

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Joint Application of Southern Union Company d/b/a Missouri Gas Energy The Laclede Group, Inc., and Laclede Gas Company for an Order Authorizing the Sale, Transfer, and Assignment of Certain Assets and Liabilities from Southern Union Company to Laclede Gas Company and, in Connection Therewith, Certain other Related Transactions	)	**Case No. GM-2013-0254**

<u>STIPULATION AND AGREEMENT</u>

COME NOW Southern Union Company d/b/a Missouri Gas Energy ("SUG"), The Laclede Group, Inc. ("LG"), Laclede Gas Company ("Laclede Gas" or the "Company")[1], the Staff of the Missouri Public Service Commission ("Staff"), Office of the Public Counsel ("OPC"), City of Kansas City, IBEW Local Union No. 53, Midwest Gas Users Association and Missouri Department of Natural Resources (collectively "Signatories") and respectfully request that the Missouri Public Service Commission ("Commission") approve the following Stipulation and Agreement (hereinafter referred to as the "Stipulation" or "Agreement" or "Stipulation and Agreement"). Counsel for the Kansas City Power & Light Company, KCP&L Greater Missouri Operations Company, a non-signatory party to this case, has had an opportunity to review this Stipulation and Agreement and has indicated he will not object to it or request a hearing on the issues resolved. Counsel for United Steelworkers District 11, AFL-CIO does not join in this Agreement at this time and is still considering its position. In support of this Stipulation and Agreement, the Signatories state the following:

[1] Upon the closing of this Transaction any reference in this Stipulation and Agreement to "Laclede Gas" or "Laclede Gas Company" or "Company" in connection with events occurring after that date are intended to include the MGE Division unless otherwise specified herein.

BACKGROUND

On January 14, 2013, Southern Union Company, d/b/a Missouri Gas Energy, The Laclede Group, Inc., and Laclede Gas Company ("Joint Applicants") filed a Joint Application asking the Commission to approve a transaction (the "Transaction") in which Laclede Gas would acquire the entire franchise, works, and systems of Southern Union's Missouri Gas Energy operating division ("MGE" or "MGE Division" or "MGE operating division") all in accordance with a certain Purchase and Sale Agreement ("PSA"). In addition, by the Joint Application, Laclede Gas seeks authority from the Commission to obtain the funds necessary to finance the Transaction. Also, filed with the Commission in support of the Joint Application were the direct testimonies and schedules of Mark D. Waltermire, Suzanne Sitherwood, Steven L. Lindsey and Robert J. Hack.

By Order issued January 15, 2013, the Commission directed that notice of the filing of the Joint Application be given to potentially interested persons and entities and established February 13, 2013 as a deadline for the filing of Applications to Intervene.

Interventions were filed and granted by the Commission on behalf of United Steelworkers District 11 AFL-CIO; City of Kansas City, Missouri; IBEW Local Union No. 53; Kansas City Power & Light Company and KCP&L Greater Missouri; Midwest Gas Users' Association and the Missouri Department of Natural Resources.

On February 4, 2013, Laclede Gas filed its Motion for Leave to Enter into Certain Interest Rate Swap Agreements which request was approved by Commission Order issued on February 13, 2013.

In response to a Motion for an Order Establishing an Early Technical Conference filed on February 14, 2013 by the Joint Applicants, the Commission that same day by order scheduled a

Technical Conference for March 18, 2013, and directed the parties to file a proposed Procedural Schedule on or before March 22, 2013.

On March 13, 2013, the Joint Applicants filed their First Amended Joint Application by Interlineation and the Supplemental Direct Testimony of Suzanne Sitherwood.

Certain of the Signatories appeared at the Technical Conference on March 18, 2013, and thereafter on March 21, 2013 the Joint Applicants and Staff filed with the Commission a motion requesting an extension of the deadline for filing a proposed procedural schedule. By order issued March 22, 2013, the Commission extended the time to file a procedural schedule to April 15, 2013.

On April 16, 2013, certain Signatories (LG, Laclede Gas, MGE, and Staff) filed a Motion for One Day Extension of Time and Status Report seeking an additional two weeks to undertake discovery and to engage in discussions prior to establishing a formal procedural schedule.

On April 22, 2013, the Commission issued its Order Further Extending Time to File Proposed Procedural Schedule which set a filing date no later than April 29, 2013.

On April 27, 2013, a Joint Motion for Extension of Time was filed seeking additional time to discuss procedural mechanisms that would allow Laclede Gas, Staff and other parties to facilitate settlement of Laclede's rate case (GR-2013-0171), and also allow the acquisition case parties to reach an agreement on a procedural schedule.

On May 13, 2013, Staff, LG, Laclede Gas, and MGE filed a Joint Motion for Further Extension of Time seeking a 10 day extension to file procedural schedule for good cause shown.

On May 22, 2013, having resolved all issues affecting the setting of a procedural schedule, the parties filed a Joint Motion to Establish Procedural Schedule which the Commission adopted in its Order Adopting Procedural Schedule on May 29, 2013.

Having engaged in discovery or having had the opportunity to engage in discovery, the Signatories met to discuss resolution of this matter on a number of occasions. As a result, the Signatories have now reached a Unanimous Stipulation and Agreement set forth below which they recommend to the Commission, subject to the conditions and representations contained in the Agreement, that the acquisition of the MGE assets by the Laclede Gas Company will be reasonable and not detrimental to the public interest. This Agreement disposes of all issues in this case.

APPROVAL OF THE TRANSACTION

In view of the foregoing, the Signatories agree that:

I. GENERAL

The Commission should issue its Order:

(a) authorizing SUG and Laclede Gas to perform in accordance with the terms of the PSA;

(b) authorizing the sale, transfer and assignment of certain assets and liabilities of Southern Union as more fully described in the PSA, from SUG to Laclede Gas, with a requested effective date of July 31, 2013, and a closing date effective as of the first of September 2013, subject to the provisions of the PSA and Southern Union's unilateral right to waive the condition of simultaneous closing of the transaction with Laclede Gas and the sale of its New England Gas Company assets to Plaza Massachusetts Corp.;

(c) transferring from SUG to Laclede Gas SUG's certificates of convenience and necessity or granting a certificate or certificates of convenience and necessity authorizing Laclede Gas to provide natural gas service as a gas corporation and public utility, subject to the jurisdiction of the Commission, in the service areas presently served by SUG through MGE and, in connection therewith, waiving the requirements of 4 CSR 240-3.205;

(d) authorizing Laclede Gas to provide natural gas service in the areas served by SUG through its MGE operating division in accordance with the rules, regulations, rates and tariffs of MGE as may be on file with and approved by the Commission on the effective date of the closing of the transaction, including the tariff sheets reflecting the existing base rates, ISRS rates and purchase gas adjustment of MGE and authorizing Laclede Gas to adopt said tariff sheets, and to operate under the same as they may be changed from time to time as provided by law;

(e) authorizing Laclede Gas to adopt SUG's authorized depreciation rates for the involved assets;

(f) authorizing Laclede Gas to raise up to and including $1.02 billion, at any time beginning July 31, 2013 and ending one year after closing of the Transaction, by issuing common or preferred stock, receiving paid-in-capital, and issuing long-term indebtedness, including debt evidenced by First Mortgage Bonds, by using the Laclede Gas assets and the MGE assets acquired from Southern Union as security as may be necessary in connection with the financing of the transaction contemplated by the PSA and this Joint Application or as may be necessary in accordance with the terms and conditions of any of Laclede Gas' financing instruments and to execute, enter into, deliver and perform in accordance with all necessary agreements, notes and other documents as are necessary to issue the debt;

(g) finding in accordance with Section 393.200 RSMo, that the money, property or labor to be procured or paid for by Laclede Gas through the issuance and sale of debt and equity is reasonably required and necessary for the purposes set forth above and will be used therefore and that such purposes are not in whole or in part reasonably chargeable to operating expenses or to income;

(h) authorizing SUG to transfer to Laclede Gas and Laclede Gas to acquire and record on its books and records the current levels of certain assets and liabilities of SUG related to the MGE assets;

(i) authorizing Laclede Gas to account for MGE's pension benefit costs on a basis consistent with MGE's currently approved methodology as established in MGE Case No. GR-2009-0355 stipulation and agreement to use FAS 87 calculations for regulatory purposes that do not reflect the impact of purchase accounting and that the prepaid pension asset receives similar treatment as the prepaid pension asset under MGE's approved methodology;

(j) authorizing Laclede Gas to account for the MGE gas employees and retirees postretirement welfare benefit cost on a basis consistent with the methodology used by SUG immediately prior to the sale and finding that the FAS 106 calculations do not reflect the impact of purchase accounting;

(k) authorizing SUG, effective upon the closing of the transaction, to terminate its responsibilities as a gas corporation in Missouri subject to the jurisdiction of the Commission;

(l) authorizing SUG and Laclede Gas to enter into, execute and perform in accordance with the terms of all other documents which may be reasonably necessary and incidental to the performance of the Transaction which is the subject of the PSA and this Joint Application;

(m) granting such other relief as may be deemed necessary to accomplish the purposes of the PSA and the Joint Application, as amended, and to consummate the sale, transfer and assignment of the assets and related transactions pursuant to the PSA.

(n) directing Laclede Gas to submit to the Commission within sixty (60) days of closing the transaction a listing and description of all items that Laclede Gas exercised under the authority in paragraph (m) above.

II CONDITIONS

Laclede Gas has represented to the Signatories that it intends to own and operate two divisions in Missouri, the MGE Division (defined on page 1) and the Laclede Division, which will serve the territories currently served by Laclede Gas. The Signatories recommend that the Commission approve the proposed Transaction involving the sale of the assets of SUG to Laclede Gas, subject to the following conditions:

1. RATE MORATORIUM

Except as provided herein, Laclede Gas Company shall not file a general rate case for its Laclede Gas service territory for non-gas costs for either division of the combined entity prior to October 1, 2015, unless there is the occurrence of a significant, unusual event that has a major impact on any of its Missouri service territories. For purposes of this agreement, major impact is defined as loss of $5,000,000 of net income of the combined entity from (i) terrorist activity or an act of God; (ii) a significant change in federal or state tax laws; or (iii) a significant change in federal or state utility or environmental laws or regulations, or (iv) a significant change in financial markets. The Laclede and MGE Divisions will be permitted to file ISRS requests which conform to Missouri statutes, throughout the term of the general rate case moratorium, but neither Laclede Gas nor its MGE Division shall seek throughout the expected term of the Moratorium to use any statutory provision providing for the tracking and recovery or return of increases or decreases in uncollectible expense, including the provisions of Senate Bill 240 as truly agreed to and passed in the 2013 session of the Missouri General Assembly.

Laclede Gas will be permitted to file a general rate case for its MGE Division service territory by no later than September 18, 2013. If Laclede Gas does not file a general rate case for its MGE division service territory by September 18, 2013 then Laclede Gas Company shall not file a general rate case for its MGE division service territory prior to October 1, 2015.

For the first general rate case filing made by Laclede Gas subsequent to October 1, 2015, Laclede Gas shall include both its Laclede and MGE Division service territories. For any future rate case filings by Laclede Gas after the first joint rate case filing, nothing in this Stipulation and Agreement precludes any party from asserting or challenging the lawfulness and reasonableness of Laclede Gas receiving an increase to general rates for one of its regulated divisions without having a rate case involving its entire regulated operations by including both Laclede Gas Divisions.

2. RATE BASE OFFSET

Laclede Gas shall include a rate base offset for its MGE Division in the amount of $125 million. Laclede Gas' MGE Division shall amortize this rate base offset over a period of ten years commencing on the effective date of close. For clarification, the outstanding balance of such rate base offset shall serve to reduce rate base for rate making purposes in the context of all future rate proceedings during the amortization period, which will effectively prevent customers from paying a return on such rate base offset. This shall result in lower rates and charges in future periods. .

3. PREMIUM AND ACQUISITION COSTS

a. Premium. The acquisition premium is the total purchase price above net book value. The amount of any acquisition premium paid for MGE in connection with the Transaction shall not be recovered in retail distribution rates. Nothing herein shall preclude any party to this Agreement from taking a position in any future ratemaking proceedings involving the Laclede or MGE Divisions in Missouri regarding the ratemaking measures and adjustments necessary to ensure no impact from the acquisition premium on rates. Neither Laclede Gas nor its MGE division shall seek either direct or indirect rate recovery or recognition of any acquisition premium in any future general ratemaking proceeding in Missouri. In addition, neither Laclede

Gas nor its MGE division shall seek to recover in Missouri the amount of any acquisition premium in the Transaction as being a "stranded cost" regardless of the terms of any legislation permitting the recovery of stranded cost from Missouri ratepayers.

b. Transaction Costs. Transaction costs are those costs incurred to effectuate and close the Transaction. Laclede Gas including its MGE division shall not ever seek to directly or indirectly include or recover in any future proceeding any transaction costs, which as defined herein include, but are not limited to, outside service costs relating to gaining regulatory approval, development of transaction documents, investment banking costs, and costs related to raising equity incurred prior to closing of the Transaction. Neither Laclede Gas nor its MGE division shall seek either direct or indirect rate recovery or recognition of any transaction costs through any purported acquisition savings adjustment (or similar adjustment) in any future general ratemaking proceeding in Missouri. See Attachment 1.

c. Transition Costs. Transition Costs are those costs incurred to integrate and merge the two entities into one organization, and includes integration planning and execution, and “costs to achieve.” Transition costs include capital and non-capital costs. Non-capital transition costs can be ongoing costs or one-time costs. See Attachment 1.

(1) Capital Transition Costs. All one-time capital-related transition costs shall be amortized over a period consistent with their current Commission authorized depreciation rate.

(2) On-going Non-Capital Transition Costs. Such transition costs shall be expensed on Laclede Gas' books as incurred. However, in no event shall any amount of markup for transition services that are provided by SUG above actual cost be included in the determination of future rates for Laclede Gas.

(3) One-Time Non-Capital Transition Costs. The Signatories agree that one half of one-time non-capital transition costs incurred no later than the first five years after closing, as described in Attachment 1, shall be amortized over a period of five years beginning upon the effective date of the rates resulting from the next rate case filed by the Laclede and MGE Divisions on or after October 1, 2015. Laclede Gas shall provide in any rate case a listing of all the annual cost reductions by FERC divisional accounts related to the synergies that the Company alleges justified the deferred transition costs. Laclede Gas shall not include in customer rates any amount of transition costs that exceed the level of cost reductions actually experienced by the Company. Laclede Gas will develop and maintain documentation supporting the cost reductions and transition costs information required to justify recovery of eligible transition costs consistent with the provisions of this agreement. Any party shall be free to challenge Laclede Gas' representation of eligible transition costs and offsetting savings. Laclede Gas shall record and separately identify all one-time transition costs by month, by FERC account and provide a report of all such costs to the Staff and OPC each year on January 15th until such time as the Company files its next general rate case. Such report shall identify with specificity the costs reductions resulting from the incurrence of the one-time transition costs.

4. TREATMENT OF REGULATORY ASSETS

Until otherwise ordered by the Commission, the pre-acquisition regulatory assets of Laclede Gas and MGE relating to Pensions, OPEB's, low-income energy affordability and weatherization programs, energy-efficiency programs, deferred Kansas ad valorem tax payments and any other regulatory deferrals approved by the Commission prior to the date of filing this Stipulation and Agreement shall be accounted for separately and, for ratemaking purposes, shall be eligible for inclusion in the cost of service for the company that originally booked the asset in accordance with the Commission approved terms and conditions that created or continued the asset.

5. AFFILIATE TRANSACTIONS AND COST ALLOCATION MANUAL (CAM)

The Laclede and MGE Divisions shall comply with the Commission's Affiliated Transaction and Marketing Affiliate Transaction Rules, 4 CSR 240-40.015 and -40.016, and any variances or waivers granted by the Commission thereto. This agreement relating to affiliate transactions rule annual reporting requirements shall not waive any part of the record keeping requirements of Laclede Gas or its parent, or any of its affiliates as required by the Affiliate Transaction and Marketing Affiliate Transactions Rules. Laclede Gas shall provide Staff and OPC full access to records of affiliated entities in accordance with the Affiliate Transaction and Marketing Affiliate Transaction Rules and any variances or waivers granted by the Commission thereto. Laclede Gas shall file a Stipulation and Agreement in Case No. GC-2011-0098 within fourteen days of filing the Stipulation and Agreement in this case.

6. ADHERENCE TO PREVIOUS COMMISSION ORDERS AND STIPULATIONS AND AGREEMENTS

The Laclede and MGE Divisions shall comply with all requirements still effective after closing resulting from all Commission-approved stipulation and agreements and Commission orders in all cases applicable to Laclede Gas Company and MGE and MGE predecessor companies so long as such agreements and orders have not been superseded by a subsequent Commission order, unless specifically addressed in this Stipulation and Agreement.

7. TARIFFS

Laclede Gas shall file with the Commission an adoption notice to be effective upon the closing of the Transaction adopting the rates, tariffs, rules and regulations for gas service then in effect for SUG's Missouri jurisdictional gas operations which are the subject of this proceeding, and will continue all services currently provided by SUG through its MGE operating division in Missouri without interruption, subject to any changes to the rates, tariffs, rules regulations and services hereafter made in accordance with applicable law.

8. <u>DEPRECIATION RELATED-ISSUES</u>

a. Laclede Gas shall maintain all records necessary to meet requirements of the Uniform System of Accounts, gas utility depreciation studies and rate case filings including all requirements presented in Commission Rules 4 CSR 240-40. Data maintained and provided for gas utility depreciation studies shall include cost of removal and salvage associated with plant retirements. This data shall be provided to Staff and OPC upon request or as ordered by the Commission.

b. SUG shall transfer all plant and depreciation reserve records to Laclede Gas in compliance with the format set forth in Title 18: Conservation of Power and Water Resources, Part 201 – Uniform System of Accounts Prescribed For Natural Gas Companies Subject To The Provisions Of The Natural Gas Act (FERC USOA). Laclede Gas shall also maintain plant by account that allows for the specific identification of the assets acquired from SUG to the extent such plant account data is available from SUG.

c. Laclede Gas shall adopt the currently ordered depreciation rates for the involved assets acquired from SUG approved by the Commission in Case No. GR-2009-0355 and attached as Attachment 2.

d. Laclede Gas shall conduct an audit of plant in service as recorded in its Continuing Property Record (CPR) according to the requirements of 4 CSR 240-40.040 Uniform System of Accounts Gas Corporations for both the Laclede and MGE Divisions in conjunction with or prior to the next depreciation study for either or both divisions submitted pursuant to Commission rules after October 1, 2015. Any omissions or discrepancies noted in these listings shall be promptly reported to the Manager of the Engineering and Management Services Unit of the Missouri Public Service Commission.

9. <u>CREDIT IMPACTS AND REMEDIAL MEASURES</u>

In the unanticipated event that Standard & Poor's ("S&P") Moody's, or Fitch downgrade Laclede Gas' credit rating to or below BBB- (or each rating agency's equivalent) where the business or financial risk introduced by this Transaction was a significant contributing factor to the downgrade, Laclede Gas commits to file:

a. Notice with the Commission with copies to the Signatories within five (5) business days;

b. A pleading with the Commission within 60 days which shall include the following:

(1) A plan identifying all reasonable steps, taking into account the costs, benefits and expected outcomes of such actions, that will be taken to maintain or restore Laclede Gas' credit rating to a notch or more above BBB- . If Laclede Gas' plan does not involve taking steps to maintain or restore its credit rating to a notch or more above BBB-, then Laclede Gas shall concisely state why the cost of such steps is not reasonable or necessary;

(2) Additionally, Laclede Gas shall specifically address the impact, or lack thereof, it believes the BBB- or below grade credit rating has had and will have on its capital costs;

(3) Documentation, including but not limited to, a cost of capital study showing how Laclede Gas will not pass along higher capital costs to its Missouri customers, directly or indirectly, due to the downgrade.

(4) File with the Commission, every 45 days thereafter until Laclede Gas has regained its a credit rating above BBB-, a status report with respect to the implementation of

steps to restore its credit rating above BBB-, and a study that estimates the increased cost of capital, if any, Laclede Gas has incurred due to a non-investment grade credit rating.

(5) If the Commission determines that Laclede Gas' BBB- or below credit rating has caused its service to decline, Laclede Gas shall be required to file a report that demonstrates to the Commission that it can adequately safeguard capital produced and secured by its public utility assets. If Laclede Gas cannot sufficiently demonstrate this ability, then Laclede Gas shall execute reasonable steps to restore its credit rating to above BBB- status.

10. PROTECTION FROM ADVERSE CAPITAL COST IMPACTS

a. Laclede Gas shall not recommend an increase to the cost of capital for its Laclede or MGE Divisions as a result of this Transaction. Any net increases in the cost of capital Laclede Gas seeks shall be supported by documented proof: (a) that the increases are a result of factors not associated with the Transaction; (b) that the increases are not a result of changes in business, market, economic or other conditions caused by the Transaction; and (c) that the increases are not a result of changes in the risk profile of Laclede Gas caused by the Transaction. Notwithstanding any other paragraph of this Stipulation and Agreement, Laclede Gas shall ensure that the retail distribution rates[2] for its customers shall not increase as a result of the Transaction. The provisions of this section are intended to recognize the Commission's authority to consider, in appropriate proceedings, whether this Transaction has resulted in capital cost increases for Laclede Gas – due to a credit ratings downgrade or any other factor resulting from the Transaction – and to disallow such capital cost increases from recovery in Laclede Gas' retail distribution rates.

[2]Retail distribution rates "shall include fixed monthly charges, volumetric delivery charges, Purchased Gas Adjustment and Actual Costs Adjustment rates."

b. Laclede Gas shall use good faith efforts to fulfill the foregoing commitment as well as all of its other commitments in this Stipulation and Agreement and that failure to comply may expose it to penalties as provided by law.

c. Laclede Gas shall provide documentation that it has access to adequate working capital short-term lines of credit for the addition of MGE operations.

d. In the event that there is a downgrade to Laclede's current rating, Laclede shall notify the Staff and OPC.

11. OTHER FINANCIAL CONDITIONS

a. If Laclede Gas' credit rating and/or quality declines primarily because of the acquisition, then to the extent there are known and measurable increases in financing costs, such as higher commercial paper or credit facility costs, on a net basis considering all other capital cost effects of the Transaction, then these higher costs shall not be included in Laclede Gas rates for either Division, whether through gas adjustment clauses, infrastructure replacement surcharges or permanent rates.

b. Prior to its current financing authorization expiring, Laclede Gas shall submit a financing application requesting authority in accordance with the requirement of Section 393.200 RSMo. Laclede Gas shall file a 60-day notice of intention to file a financing application. Laclede Gas shall maintain records for purposes of identifying and quantifying unreimbursed expenditures for the combined Laclede and MGE Divisions with zero as the starting balance for its MGE division.

c. Laclede Gas shall not provide LG or any affiliates access to Laclede Gas' credit facilities. LG's credit facility shall not be increased to the detriment of Laclede Gas' credit facility.

d. In the event LG's non-regulated operations should result in Laclede Gas' credit ratings being downgraded to at or below BBB- (or each rating agency's equivalent), Laclede Gas shall pursue additional legal and structural separation from LG to ensure Laclede Gas continues to have access to capital at a reasonable cost. Laclede Gas shall not increase its dividend to LG until there is sufficient evidence that Laclede Gas' credit rating has been restored to one notch above BBB-, or its equivalent.

e. In the event LG or another affiliate of Laclede Gas voluntary or involuntarily enters into a bankruptcy proceeding, Laclede Gas shall take all reasonably necessary steps to ensure that Laclede Gas is not consolidated with such affiliated debtor in bankruptcy.

f. If Laclede Gas' credit ratings become impaired (i.e. if Laclede Gas credit ratings are downgraded to BBB- or below) due to risks associated with any of Laclede Gas' affiliates, then Laclede Gas shall file with the Commission a comprehensive risk management plan that assures Laclede Gas' access to and cost of capital will not be further impaired, which shall include a non-consolidation opinion if required by two of the three rating agencies.

g. Laclede Gas shall not enter into any "make well" agreements, or guarantee the notes, debentures, debt obligations or other securities of its parent or affiliates, without first seeking and receiving Commission authorization.

h. Laclede Gas shall not adopt, indemnify, guarantee, or assume responsibility for payment of the current or future liabilities of any affiliate without first seeking and receiving Commission authorization.

i. Laclede Gas shall not allow any affiliate's debt to be recourse to Laclede Gas without first seeking and receiving Commission authorization.

j. Laclede Gas shall not allow Laclede Gas' equity to be pledged as collateral or security for any affiliate or non-affiliate debt or liabilities, without first seeking and receiving Commission authorization.

k. Laclede Gas represents that the authorized pre-tax rate of return in Case No. GR-2009-0355 will be equal to or higher than the pre-tax rate of return that Laclede Gas will sponsor in the next rate case filed prior to October 1, 2015, involving the MGE division.

l. Laclede Gas represents that LG and Wells Fargo have performed the necessary due diligence to ensure that LG's proposed purchase price for the MGE assets is not excessive. In addition to relying on such due diligence analysis, Laclede represents that it is relying on traditional acquisition/merger conditions and not relying on any special ratemaking considerations to justify the value it has assigned to the MGE assets. To the extent the goodwill assigned to the MGE assets is impaired and negatively effects Laclede Gas' cost of capital primarily as a result of this transaction, all net costs associated with the decline in Laclede's credit quality, considering all other capital cost effects of the Transaction and the impairment, shall be excluded from the determination of rates.

m. For the first five years after closing of the Transaction, Laclede shall provide Staff and OPC its annual goodwill impairment analysis in a format consistent with the provisions of paragraph 32a within 30 days after it is performed. Thereafter, this analysis will be made available for Staff and OPC upon request.

12. <u>SERVICE QUALITY CONDITIONS</u>

a. <u>Customer Service Performance Reporting</u>

Laclede Gas Company and its MGE Division shall continue to provide all service quality reporting that exists at the moment prior to the closing of this transaction. Both Laclede Gas and its MGE division will strive to meet or exceed the customer service and operational performance levels currently provided to its customers. Laclede Gas shall provide the Staff and OPC monthly reports (within 30 days of month-end) on its performance with respect to such metrics and standards for Laclede Gas and its MGE Division. Such reports shall contain monthly information including but not limited to: calls offered, abandoned call rate and average speed of answer performance, customer service organization charts, customer service staffing, number of estimated bills (including consecutive estimates), number of inside and outside installed automated meter reading devices (AMR), a list of customer pay station locations, and the actual Missouri jurisdictional bad debt write-off by customer class, including the dollar amount written-off, number of accounts written-off and revenue by customer class. Laclede shall continue to file MGE's Annual Customer Service Report in this docket. Representatives of the Laclede Gas and MGE Divisions shall meet with the Staff and OPC on a quarterly basis to discuss: (a) actual performance relative to pre-acquisition service metrics identified herein; (b) any material improvement to or decline from historical performance levels, together with an explanation for such decline; (c) the measures being taken or to be taken to address any material decline in such service levels and the timeline for completing such measures; and (d) any substantive changes in customer service procedures, metrics or standards relating to call center operations and staffing, customer billing, meter reading, customer remittance, credit and collections, and connections, disconnection and reconnection. The Staff and/or OPC may request additional periodic meetings with Laclede Gas to discuss customer service operating procedures and the level of service being provided to the customer.

b. <u>Virtual Hold Reporting and Interactive Voice Response (IVR)</u>

Laclede Gas Company shall continue to provide to Staff and OPC for its Laclede and MGE Division operations the Call Back In Queue (CBIQ) and the Monthly Virtual Hold Executive Summary Reports that shall include information on Eligible Calls, Return Calls

Selected and Continue Hold Options. In the event that Laclede Gas utilizes an alternative call back technology in the future, comparable reporting metrics shall continue to be required.

All changes to the Laclede or MGE Division IVR shall be discussed in advance, prior to implementation, with the Staff. In particular, for all changes that would potentially lengthen or prolong the customer time in the IVR, Laclede Gas shall provide all analysis to the Staff as part of the discussion.

c. Customer Service Operating Procedures

The present practices of Laclede Gas and MGE in the following areas shall be continued, or improved upon to ensure that customers do not experience a decline in service levels:

(1) Laclede Gas and its MGE division shall follow credit and collection practices consistent with Commission rules.

(2) Laclede Gas and its MGE Division shall restore service consistent with Commission rules.

(3) Laclede Gas and its MGE division shall use bill test procedures to ensure bill accuracy.

(4) Laclede Gas and its MGE division shall take appropriate steps to maintain the operation of its automated meter reading system.

(5) Laclede Gas shall, for its Laclede and MGE Divisions, identify: (a) personnel responsible for handling Commission complaints and ensure they have proper authority, (b) after hours contact personnel, and (c) management employee(s) accountable for ensuring Laclede Gas employees are trained in and maintain a working knowledge of Missouri customer service rules and regulations.

(6) Laclede Gas and its MGE Division shall continue their participation in LIHEAP.

(7) Laclede Gas and its MGE Division shall take appropriate steps to maintain timely operation of its "stopped meter reporting" and shall submit monthly "stopped meters reports" to the Staff and OPC.

(8) Laclede Gas and its MGE Division shall submit monthly "inactive meters showing consumption" reports to the Staff and OPC.

(9) Laclede Gas shall provide monthly reports to the Staff and OPC indicating the number of insourced and the outsourced personnel by functional area as defined on page 13 of the Booz & Company, November 15, 2012 Synergies Study Results – Board of Directors Review presentation.

(10) Within 30 days after closing of the Transaction, Laclede Gas shall provide its organizational charts as of the date of closing, by each operating division and department, and all subsequent revised organizational charts as they become available. Laclede Gas shall provide on a quarterly basis updated employee rosters by each operating division and department. In addition, Laclede Gas shall provide on a monthly basis its Promotions and Transfers Reports, and its Hires and Separations Reports. If the reports do not include MGE personnel, Laclede Gas will provide similar information for MGE personnel.

(11) Laclede Gas shall provide a quarterly synergies report to the Staff and the OPC which specifically quantifies each of the synergies that result from the merger and as described in Laclede Gas filings in GM-2013-0254 unless Laclede Gas develops such report on a more frequent basis. Laclede Gas shall maintain all supporting documentation used to develop these quarterly reports for the review of Staff and OPC upon request.

(12) Laclede Gas shall provide the Staff and OPC within 10 business days all merger related presentations made to its Board of Directors.

(13) Laclede Gas shall notify the Staff and OPC regarding progress on the implementation of major systems affecting customer service levels, including but not limited to customer billing, customer call center operations, credit and collections, connection, disconnection and reconnection, payment remittance, service order process and meter reading.

(14) Laclede's obligation to provide the information set forth in paragraphs 9-12 shall continue until Laclede's next rate case after the moratorium in which elimination of or modification of such obligations may be proposed.

13. <u>CONTINUING SERVICES AGREEMENT (CSA)</u>

a. SUG shall make all of the services outlined in the draft CSA and its schedules (attached as Attachment 3 to this Stipulation) available to Laclede Gas as required under the terms of that agreement. SUG and Laclede Gas represent that the CSA agreement and its schedules comprise all services necessary from SUG to continue and maintain the operations at pre-transactions levels. Nothing herein shall preclude any party from challenging the necessity, propriety or cost of a particular continuing service in any general rate case proceeding in which the cost of such service is sought to be recovered.

b. SUG and Laclede Gas shall provide the Signatories the final CSA upon closing of the Transaction.

c. SUG and Laclede Gas represent that the goal of transition services is 1) to provide for a seamless transition of all operating functions from SUG to Laclede Gas and 2) to ensure that all operating functions are performing at pre-transaction levels prior to the termination of remaining transition services. Not less than 30 days prior to the termination of any CSA, Laclede Gas shall notify the Signatories and, if requested by a Signatory, coordinate a technical conference with the Signatories to describe how the transition service will be provided by Laclede Gas.

d. Laclede Gas shall provide to the Signatories, at least every 90 days after close of the transaction until completion of all CSA services, a transition status report of the progress being made towards the assumption by Laclede Gas of all transition services that are being provided to Laclede Gas. Laclede Gas shall provide advance notice to the Signatories of all changes to transition plans and/or CSAs, including but not limited to those that impact customer service quality and gas supply. Copies of any and all amendments or other changes to the transition plans/CSAs shall be provided with the Laclede Gas transition status reports. Laclede Gas shall file these status reports in the Commission's Electronic Filing Information System ("EFIS"), under the case number GM-2013-0254.

e. SUG and Laclede Gas shall participate throughout the period continuing services are being provided in in-person meetings in Jefferson City with the Signatories to discuss transition status and progress. Upon the determination of the Signatories these in-person meetings may be handled instead through a conference call.

f. During the first 9 months following the close of the transaction, the Laclede Gas management and a representative of SUG shall attend quarterly meetings with the Signatories to provide presentations and status reports on the progress of the transaction and transition plans. After the nine-month period, Laclede Gas management shall continue to attend such meetings subject to discussion in Laclede Gas and MGE Division's next rate case regarding the continuing need for such meetings. When possible, parties will attempt to coordinate these meetings with any other meetings that may be scheduled for other purposes.

g. Laclede Gas shall notify the signatories immediately if the CSA is determined to be required beyond the 9 month transition period after date of close.

h. Laclede Gas management including the Chief Executive Officer of LG, the President of Laclede Gas and the Senior Vice President, Chief Innovation and Integration Officer and any other participants that Laclede Gas deems necessary shall be present for a minimum of two on-the-record presentations before the Commission to be scheduled in May 2014 and December 2014. If transition concerns still exist after December 2014, an additional on the record presentation may be required. Laclede Gas shall present witnesses to provide live testimony and be prepared to discuss the status of the transition and any problem areas and to offer action plans to ensure completion of a seamless transition without disruption to ratepayers. Laclede Gas witnesses shall be available for questions from the Signatories regarding the progress of the transition involving matters contained in this Stipulation. After the closing of this Transaction, the Staff shall file a pleading on behalf of the Signatories proposing dates for the on the record presentations. A representative from SUG management shall be present for the first on-the-record presentation in May 2014.

i. The Joint Applicants represent to the Signatories that they anticipate the CSAs will only be needed for a period of 9 months from the date of closing.

14. <u>GAS SUPPLY AND HEDGING PLANS</u>

a. Laclede Gas shall assume from SUG, the transportation, storage and related contracts in place for the MGE division; and shall also assume MGE's gas supply and hedging contracts, including both physical and financial hedging. To the extent that the assignment by SUG of any gas supply and hedging contracts require third party consent the PSA provides for SUG to obtain such consents, and SUG has created a process to do so. Although none are expected, Laclede Gas shall promptly inform Staff and OPC of any issues it encounters regarding the consents and shall provide Staff and OPC evidence of such contract assumptions within 30 days after closing of the Transaction. After the closing, Laclede Gas shall provide to

Staff and OPC a list of all contracts that were not assumed and a description of all modified terms in contracts that were assumed. If Laclede Gas does not assume a contract or modifies a contract in any material way, it shall have the burden of showing and documenting that on a net basis such changes in the assumption of, or terms and conditions of contracts were beneficial to customers.

b. Laclede Gas shall present to Staff and OPC its gas supply and hedging plans for its Missouri customers every fall, no later than October 30. The gas supply and hedging plan presentations shall include at least as much detail as the MGE plans included prior to the Transaction. The presentation shall include Laclede Gas' and MGE's gas supply and hedging plans for the upcoming 24 months. Laclede Gas gas supply and hedging plans presentation shall include gas supply plans for normal, colder and warmer weather, storage plans, and hedging plans including strategies and control policies, and implementation (timing, types, etc.) of hedges.

c. MGE shall not delay normal gas supply planning and hedging related to the operation of these properties because of the proposed sale of these properties.

d. MGE and Laclede Gas shall provide to Staff and OPC a listing of all financial hedges related to the MGE properties, including a list of hedges that were liquidated before 5 days prior to the related contract expiration from the date of the Purchase and Sale Agreement until closing of the Transaction. MGE shall transfer all OTC and exchange-traded financial hedges that will reflect the same cost for natural gas that would have otherwise been attributable to the operation of these properties absent the sale and purchase of assets.

e. Lacking details from Laclede Gas as to how the MGE supply functions will be carried out after the completion of the transaction, Laclede Gas' Gas Supply Department shall update the Staff procurement department and OPC on a monthly basis for the first three years following close of the Transaction through a series of monthly conference calls. Such calls shall address any current and known or planned material changes in the gas supply functions, practices and personnel being employed by the MGE Division to manage its gas supply assets. Laclede's update shall include a written explanation and documents to support how current or planned material changes to MGE's gas supply functions, practices and personnel are consistent with the objective of providing safe and adequate service reliability while achieving the most economical cost. If in any given month there are no current or planned material changes to MGE's gas supply functions, practices and personnel a statement to that effect shall be provided.

f. Laclede Gas may present a proposal to Staff, OPC and the Commission regarding a comprehensive framework for considering, evaluating and potentially approving or incenting gas supply, transportation or hedging. Any Party shall be free to support, oppose or seek modification to such a proposal if made by the Company.

g. Laclede Gas' CAM and Standards of Conduct, once approved by the Commission, shall be applied to gas supply transactions for the Laclede and MGE Divisions. The CAM and referenced Standards of Conduct to be filed in Case No. GC-2011-0098 do not pertain to Asset Management Arrangements/Agreements ("AMAs"). Accordingly, if Laclede Gas chooses to use one or more AMAs for its Laclede or MGE Divisions, Laclede Gas shall document fair market price and fully distributed cost as set forth in 4 CSR 240-40.015 and 40.016, unless and until changes to the CAM and referenced Standards of Conduct addressing AMAs are approved by the Commission.

15. <u>GAS SAFETY</u>

Laclede Gas represents that it is fully familiar with the safety line replacement programs which SUG has initiated. Laclede Gas intends to continue with these programs and will utilize its resources in such a manner so as to provide safe and reliable service for its Missouricustomers. After the acquisition, the combined company shall continue to follow all

Commission orders that were issued relating to safety matters involving MGE.

Laclede Gas shall retain all the maintenance/operations records for the facilities which are the subject of the Transaction and maintain the records necessary to demonstrate compliance with the specific requirements of pipeline safety regulations. These records shall be made available to Staff or OPC for inspection.

16. INSULATION OF MGE FROM LG BUSINESS

To insulate the MGE Division and Laclede Gas from the Transaction, LG represents that:

a. MGE will be owned and operated as a division of Laclede Gas, which shall remain a separate subsidiary of LG, unless otherwise approved by the Commission.

b. Laclede Gas shall not transfer to LG or any subsidiary thereof, directly or indirectly, assets necessary and useful in providing service to MGE's Missouri customers without Commission approval.

c. Laclede Gas will diligently exercise its best efforts to insulate the Laclede and MGE Divisions from any adverse consequences from its other operations or the activities of any of its affiliates.

d. Laclede Gas shall submit reports certifying its compliance with this paragraph on a quarterly basis to the Staff electronically through EFIS and to OPC, and other interested parties that are permitted to receive proprietary or confidential information as contemplated by applicable Commission rules or orders until the Commission determines that the Laclede and MGE Divisions are insulated from LG's other operations and the activities of any of its affiliates or that the requirement is no longer needed.

17. FURTHER INSULATING CONDITIONS

To further protect customers from potential negative impacts of this Transaction, Laclede Gas represents that:

a. The Transaction shall have no adverse effect on Laclede Gas' budget and funds, including the MGE division's budget and funds, to meet capital needs, including, but not limited to, service line and main replacement programs. Laclede Gas affirms its commitment to the safety line replacement program schedules for MGE currently in effect and approved by the Commission in its Case No. GO-2002-0050.

b. For the next MGE rate case prior to October 1, 2015, total joint and common costs allocated to the MGE Division for purposes of setting retail distribution rates will not increase as a result of the Transaction above the levels authorized by the Commission in Case No. GR-2009-0355 and proposed in the Surrebuttal Testimony of Michael R. Noack, dated October 14, 2009. Schedule H·8 - Corporate Allocation, of Mr. Noack's testimony reflects pro forma joint and common costs before application of the Expense Capital Rates of $5,087,099. Net corporate plant allocated to MGE is $669,314 per Schedule C, page 1 of 2, column e, line 35. It is understood, however, that joint and common costs allocated to MGE for purposes of setting retail distribution rates may increase or decrease for reasons that are not a result of the Transaction (including, but not limited to, factors such as wages and salaries increasing over time, organizational differences which result in a function being provided at the corporate level versus at the business unit or vice versa, labor efficiencies and technological efficiencies). Laclede Gas agrees that in any rate proceeding, it has the burden of proving the reasonableness of any allocated or assigned cost to Laclede Gas, including its MGE division, from any LG affiliate, including all corporate overhead allocations.

c. Laclede Gas shall retain all documentation relative to the analysis of the Transaction. This documentation shall include a list of: (1) all Laclede Gas and MGE personnel, consultants, legal and financial and accounting advisers; (2) the time (in hours) spent by those individuals on related work; (3) other expenses, costs or expenditures incurred or recognized by

Laclede Gas that are related to the Transaction; (4) business entities (corporate, subsidiary and division) where the costs were booked, including account number, account description and amount; and (5) description of the nature of the work performed and costs incurred.

d. Laclede Gas shall maintain its books and records so that all acquisition costs related to the Transaction are segregated and recorded separately. Subject to the protections found in 4 CSR 240-2.135 and/or 4 CSR-240- 2.085, during its next general rate proceeding, Laclede Gas shall disclose to the Staff, OPC, and other interested and authorized parties the acquisition, merger, transition, and transaction costs recorded in Laclede Gas's books and records in the appropriate test year and test year updates or true-ups. This condition does not restrict Laclede Gas' right to seek rate recovery of merger and acquisition costs related to future transactions. Other parties may oppose recovery of merger and acquisition costs related to future transactions.

e. Laclede Gas shall create and maintain records listing the names of LG employees whose costs are allocable to Missouri jurisdictional operations, number of hours worked, type of work performed and travel and other expenses incurred for all work related to all merger and acquisition activities related to the Transaction through the end of the test year, updated test year or true-up test year in MGE's next general rate case.

f. Laclede Gas shall submit to the Commission's Staff electronically in EFIS as a filing to this case and to OPC verified journal entries reflecting the recording of the Transaction on Laclede Gas' books and records and provide a narrative description of each such entry within ninety (90) days of closing.

g. Within six (6) months of the closing of the Transaction, Laclede Gas shall perform, provide, and discuss with all interested and authorized parties a study of the impact of the acquisition of MGE by Laclede Gas on Laclede Gas' structure, organization, and costs.

Laclede Gas shall verify the accuracy of corporate administrative and general ("A&G") allocations to MGE, including the specific impacts of the acquisition of MGE by Laclede Gas on Laclede Gas' A&G expense and cost allocation methodology and identify the process used to allocate A&G costs, transition costs and expenses to its regulated, merger and acquisition, sale and non-regulated functions of its regulated divisions as well as its non-regulated subsidiaries.

h. Laclede Gas shall provide to Staff and OPC on a monthly basis monthly Statement of Income and Balance Sheets that shall be consistent with SEC financial reporting requirements. Such monthly reports shall reflect financial results for Laclede Gas and its MGE Division regulated and non-regulated operations on a separate basis. Laclede Gas shall also provide to Staff and OPC variance reporting reflecting all changes in all revenues, expenses and capital investment on a monthly basis.

18. <u>INTERSTATE AND INTRASTATE TRANSPORTATION AND STORAGE COSTS</u>

a. In making decisions regarding interstate or intrastate pipeline transportation and storage capacity for either divisions, Laclede Gas shall continue to evaluate alternatives with the objective of ensuring safe and adequate reliability while achieving the most economical cost. Laclede Gas and MGE shall formally conduct a comprehensive evaluation as deemed necessary by them but no less frequently than every three years. This evaluation shall be submitted and presented to Staff, OPC, and other interested parties subject to the protections found in 4 CSR 240-2.135 and/or 4 CSR 240-2.085.

b. For Laclede Gas' comprehensive evaluation of pipeline transportation capacity and storage capacity, including pipeline storage and on-system storage (Demand/Capacity Analysis), Laclede Gas shall provide to Staff and OPC for each Laclede and MGE Division service area (MGE's service areas are Kansas City, Joplin, and St. Joseph):

(1) Laclede Gas' estimated peak day (coldest day) requirements for the next five years and the capacity (on-system storage and pipeline capacity and any delivered supply) available to meet such requirements.

(2) All supporting documentation, workpapers, analyses and calculations (including but not limited to projected growth (positive or negative), HDD or temperature data reviewed, the peak HDD and date of occurrence and timeframe/method used to determine peak HDD, contract demand studies and any forecast assumptions affecting contract capacity. The documentation shall include fully functioning electronic spreadsheets and workpapers (in Excel, if possible), including source data and output data.

(3) A complete explanation of the methodology and logic and reasoning used in the Company evaluation and estimates/forecasts.

(4) An explanation of the inclusion (or exclusion) of firm, interruptible, school aggregation, and transportation volumes in the Company's capacity evaluation. Include references to the Company's tariff language where appropriate.

If Laclede Gas revises the transportation capacity or storage capacity from that identified in the Demand/Capacity Analysis, Laclede Gas shall prepare an addendum to the Demand/Capacity Analysis within 6-months of making such changes, explaining the changes and the rationale for the changes, and provide the addendum to Staff and OPC. Laclede Gas shall file the Demand/Capacity Analyses and addendums, in EFIS, under case number GM-2013-0254.

c. Laclede Gas shall notify OPC, Staff, and other interested parties, subject to the protections found in 4 CSR 240-2.135 and/or 4 CSR 240-2.085, if and when Laclede Gas adds or changes pipeline capacity (transportation and storage capacity) of a quantity equal to or greater than 10% of Laclede Gas or MGE Division's existing capacity and shall keep and provide OPC and Staff, appropriate documentation regarding such decisions. Laclede Gas' notification shall be provided within 30 days of the effective date of changes. This documentation shall include, but not be limited to: all proposed terms, including rates (and any discounts), amount of capacity, delivery and take points, any storage capabilities, maximum storage quantities, maximum daily withdrawal quantities, maximum daily injection quantities, whether the capacity is firm, interruptible, etc., capacity release and off-system sales opportunities, the reason for the additional capacity or change, and all negotiations regarding the new or change in capacity. This information shall be provided upon request within the time normally provided for discovery under the Commission's rules. However, in no event shall the providing of this information constitute preapproval by OPC or Staff or any other proper party.

19. TRANSPORTATION TARIFFS [ALL CUSTOMER CLASSES]

Laclede Gas shall retain the same terms and conditions of its MGE Division’s current transportation service tariffs, including the threshold for eligibility for such service, until such time that changes may be proposed in any subsequent general rate case proceeding that is initiated commencing not less than three or more years after the effective date of the Commission Order approving this Stipulation and Agreement. Nothing herein shall preclude changes in rates or charges for service during such period as may be approved by the Commission as a result of (i) any ISRS filing made by the Company or (ii) a general rate case proceeding initiated by Laclede Gas so long as Laclede Gas does not to seek in such a rate case proceeding to increase a transportation rate element or charge or the distribution rates for any customer class by a greater than equal percentage. This provision should not be read or interpreted to mean or require Laclede Gas or its MGE division to file any proposed change to the aforesaid terms and conditions of transportation, including eligibility thresholds, in such rate case or preclude Laclede Gas or its MGE division from making, or preclude any Signatory from opposing, Commission filings to implement changes to the aforesaid terms and conditions of transportation service that are mutually agreeable to Midwest Gas User’s Association.

20. ENERGY EFFICIENCY PROGRAMS

The Transaction shall have no impact on Commission orders related to the respective energy efficiency programs of Laclede Gas or MGE. The Commission's orders with respect to MGE's existing energy efficiency programs shall remain in full force and effect with respect MGE until further modified by the Commission.

21. LOW INCOME WEATHERIZATION PROGRAM

MGE shall retain the same terms and conditions of the tariff for the weatherization program now existing between the City of Kansas City, Missouri and MGE for the counties of Clay, Platte and Jackson, and between MGE and the approved Social Agencies for the rest of MGE's service territory, although modifications to such weatherization tariff may be proposed in tariff filings and in any subsequent general rate case proceedings.

22. ASSUMPTION OF KCMO FRANCHISE AGREEMENT

Subject to Commission approval of the Transaction and after Closing of the Transaction, Laclede Gas will execute, pursuant to Section 5(A) of the existing franchise agreement between the City of Kansas City, Missouri and MGE dated October 7, 2010, an assumption of all rights and responsibilities of such Franchise Agreement.

23. ISRS MONITORING AND REPORTING REQUIREMENTS

a. Each year, Laclede Gas shall provide one and three year plans (ISRS Plans) to Staff and OPC for its gas utility plant projects for its MGE Division for which it will be seeking to recover some or all of the costs through ISRS charges. The ISRS Plans will be provided on an annual cycle that is consistent with the planning cycle that Laclede Gas uses for MGE. Staff, OPC and Laclede Gas will work together to determine the timing of the annual filing, the first of which will occur no later than 8 months after the close of the acquisition.

b. The ISRS Plans will, to the extent reasonably practical, show the location and type of the gas utility plants projects, the amount of the estimated costs associated with each project (or a series of closely related projects) that is expected to exceed $100,000 in cost over a three year period and the analysis performed by or for Laclede Gas to justify each gas utility project. The ISRS reports will also identify the criteria (e.g. compliance with state or federal safety standards, required facility relocations, etc.) used by Laclede Gas to determine that the projects will be included in its one year and three year plans for MGE and fully explain how each of the projects met the identified criteria. If major revisions are made to the ISRS Plans in between when annual ISRS Plans are provided to Staff and OPC, the revised ISRS Plans and supporting documentation shall also be provided to Staff and OPC.

c. Within 30 days of providing annual ISRS Plans or revised ISRS Plans to Staff and OPC for MGE projects, and prior to implementation of the plans, Laclede Gas shall meet with Staff and OPC to discuss feedback on the plans if such meetings are requested by Staff or OPC.

d. When filing to establish or change an ISRS for MGE, Laclede Gas shall, to the extent reasonably practical, file a report (1) showing how the actual cost of the projects compared to the estimated cost of the project and (2) documenting the extent to which the completed or partially completed project met the criteria used to justify the project.

e. These requirements related to the MGE ISRS gas utility plant projects shall remain in place through December 31, 2018.

24. <u>RETAIL GAS MARKETING PLAN REPORTING</u>

Laclede Gas shall provide its annual retail gas marketing plans to Staff and OPC. These plans will be provided on an annual cycle that is consistent with the planning cycle for gas marketing that Laclede Gas uses for the Laclede and MGE service territories. Staff, OPC and

Laclede Gas will work together to determine the timing of the annual submissions, the first of which will occur no later than 8 months after the close of the transaction.

25. TREATMENT OF INCIDENT-RELATED FEES, COSTS AND EXPENSES

Laclede Gas shall account for any costs or damages associated with the incident that occurred in MGE's service territory on February 19, 2013 in a manner that will insulate the customers of the Laclede Division from any rate impacts associated with such costs. All Signatories reserve the right to take whatever position they believe is appropriate regarding the recovery of such costs in the rates of the MGE Division.

26. DEFERRED TAXES

The Signatories stipulate that for ratemaking and regulatory accounting purposes, deferred taxes shall be per MGE's books as calculated under the applicable normalization rules (and reflecting the appropriate deferred tax elements for ratemaking purposes such as tax associated with CIAC).

27. FILING OF ANNUAL REPORTS

Laclede Gas shall, until its next rate case, file separate annual reports for its Laclede and MGE Divisions.

28. ASSUMPTION OF EXECUTION RISK

Neither Laclede Gas nor its MGE Division shall include in its retail distribution rates charged to Missouri consumers any costs related to its execution risk associated with the Transaction.

29. ADHERENCE TO MISSOURI RULES

Laclede Gas and its MGE Division shall comply with all Missouri Commission rules, including the Affiliated Transactions Rule, 4 CSR 240-40.015, reporting requirements and other practices, and its filed and approved tariffs. This paragraph shall not be construed as a waiver of any rights or remedies available to Laclede Gas under the law. No conditions or agreements entered into between parties to this case shall restrict or limit LG's compliance with Missouri Commission rules.

30. NO DETRIMENTAL IMPACT

Laclede Gas represents that this transaction shall not have any detrimental effect on Laclede Gas or MGE Division utility customers, including, but not limited to: increased rates or any adverse effect on quality of service, and further agrees that, should such detrimental effects nevertheless occur, nothing in the approval or implementation of the proposed acquisition shall impair the Commission's ability to protect such customers from such detrimental effects.

31. COMMISSION AUTHORITY

Laclede Gas acknowledges that the Commission has, and will continue to have, the authority after the proposed acquisition to regulate, through the lawful exercise of its statutory powers, and ensure the provision of service, instrumentalities and facilities as shall be safe and adequate and in all respects just and reasonable and not jeopardize the ability of Laclede Gas or MGE to meet its Missouri utility obligations, including MGE's service line replacement program. Laclede Gas also agrees that the Commission has the authority, through the lawful exercise of its ratemaking powers, to ensure that the rates charged by Laclede Gas or MGE for regulated utility service are not increased as a result of the unregulated and/or non-jurisdictional activities of LG affiliates and LG agrees, consistent with such standard, that rates should not be increased due to such activities.

32. ACCESS TO INFORMATION

a. LG and Laclede Gas shall provide the Staff and OPC with access, upon reasonable written notice during normal working hours and subject to appropriate confidentiality and discovery procedures, to all written information provided to common stock, bond, or bond rating analysts, that directly or indirectly pertains to Laclede Gas or any affiliate that has affiliate transactions with MGE or with Laclede Gas to the extent such transaction(s) with Laclede Gas or any affiliate affect the allocation of costs to MGE. Such information includes, but is not limited to: reports provided to, and presentations made to, common stock analysts and bond rating analysts. For purposes of this condition, "written" information includes but is not limited to: all electronic documents including spreadsheets in original format with formulas and links to other spreadsheets intact, any written and printed material, audio and videotapes, computer disks and electronically stored information. Nothing in this condition shall be deemed to be a waiver of LG's or Laclede Gas's or MGE's right to seek protection of the information, to assert any claim of privilege, or to object, for purposes of submitting such information as evidence in any evidentiary proceeding, to the relevancy or use of such information by any party.

b. Nothing in this Stipulation and Agreement shall limit Staff's or OPC's access to any information whatsoever in any other proceedings. Nothing in this Stipulation and Agreement shall preclude the Staff or OPC from seeking additional information from Laclede and its affiliates. Nothing in this Stipulation and Agreement shall preclude the Staff or OPC from performing spot reviews or conducting oversight of the Company's operations. Nothing in this Stipulation and Agreement is intended to impinge, restrict or limit in any way Staff or OPC's discovery powers, including the right to access information and investigate matters related to Laclede Gas and its Laclede and MGE divisions.

c. LG, Laclede Gas, and MGE shall provide Staff and OPC access to and copies of, if requested by Staff or OPC, the complete LG, and Laclede Gas Board of Directors' meeting minutes, including all agendas and related information distributed in advance of the meeting, presentations and handouts, provided that privileged information shall continue to be subject to protection from disclosure and Laclede Gas shall continue to have the right to object to the provision of such information on relevancy grounds

d. Information sought by Staff and OPC shall be made available in either St. Louis or Jefferson City or Kansas City upon request. The location of the information will be determined by the Staff and OPC.

e. Any Signatory may request that Laclede provide a copy of a report submitted to Staff and OPC pursuant to this Stipulation and Agreement, provided that Laclede Gas reserves the right to object to such request and/or seek suitable protections to ensure such information is not improperly disclosed.

33. COMMITMENTS ARE MISSOURI JURISDICTIONAL

The conditions set forth herein are intended to apply only in the context of Missouri jurisdictional regulatory activities and are not intended to restrict in any way the ability of LG or Laclede Gas to take any position whatsoever regarding matters covered herein in proceedings before the Federal Energy Regulatory Commission or any other non-Missouri jurisdictional regulatory authority.

34. FERC APPROVAL OF JOINT APPLICATION

Prior to closing of this Transaction, SUG and Laclede Gas Company shall obtain all necessary authorizations under Sections 7(b) and 7(c) of the Natural Gas Act in FERC Docket No. CP13-497-000.

35. SUG/MGE DATA ROOM FILES

All electronic data residing in the SUG/MGE data room shall be provided by electronic media, with all cell references intact as they exist today, to Staff and OPC upon the closing of this transaction.

III. PREFILED TESTIMONY TO BE RECEIVED INTO EVIDENCE

The prefiled direct testimony and schedules of Mark D. Waltermire, Suzanne Sitherwood, Steven L. Lindsey and Robert J. Hack shall be received into evidence without the necessity of the witnesses taking the stand.

IV. NO DETRIMENT

The Signatories agree that the intent of the Stipulation is to avoid detrimental impacts to customers, and that this Stipulation should be interpreted accordingly.

V. GENERAL PROVISIONS

(a) This Stipulation has resulted from negotiations among the Signatories and the terms hereof are interdependent. In the event the Commission does not adopt this Stipulation in total, then this Stipulation shall be void and no Signatory shall be bound by any of the agreements or provisions hereof. The stipulations herein are specific to the resolution of this proceeding, and all stipulations are made without prejudice to the rights of the Signatories to take other positions in other proceedings except as otherwise provided herein. The Signatories agree that any and all discussions related hereto shall be privileged and shall not be subject to discovery, admissible in evidence, or in any way used, described or discussed.

(b) This Stipulation is being entered into for the purpose of disposing of all issues in this case. The Signatories represent that the terms of this Stipulation constitute a fair and reasonable resolution of the issues addressed herein, in a manner which is not detrimental to the public interest. Except as otherwise addressed herein, none of the Signatories to this Stipulation shall be deemed to have approved, accepted, agreed, consented or acquiesced to any accounting principle, ratemaking principle or cost of service determination underlying, or supposed to underlie any of the issues provided for herein.

(c) The Signatories further understand and agree that the provisions of this Stipulation relate only to the specific matters referred to in the Stipulation, and no Signatory or person waives any claim or right which it otherwise may have with respect to any matter not expressly provided for in this Stipulation. The Signatories further reserve the right to withdraw their support for the settlement in the event that the Commission modifies the Stipulation in a manner which is adverse to the Signatory, and further, the Signatories reserve the right to contest any such Commission order modifying the settlement in a manner which is adverse to the Signatory contesting such Commission order. The Signatories agree that the details of this agreement have no precedential value in any future proceeding not related to enforcement of this agreement.

(d) The non-utility Signatory Parties enter into this Stipulation in reliance upon information provided to them by the Joint Applicants and this Stipulation is explicitly predicated upon the truth of representations made by the Joint Applicants.

(e) In the event the Commission accepts the specific terms of this Stipulation without modification, the Signatories waive, with respect to the issues resolved herein: their respective rights pursuant to Section 536.070(2), RSMo 2000 to call, examine and cross-examine witnesses; their respective rights to present oral argument or written briefs pursuant to Section 536.080.1, RSMo 2000; their respective rights to the reading of the transcript by the Commission pursuant to Section 536.080.2, RSMo 2000; their respective rights to seek rehearing pursuant to Section 386.500, RSMo 2000; and their respective rights to judicial review pursuant to Section 386.510, RSMo 2000. Furthermore, in the event the Commission accepts the specific terms of this Stipulation without modification, the Signatories agree that the prefiled testimony of all witnesses who have prefiled testimony in this case shall be included in the record of this proceeding without the necessity of such witnesses taking the stand.

(f) The Staff shall have the right to provide, at any agenda meeting at which this Stipulation is noticed to be considered by the Commission, whatever oral explanation the Commission requests, provided that the Staff shall, to the extent reasonably practicable, promptly provide other Signatories with advance notice of when the Staff shall respond to the Commission's request for such explanation once such explanation is requested from Staff. Staff's oral explanation shall be subject to public disclosure, except to the extent it refers to matters that are privileged or previously designated confidential by any signatory.

(g) Except as otherwise addressed in this Stipulation, Commission approval of the sale of assets of SUG to Laclede Gas, and for the Joint Applicants to execute and perform in accordance with the terms of the Agreement, does not in any way, limit, form a basis for determination, or constitute a defense against any Signatory proposing, or the Commission ordering, the disallowance and/or imputation of account balances, expenses, revenues and/or other ratemaking findings, regarding MGE or Laclede Gas operations in a future rate proceeding.

(h) To assist the Commission in its review of this Stipulation, the Signatories also request that the Commission advise them of any additional information that the Commission may desire from the Signatories relating to the matters addressed in this Stipulation, including any procedures for furnishing such information to the Commission.

WHEREFORE, the Signatories recommend that SUG's sale of its Missouri properties to Laclede Gas is reasonable and not detrimental to the public interest and respectfully request that the Commission approve this Stipulation and Agreement subject to the conditions contained herein.

Respectfully submitted,

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ATTORNEYS FOR MISSOURI DEPARTMENT
OF NATURAL RESOURCES

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing have been mailed, hand-delivered, transmitted by facsimile or electronically mailed to all counsel of record this 2nd day of July, 2013.

/s/ Robert S. Berlin

LAC / MGE
Value Added by Industry to Gross Domestic Product
1947-2016

Line		1947	1997	2007	2011	2015	2016	Change 2015-2016	Change 2011-2016	Change 2007-2016	Change 1997-2016	Change 1947-2016
1	**Gross domestic product**	249,945	8,608,515	14,477,635	15,517,926	18,036,648	18,569,101	***2.95%***	***4.92%***	***3.14%***	***6.09%***	***106.22%***
2	**Private industries**	216,248	7,459,395	12,572,387	13,348,439	15,698,669	16,177,539	***3.05%***	***5.30%***	***3.19%***	***6.15%***	***106.97%***
3	**Agriculture, forestry, fishing, and hunting**	19,929	108,796	141,999	197,241	175,236	159,919	***-8.74%***	***-4.73%***	***1.40%***	***2.47%***	***10.18%***
6	**Mining**	5,780	95,144	314,018	398,632	327,796	264,580	***-19.29%***	***-8.41%***	***-1.75%***	***9.37%***	***64.89%***
10	**Utilities**	3,466	172,141	235,074	272,036	284,331	288,116	***1.33%***	***1.48%***	***2.51%***	***3.55%***	***119.02%***
11	**Construction**	8,920	340,697	714,988	546,614	732,120	784,014	***7.09%***	***10.86%***	***1.07%***	***6.85%***	***125.93%***
12	**Manufacturing**	63,540	1,390,088	1,854,330	1,907,311	2,170,275	2,175,228	***0.23%***	***3.51%***	***1.92%***	***2.97%***	***48.17%***
34	**Wholesale trade**	15,592	530,163	860,843	907,257	1,093,237	1,097,961	***0.43%***	***5.25%***	***3.06%***	***5.64%***	***100.61%***
35	**Retail trade**	23,191	588,376	877,606	891,689	1,056,781	1,087,089	***2.87%***	***5.48%***	***2.65%***	***4.46%***	***66.49%***
40	**Transportation and warehousing**	14,169	256,054	409,597	446,857	542,528	562,895	***3.75%***	***6.49%***	***4.16%***	***6.31%***	***56.13%***
49	**Information**	7,722	395,716	702,387	728,431	839,919	885,958	***5.48%***	***5.41%***	***2.90%***	***6.52%***	***164.83%***
54	**Finance, insurance, real estate, rental, and leasing**	25,635	1,623,098	2,877,106	3,052,428	3,656,369	3,817,381	***4.40%***	***6.27%***	***3.63%***	***7.12%***	***214.37%***
65	**Professional and business services**	8,185	845,502	1,657,218	1,812,629	2,207,303	2,308,606	***4.59%***	***6.84%***	***4.37%***	***9.11%***	***407.32%***
74	**Educational services, health care, and social assistance**	4,600	581,189	1,064,588	1,287,042	1,501,152	1,576,018	***4.99%***	***5.61%***	***5.34%***	***9.01%***	***495.09%***
82	**Arts, entertainment, recreation, accommodation, and food services**	8,049	301,639	532,105	561,380	709,970	749,334	***5.54%***	***8.37%***	***4.54%***	***7.81%***	***133.47%***
90	**Government**	33,696	1,149,121	1,905,245	2,169,488	2,337,979	2,391,563	***2.29%***	***2.56%***	***2.84%***	***5.69%***	***101.41%***
99	**Addenda:**											

Legend / Footnotes:

1. Consists of agriculture, forestry, fishing, and hunting; mining; construction; and manufacturing.

2. Consists of utilities; wholesale trade; retail trade; transportation and warehousing; information; finance, insurance, real estate, rental, and leasing; professional and business services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food services; and other services, except government.

3. Consists of computer and electronic product manufacturing (excluding navigational, measuring, electromedical, and control instruments manufacturing); software publishers; broadcasting and telecommunications; data processing, hosting and related services; internet publishing and broadcasting and web search portals; and computer systems design and related services.

Note. Detail may not add to total due to rounding.

Source of Information: Bureau of Economic Analysis, Release Date May 23, 2017

LAC / MGE
Corrected Discounted Cash Flow (DCF) Cost Rate of Common Equity
Mr. Murray's Gas Proxy Group

	Column No.			
	[1]	[2]	[3]	[4]
Mr. Murray's Gas Proxy Group	Projected Dividend Yield (1)	Projected 5-Year EPS Growth S&P IQ (Mean) (2)	Projected 3-5 Year EPS Growth Value Line (3)	Average Projected Growth (4)
Atmos Energy Corp.	2.31%	7.00%	6.00%	6.50%
Northwest Natural Gas Co.	3.13%	4.67%	7.00%	5.84%
ONE Gas, Inc.	2.52%	5.37%	9.50%	7.44%
Southwest Gas Holdings, Inc.	2.53%	4.95%	7.50%	6.23%
Spire, Inc.	3.07%	3.96%	8.00%	5.98%

Dividend Yield:	2.70%(1)
Range of Growth:	5.84% - 7.44%
Range of Proxy Cost of Common Equity:	8.54% - 10.14%
Midpoint:	9.34%

Notes:
(1) From Schedule 10 of the MOPSC Staff Report.
(2) From Column 3 on Schedule 9-4 of the MOPSC Staff Report.
(3) From Value Line Investment Survey, Ratings & Reports, June 2, 2017.
(4) Average of Columns 2 and 3.

LAC / MGE
Corrected Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)
Employing Arithmetic Mean Risk Premiums, Income Returns, Prospective Risk Premiums and Risk-Free Rates

	[1]	[2]	[3]	[4]	[5]	[6]
Mr. Murray's Gas Proxy Group	Value Line Adjusted Beta (1)	Market Risk Premium (2)	Risk-Free Rate (3)	Traditional CAPM Cost Rate (4)	ECAPM Cost Rate (5)	Indicated Common Equity Cost Rate (6)
Atmos Energy Corp.	0.71	7.66 %	3.64 %	9.08 %	9.63 %	9.35 %
Northwest Natural Gas Co.	0.66	7.66	3.64	8.69	9.34	9.02
ONE Gas, Inc.	0.77	7.66	3.64	9.54	9.98	9.76
Southwest Gas Holdings, Inc.	0.71	7.66	3.64	9.08	9.63	9.35
Spire, Inc.	0.67	7.66	3.64	8.77	9.40	9.09
Average	0.70			9.03 %	9.60 %	9.32 %

Notes:
(1) From Schedule 11 of the MOPSC Staff Report.
(2)ɪ 3-5 year return on the market

From VL Summary and Index for 13 wks ended 6/30/17	7.79 %
Value Line Projected 3-5 year dividend yield	2.04
Value Line Projected 3-5 year total return on the market	9.83 %
Blue Chip Forecasts July 1, 2017 & June 1, 2017 projection of 30 year Treasury Bonds	3.64
Value Line Projected Risk Premium	6.19 %

Average of Ibbotson Arithmetic monthly risk premium of large stocks less the income return on long-term government bonds, the application of a regression to the the Ibbotson data to derive a projected MRP, the PRPM projected risk premium based on Ibbotson and Bloomberg data through June 2017, the Value Line 3-5 year projected total return of the market for the 13 weeks ended 6/30/17 less the projected risk-free rate, and the total return on the S&P 500 as measured by Bloomberg less the projected risk-free rate as shown below.

SBBI Large Stocks Total Return 1926-2016	11.97 %
SBBI Long-Term Gov't Bonds Income Return 1926-2016	5.17
SBBI Risk Premium	6.80 %
PRPM Risk Premium through June 2017	6.88 %
Application of a Regression to Ibboston Historical Data:	8.54 %
Total return on the Market based on the S&P 500:	13.51 %
Projected Risk-Free Rate (described in Note 2):	3.64
MRP based on Bloomberg data	9.87
Average Risk Premium	7.66 %

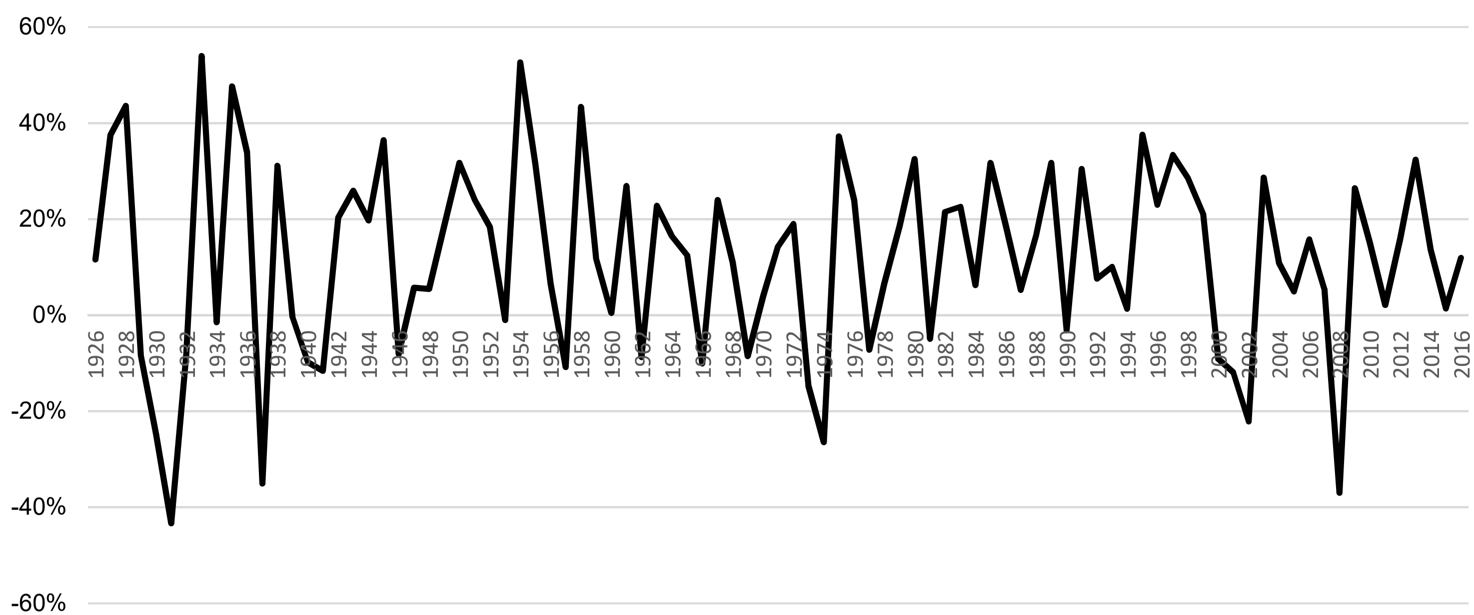
(3) Forecast of 30-yr Treasury Bonds From July 1, 2017 and June 1, 2017 Blue Chip Financial Forecasts as shown below.

Third Quarter 2017	3.00 %
Fourth Quarter 2017	3.20
First Quarter 2018	3.30
Second Quarter 2018	3.50
Third Quarter 2018	3.60
Fourth Quarter 2018	3.70
2019-2023	4.30
2024-2028	4.50
Average	3.64 %

(4) From note 3 of Schedule PMA-D5, page 2 of 2.
(5) From note 4 of Schedule PMA-D5, page 2 of 2.
(6) Average of Columns 4 and 5.

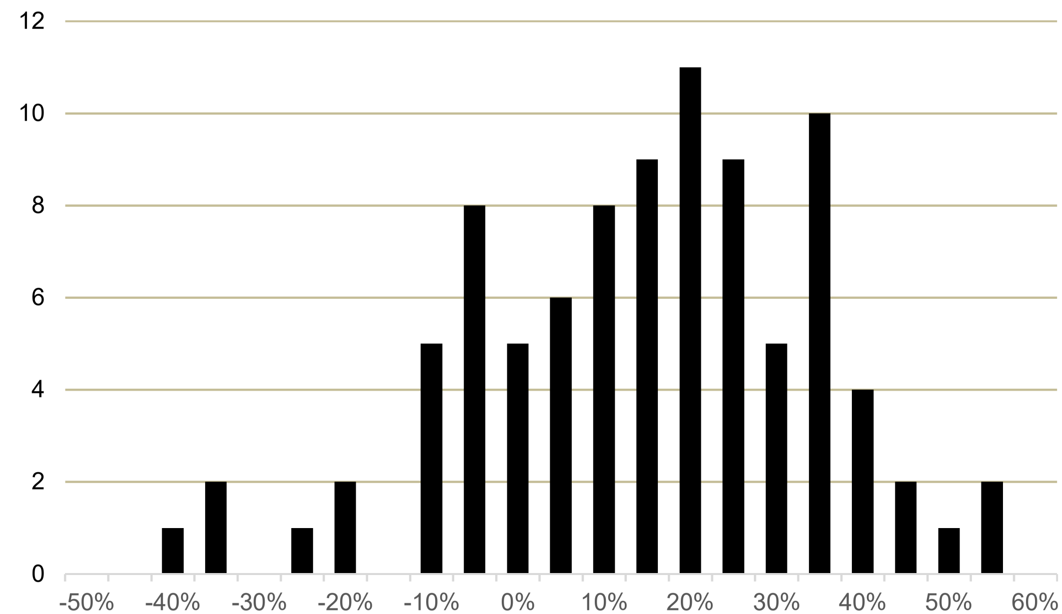
Sources of Information:
Blue Chip Financial Forecasts July 1, 2017 and June 1, 2017
Value Line Summary and Index
Value Line Standard Edition
Bloomberg Professional Services
Stocks, Bonds, Bills, and Inflation - Market Results for 1926-2016 Yearbook

U.S. Large Company Stock Returns 1926-2016



Source of Information: Duff & Phelps, SBBI 2017 Yearbook: Stocks, Bonds, Bills, and Inflation 1926-2016, Appendix A

Frequency Distribution of Observed Market Returns
1926-2016



Source of Information: Duff & Phelps, SBBI 2017 Yearbook: Stocks, Bonds, Bills, and Inflation 1926-2016, Appendix A

LAC / MGE
Summary of Risk Premium Models for
Mr. Murray's Gas Proxy Group

	Mr. Murray's Gas Proxy Group
Predictive Risk Premium Model (PRPM) (1)	9.78 %
Risk Premium Using an Adjusted Market Approach (2)	9.64 %
Average	9.71 %

Notes:
(1) From page 2 of this Schedule.
(2) From page 3 of this Schedule.

LAC / MGE
Indicated ROE
Derived by the Predictive Risk Premium Model (1)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Mr. Murray's Gas Proxy Group	LT Average Predicted Variance	Spot Predicted Variance	Average Predicted Variance	GARCH Coefficient	Predicted Risk Premium (2)	Risk-Free Rate (3)	Indicated ROE (4)
Atmos Energy Corp.	0.35%	0.20%	0.27%	2.18829	7.33%	3.64%	10.97%
Northwest Natural Gas Co.	0.32%	0.20%	0.26%	1.63479	5.22%	3.64%	8.86%
ONE Gas, Inc.	0.24%	0.31%	0.28%	7.28675	27.43%	3.64%	NMF
Southwest Gas Holdings, Inc.	0.45%	0.33%	0.39%	1.42702	6.89%	3.64%	10.53%
Spire, Inc.	0.73%	0.18%	0.46%	0.93616	5.29%	3.64%	8.93%
						Average	9.82%
						Median	9.73%
						Average of Mean and Median	9.78%

NMF = Not Meaningful Figure

Notes:
(1) The Predictive Risk Premium Model uses historical data to generate a predicted variance and a GARCH coefficient. The historical data used are the equity risk premiums for the first available trading month as reported by Bloomberg Professional Service.
(2) (1+(Column [3] * Column [4])^12) - 1.
(3) From note 3 on Schedule PMA-R8.
(4) Column [5] + Column [6].

LAC / MGE

Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Mr. Murray's Gas Proxy Group
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	4.70 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	0.26 (2)
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	4.96 %
4.	Equity Risk Premium (3)	4.68
5.	Risk Premium Derived Common Equity Cost Rate	9.64 %

Notes:
(1) Consensus forecast Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 8 and 9 of this Schedule).
(2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.26% from page 4 of this Schedule.

(3) From page 6 of this Schedule.

LAC / MGE
Interest Rates and Bond Spreads for
Moody's Corporate and Public Utility Bonds

Selected Bond Yields

	[1]	[2]	[3]
	Aaa Rated	A Rated Public	Baa Rated Public
Jun-2017	3.68 %	3.94 %	4.32 %
May-2017	3.85	4.12	4.50
Apr-2017	3.87	4.12	4.51
Average	3.80 %	4.06 %	4.44 %

Selected Bond Spreads

A Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:
0.26 % (1)

Baa Rated Public Utility Bonds Over A Rated Public Utility Bonds:
0.38 % (2)

Notes:
(1) Column [2] - Column [1].
(2) Column [3] - Column [2].

Source of Information:
Bloomberg Professional Service

LAC / MGE
Comparison of Bond Ratings, Business Risk and Financial Risk Profiles for
Mr. Murray's Gas Proxy Group

	Moody's Bond Rating June 2017		Standard & Poor's Bond Rating June 2017	
Mr. Murray's Gas Proxy Group	Bond Rating	Numerical Weighting (1)	Bond Rating	Numerical Weighting (1)
Atmos Energy Corp.	A2	6.0	A	6.0
Northwest Natural Gas Co.	A3	7.0	A+	5.0
ONE Gas, Inc.	A2	6.0	A	6.0
Southwest Gas Holdings, Inc. (2)	A3	7.0	BBB+	8.0
Spire, Inc. (3)	A1/A2	5.5	A-	7.0
Average	A2	6.3	A	6.4

Notes: (1) From page 5 of Schedule PMA-D4 of Ms. Ahern's Direct testimony.
(2) Ratings, business risk and financial risk profiles are those of Southwest Gas Corp.
(3) Ratings, business risk and financial risk profiles are those of Spire Alabama, Inc. and Spire Missouri, Inc.

Source Information: SNL Financial

LAC / MGE
Judgment of Equity Risk Premium for
Mr. Murray's Gas Proxy Group

Line No.		Mr. Murray's Gas Proxy Group
1.	Calculated equity risk premium based on the total market using the beta approach (1)	4.59 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	4.32
3.	Predicted Equity Risk Premium based on Regression Analysis of 756 Fully-Litigated Natural Gas Utility Rate Cases (3)	5.12
4.	Average equity risk premium	4.68 %

Notes: (1) From page 7 of this Schedule.
(2) From page 10 of this Schedule.
(3) From page 11 of this Schedule.

LAC / MGE
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
Mr. Murray's Gas Proxy Group

Line No.	Equity Risk Premium Measure	Mr. Murray's Gas Proxy Group
1.	Ibbotson Equity Risk Premium (1)	5.52 %
2.	Ibbotson Equity Risk Premium based on PRPM (2)	6.08
3.	Regression on Ibbotson Risk Premium Data (3)	7.26
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	5.13
5.	Equity Risk Premium Based on S&P 500 Companies(5)	8.81
6.	Conclusion of Equity Risk Premium (6)	6.56 %
7.	Adjusted Beta (7)	0.70
8.	Forecasted Equity Risk Premium	4.59 %

Notes:

(1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® SBBI® 2017 Market Report minus the arithmetic mean monthly yield of Moody's Aaa and Aa corporate bonds from 1928 - 2016. (11.68% - 6.16% = 5.52%).

(2) The Predictive Risk Premium Model (PRPM) was discussed in Ms. Ahern's direct testimony. The Ibbotson equity risk premium based on the PRPM is derived by applying the PRPM to the monthly risk premiums between Ibbotson large company common stock monthly returns minus the average Aaa and Aa corporate monthly bond yields, from January 1928 through June 2017.

(3) This equity risk premium is based on a regression of the monthly equity risk premiums of large company common stocks relative to Moody's Aaa/Aa rated corporate bond yields from 1928 - 2016 referenced in Note 1 above.

(4) The equity risk premium based on the Value Line Summary and Index is derived from taking the projected 3-5 year total annual market return of 9.83% and subtracting the average consensus forecast of Aaa corporate bonds of 4.70% (Shown on page 3 of this Schedule). (9.83% - 4.70% = 5.13%).

(5) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 13.51% was derived based upon expected dividend yields and long-term growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.70% results in an expected equity risk premium of 8.81%. (13.51% - 4.71% = 8.81%).

(6) Average of Line Nos. 1 through 5.

(7) Average beta from Schedule 11 of the MOPSC Staff Report.

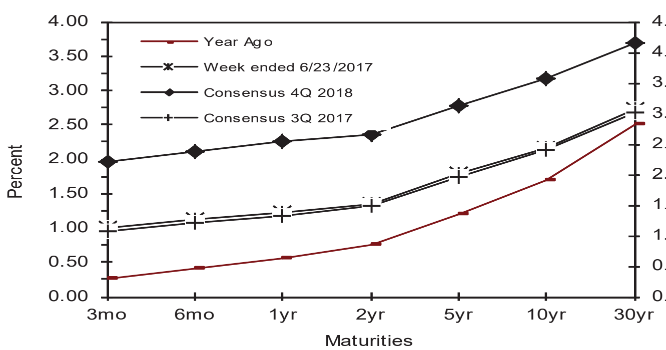
Sources of Information:
Stocks, Bonds, Bills, and Inflation - Ibbotson® SBBI® 2017 Market Report
Industrial Manual and Mergent Bond Record Monthly Update.
Value Line Summary and Index
Blue Chip Financial Forecasts, July 1, 2017 and June 1, 2017
Bloomberg Professional Services

Consensus Forecasts Of U.S. Interest Rates And Key Assumptions[1]

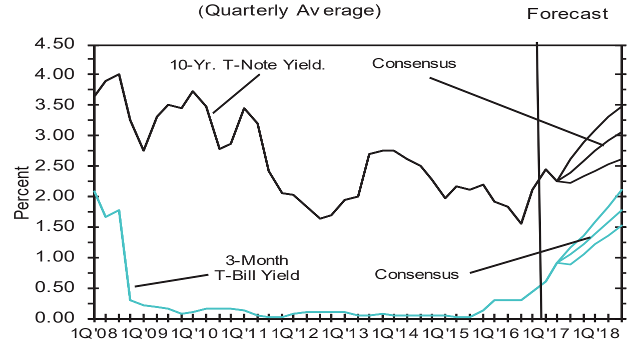
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			Latest Qtr						
Interest Rates	June 23	June 16	June 9	June 2	May	Apr.	Mar.	2Q 2017*	**3Q 2017**	**4Q 2017**	**1Q 2018**	**2Q 2018**	**3Q 2018**	**4Q 2018**
Federal Funds Rate	1.16	0.91	0.91	0.90	0.90	0.90	0.76	0.93	**1.2**	**1.3**	**1.5**	**1.7**	**1.9**	**2.1**
Prime Rate	4.25	4.00	4.00	4.00	4.00	4.00	3.85	4.03	**4.3**	**4.4**	**4.6**	**4.7**	**4.9**	**5.1**
LIBOR, 3-mo.	1.29	1.26	1.22	1.21	1.18	1.16	1.13	1.20	**1.4**	**1.5**	**1.7**	**1.9**	**2.1**	**2.3**
Commercial Paper, 1-mo.	1.10	1.05	0.93	0.87	0.84	0.83	0.77	0.90	**1.2**	**1.3**	**1.5**	**1.7**	**1.9**	**2.1**
Treasury bill, 3-mo.	0.99	1.01	0.99	0.97	0.90	0.81	0.73	0.90	**1.1**	**1.2**	**1.4**	**1.6**	**1.8**	**2.0**
Treasury bill, 6-mo.	1.12	1.12	1.09	1.07	1.03	0.95	0.87	1.03	**1.2**	**1.3**	**1.5**	**1.7**	**1.9**	**2.1**
Treasury bill, 1 yr.	1.22	1.21	1.18	1.16	1.12	1.04	1.00	1.12	**1.3**	**1.5**	**1.7**	**1.9**	**2.1**	**2.3**
Treasury note, 2 yr.	1.35	1.35	1.32	1.28	1.31	1.24	1.30	1.30	**1.5**	**1.7**	**1.8**	**2.0**	**2.2**	**2.4**
Treasury note, 5 yr.	1.78	1.76	1.74	1.75	1.85	1.83	2.00	1.81	**2.0**	**2.1**	**2.3**	**2.5**	**2.6**	**2.8**
Treasury note, 10 yr.	2.16	2.18	2.18	2.20	2.31	2.30	2.47	2.26	**2.4**	**2.6**	**2.7**	**2.9**	**3.1**	**3.2**
Treasury note, 30 yr.	2.74	2.82	2.84	2.86	2.97	2.94	3.07	2.90	**3.0**	**3.2**	**3.3**	**3.5**	**3.6**	**3.7**
Corporate Aaa bond	3.74	3.82	3.85	3.88	3.99	4.00	4.13	3.93	**4.0**	**4.2**	**4.4**	**4.6**	**4.7**	**4.8**
Corporate Baa bond	4.32	4.39	4.43	4.46	4.57	4.60	4.71	4.52	**4.7**	**4.9**	**5.1**	**5.3**	**5.4**	**5.6**
State & Local bonds	3.37	3.37	3.35	3.39	3.51	3.55	3.72	3.47	**3.7**	**3.9**	**4.1**	**4.2**	**4.3**	**4.4**
Home mortgage rate	3.90	3.91	3.89	3.94	4.01	4.05	4.20	3.99	**4.1**	**4.3**	**4.5**	**4.6**	**4.8**	**4.9**
	History								Consensus Forecasts-Quarterly					
Key Assumptions	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	*2Q 2017**	**3Q 2017**	**4Q 2017**	**1Q 2018**	**2Q 2018**	**3Q 2018**	**4Q 2018**
Major Currency Index	91.8	93.1	93.3	89.6	90.3	93.7	94.4	*92.0*	**92.8**	**93.3**	**93.6**	**93.5**	**93.2**	**92.9**
Real GDP	2.0	0.9	0.8	1.4	3.5	2.1	1.4	*2.8*	**2.4**	**2.3**	**2.3**	**2.5**	**2.3**	**2.3**
GDP Price Index	1.3	0.8	0.5	2.3	1.4	2.1	1.9	*1.3*	**1.9**	**2.0**	**2.1**	**2.1**	**2.1**	**2.2**
Consumer Price Index	1.5	0.4	0.1	2.3	1.8	3.0	3.1	*0.4*	**1.9**	**2.2**	**2.3**	**2.2**	**2.3**	**2.4**

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; LIBOR quotes from Intercontinental Exchange. All interest rate data is sourced from Haver Analytics. Historical data for Fed's Major Currency Index is from FRSR H.10. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS). **Interest rate data for 2Q 2017 based on historical data through the week ended June 23rd. *Data for 2Q 2017 Major Currency Index is based on data through week ended June 23rd.. Figures for 2Q 2017 Real GDP, GDP Chained Price Index and Consumer Price Index are consensus forecasts based on a special question asked of the panelists' this month.*

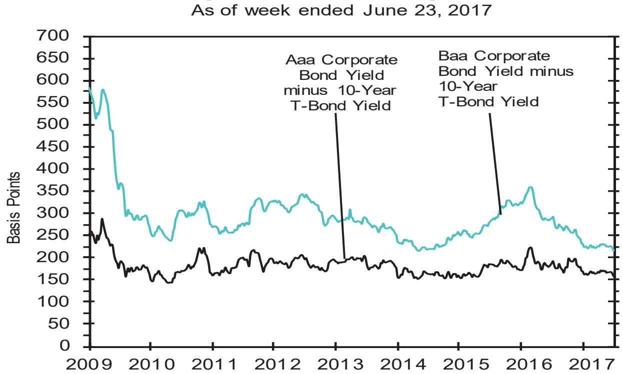
U.S. Treasury Yield Curve
Week ended June 23, 2017 and Year Ago vs. 3Q 2017 and 4Q 2018 Consensus Forecasts



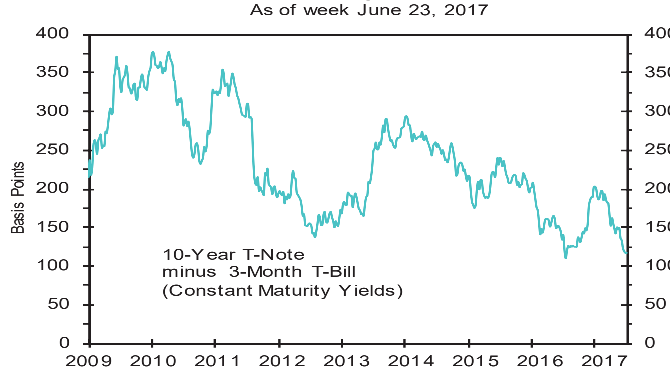
U.S. 3-Mo. T-Bills & 10-Yr. T-Note Yield
(Quarterly Average)



Corporate Bond Spreads
As of week ended June 23, 2017



U.S. Treasury Yield Curve
As of week June 23, 2017



Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2019 through 2023 and averages for the five-year periods 2019-2023 and 2024-2028. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		----------Average For The Year-----------					Five-Year Averages	
Interest Rates		**2019**	**2020**	**2021**	**2022**	**2023**	**2019-2023**	**2024-2028**
1. Federal Funds Rate	**CONSENSUS**	**2.6**	**2.9**	**2.9**	**2.9**	**2.9**	**2.8**	**3.0**
	Top 10 Average	3.1	3.5	3.4	3.5	3.5	3.4	3.5
	Bottom 10 Average	2.0	2.3	2.3	2.3	2.4	2.3	2.4
2. Prime Rate	**CONSENSUS**	**5.6**	**5.9**	**5.9**	**5.9**	**5.9**	**5.8**	**6.0**
	Top 10 Average	6.1	6.5	6.5	6.5	6.5	6.4	6.5
	Bottom 10 Average	5.0	5.3	5.3	5.2	5.3	5.2	5.4
3. LIBOR, 3-Mo.	**CONSENSUS**	**2.9**	**3.1**	**3.2**	**3.1**	**3.2**	**3.1**	**3.2**
	Top 10 Average	3.4	3.7	3.7	3.7	3.8	3.7	3.8
	Bottom 10 Average	2.4	2.6	2.6	2.5	2.6	2.5	2.6
4. Commercial Paper, 1-Mo.	**CONSENSUS**	**2.7**	**3.0**	**3.0**	**3.0**	**3.1**	**3.0**	**3.1**
	Top 10 Average	3.2	3.5	3.5	3.6	3.6	3.5	3.6
	Bottom 10 Average	2.2	2.5	2.5	2.4	2.5	2.4	2.6
5. Treasury Bill Yield, 3-Mo.	**CONSENSUS**	**2.5**	**2.8**	**2.8**	**2.8**	**2.9**	**2.8**	**2.9**
	Top 10 Average	3.1	3.4	3.4	3.4	3.5	3.3	3.5
	Bottom 10 Average	1.9	2.2	2.3	2.2	2.3	2.2	2.3
6. Treasury Bill Yield, 6-Mo.	**CONSENSUS**	**2.6**	**2.9**	**3.0**	**3.0**	**3.0**	**2.9**	**3.0**
	Top 10 Average	3.2	3.6	3.5	3.6	3.6	3.5	3.6
	Bottom 10 Average	2.0	2.4	2.4	2.4	2.4	2.3	2.4
7. Treasury Bill Yield, 1-Yr.	**CONSENSUS**	**2.8**	**3.1**	**3.1**	**3.1**	**3.1**	**3.0**	**3.2**
	Top 10 Average	3.4	3.7	3.7	3.7	3.7	3.6	3.7
	Bottom 10 Average	2.1	2.5	2.5	2.5	2.5	2.4	2.5
8. Treasury Note Yield, 2-Yr.	**CONSENSUS**	**2.9**	**3.2**	**3.3**	**3.3**	**3.3**	**3.2**	**3.3**
	Top 10 Average	3.5	3.9	3.9	3.9	3.9	3.8	4.0
	Bottom 10 Average	2.3	2.6	2.7	2.6	2.6	2.6	2.7
10. Treasury Note Yield, 5-Yr.	**CONSENSUS**	**3.3**	**3.5**	**3.5**	**3.6**	**3.6**	**3.5**	**3.6**
	Top 10 Average	3.9	4.2	4.2	4.2	4.2	4.1	4.3
	Bottom 10 Average	2.7	2.9	2.9	3.0	3.0	2.9	3.0
11. Treasury Note Yield, 10-Yr.	**CONSENSUS**	**3.6**	**3.8**	**3.8**	**3.9**	**3.9**	**3.8**	**3.9**
	Top 10 Average	4.2	4.5	4.4	4.5	4.5	4.4	4.6
	Bottom 10 Average	2.9	3.1	3.1	3.2	3.3	3.1	3.3
12. Treasury Bond Yield, 30-Yr.	**CONSENSUS**	**4.2**	**4.3**	**4.4**	**4.4**	**4.4**	**4.3**	**4.5**
	Top 10 Average	4.9	5.0	5.0	5.0	5.0	5.0	5.1
	Bottom 10 Average	3.5	3.7	3.7	3.8	3.8	3.7	3.8
13. Corporate Aaa Bond Yield	**CONSENSUS**	**5.2**	**5.4**	**5.4**	**5.4**	**5.5**	**5.4**	**5.5**
	Top 10 Average	5.7	5.9	5.9	6.0	5.9	5.9	6.0
	Bottom 10 Average	4.7	4.9	4.9	4.9	5.0	4.9	5.1
13. Corporate Baa Bond Yield	**CONSENSUS**	**6.1**	**6.3**	**6.3**	**6.3**	**6.3**	**6.3**	**6.4**
	Top 10 Average	6.8	7.0	6.9	7.0	6.9	6.9	7.0
	Bottom 10 Average	5.5	5.6	5.7	5.6	5.8	5.6	5.7
14. State & Local Bonds Yield	**CONSENSUS**	**4.6**	**4.7**	**4.7**	**4.7**	**4.7**	**4.7**	**4.8**
	Top 10 Average	5.1	5.3	5.2	5.3	5.3	5.2	5.3
	Bottom 10 Average	4.2	4.2	4.2	4.1	4.1	4.2	4.2
15. Home Mortgage Rate	**CONSENSUS**	**5.3**	**5.5**	**5.5**	**5.5**	**5.5**	**5.4**	**5.6**
	Top 10 Average	5.9	6.2	6.1	6.2	6.1	6.1	6.2
	Bottom 10 Average	4.6	4.8	4.8	4.7	4.9	4.8	4.9
A. FRB - Major Currency Index	**CONSENSUS**	**93.8**	**93.2**	**93.1**	**93.0**	**92.7**	**93.2**	**92.5**
	Top 10 Average	96.5	96.6	96.9	97.1	97.2	96.9	97.1
	Bottom 10 Average	91.0	89.7	89.2	88.7	88.1	89.3	88.1

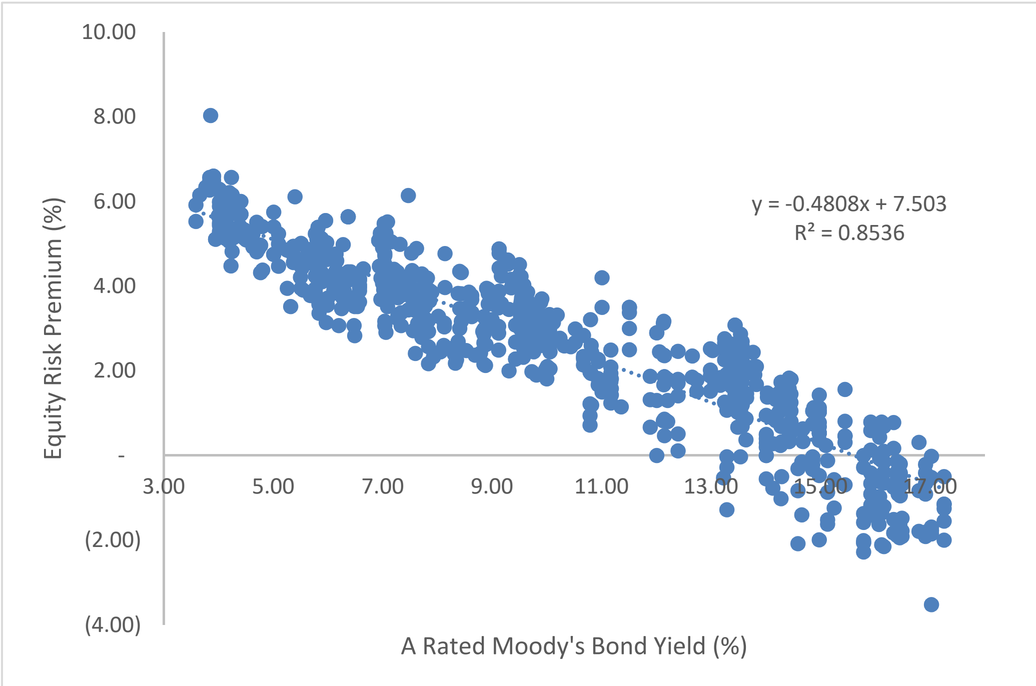
		----------Year-Over-Year, % Change----------					Five-Year Averages	
		2019	**2020**	**2021**	**2022**	**2023**	**2019-2023**	**2024-2028**
B. Real GDP	**CONSENSUS**	**2.2**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.1**
	Top 10 Average	2.6	2.4	2.4	2.4	2.3	2.4	2.3
	Bottom 10 Average	1.7	1.6	1.6	1.6	1.6	1.6	1.8
C. GDP Chained Price Index	**CONSENSUS**	**2.2**	**2.1**	**2.1**	**2.0**	**2.0**	**2.1**	**2.0**
	Top 10 Average	2.5	2.3	2.3	2.2	2.2	2.3	2.3
	Bottom 10 Average	1.9	1.9	1.9	1.9	1.7	1.8	1.9
D. Consumer Price Index	**CONSENSUS**	**2.3**	**2.3**	**2.3**	**2.3**	**2.2**	**2.2**	**2.2**
	Top 10 Average	2.6	2.6	2.5	2.5	2.4	2.5	2.4
	Bottom 10 Average	1.9	2.0	2.0	2.1	1.8	2.0	2.0

LAC / MGE
Derivation of Mean Equity Risk Premium Based on a Study
Using Holding Period Returns of Public Utilities

Line No.		Over A Rated Moody's Public Utility Bonds (1)
1.	Historical Equity Risk Premium	3.96 %
2.	Forecasted Equity Risk Premium Based on PRPM (2)	4.10
3.	Regression of Historical Equity Risk Premium (3)	5.51
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (4)	3.72
5.	Average Equity Risk Premium	4.32 %

Notes:
(1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2016.
(2) The PRPM is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A rated public utility bonds from January 1928 - June 2017.
(3) This equity risk premium is based on a regression of the monthly equity risk premiums of the S&P Utility Index relative to Moody's A rated public utility bond yields from 1928 - 2016 referenced in note 1 above.
(4) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 8.25% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A rated public utility bond yield of 4.89%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 3.36%. (8.25% - 4.89% = 3.36%)

LAC / MGE
Prediction of Equity Risk Premiums Relative to Moody's A Rated Utility Bond Yields



Constant	Slope	Prospective A Rated Utility Bond (1)	Prospective Equity Risk Premium
7.503 %	-0.4808	4.96 %	5.12 %

Notes:
(1) From line 3 of page 3 of this Schedule.

Source of Information: Regulatory Research Associates

LAC / MGE
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.		[1] Implied Market Capitalization (1) (millions)	(times larger)	[2] Applicable Decile of the NYSE/AMEX/ NASDAQ (2)	[3] Applicable Size Premium (3)	[4] Spread from Applicable Size Premium (4)
1.	LAC / MGE					
	a. Based on Mr. Murray's Gas Proxy Group	$ 2,247.026		6	1.66%	
	b. Based on Mr. Gorman's Gas Proxy Group	$ 2,472.299		5-6	1.59%	
2.	Mr. Murray's Gas Proxy Group	$ 4,176.922	1.9 x	4	0.98%	0.68%
3.	Mr. Gorman's Gas Proxy Group	$ 3,969.904	1.6 x	4-5	1.25%	0.34%

	[A] Decile	[B] Number of Companies (millions)	[C] Recent Total Market Capitalization (millions)	[D] Recent Average Market Capitalization (millions)	[E] Size Premium (Return in Excess of CAPM)		
Largest	1	191	$15,290,475.30	$80,054.84	-0.35%	1 - 2	$47,554.100
	2	200	$3,010,671.02	$15,053.36	0.61%	2 - 3	$11,510.776
	3	202	$1,609,575.62	$7,968.20	0.89%	3 - 4	$6,271.093
	4	221	$1,010,851.81	$4,573.99	0.98%	4 - 5	$3,778.449
	5	227	$677,120.07	$2,982.91	1.51%	5 - 6	$2,535.929
	6	259	$541,038.00	$2,088.95	1.66%	6 - 7	$1,723.148
	7	283	$384,129.20	$1,357.35	1.72%	7 - 8	$1,090.259
	8	361	$297,164.94	$823.17	2.08%	8 - 9	$629.871
	9	487	$212,609.64	$436.57	2.68%	9 - 10	$277.071
Smallest	10	790	$92,882.17	$117.57	5.59%		

*From 2017 Stocks, Bonds, Bills, and Inflation (SBBI) Yearbook

Notes:
(1) From Page 2 of this Schedule.
(2) Gleaned from Column D on the bottom of this page. The appropriate decile (Column A) corresponds to the market capitalization of the proxy group, which is found in Column 1.
(3) Corresponding risk premium to the decile is provided on Column (E) on the bottom of this page.
(4) Line No. 1a Column 3 – Line No. 2 Column 3. The 0.68% in Column 4, Line No. 2 is derived as follows 0.68% = 1.66% - 0.98%.

LAC / MGE
Market Capitalization of LAC / MGE,
and Mssers. Murray and Gorman's Gas Proxy Groups

Company	Exchange	[1] Common Stock Shares Outstanding (millions)	[2] Book Value per Share	[3] Closing Stock Market Price (1)	[4] Market-to-Book Ratio (2)	[5] Total Common Equity at Fiscal Year End 2016 (millions)	[6] Market Capitalization (3) (millions)
LAC / MGE		NA	NA	NA		$1,068.486 (4)	
Based on Mr. Murray's Gas Proxy Group					210.3 % (5)		$ 2,247.026 (6)
Based on Mr. Gorman's Gas Proxy Group					231.4 % (7)		$ 2,472.299 (8)
Mr. Murray's Gas Proxy Group							
Atmos Energy Corp.	NYSE	103.930	$ 33.320	$ 82.041	246.2 %		$ 8,526.521
Northwest Natural Gas Co.	NYSE	28.630	29.710	60.458	203.5		1,730.913
ONE Gas, Inc.	NYSE	52.280	36.120	69.731	193.1		3,645.537
Southwest Gas Holdings, Inc.	NYSE	47.480	35.030	79.886	228.1		3,792.987
Spire, Inc.	NYSE	45.650	38.730	69.850	180.4		3,188.653
Average		55.594	$ 34.582	$ 72.393	210.3 %		$ 4,176.922
Mr. Gorman's Proxy Group							
Atmos Energy Corp.	NYSE	103.930	$ 33.320	$ 84.220	252.8 %		$ 8,752.985
New Jersey Resources Corp.	NYSE	85.880	13.580	41.560	306.0		3,569.173
Northwest Natural Gas Co.	NYSE	28.630	29.710	61.630	207.4		1,764.467
South Jersey Industries, Inc.	NYSE	79.480	16.220	34.960	215.5		2,778.621
Southwest Gas Holdings, Inc.	NYSE	47.480	35.030	78.000	222.7		3,703.440
Spire, Inc.	NYSE	45.650	38.730	71.210	183.9		3,250.737
Average		65.175	$ 27.765	$ 61.930	231.4 %		$ 3,969.904

NA= Not Available

Notes:
(1) From Schedule 10 of the MOPSC Staff Report and Schedule MPG-5, respectively.
(2) Column 3 / Column 2.
(3) Column 3 * Column 1.
(4) From LAC / MGE 2016 Annual Reports to the Missouri Public Service Commission.
(5) The market-to-book ratio of LAC / MGE is assumed to be equal to the market-to-book ratio of Mr. Murray's Gas Proxy Group.
(6) LAC / MGE's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio Mr. Murray's Gas Proxy Group, 210.3%, and LAC / MGE's market capitalization would therefore have been $2,298.46 million.
(7) The market-to-book ratio of LAC / MGE is assumed to be equal to the market-to-book ratio of Mr. Gorman's Gas Proxy Group.
(8) LAC / MGE's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio Mr. Gorman's Gas Proxy Group, 231.4%, and LAC / MGE's market capitalization would therefore have been $2,528.890 million.

Source of Information: Value Line Standard Edition
Schedules 9 and 10 of the MOPSC Staff Report
Schedules MPG-5 and MPG-7

Missouri Gas Energy
Return on Common Equity Comparison
Mr. Murray's Gas Proxy Group

Mr. Murray's Gas Proxy Group	Value Line Projected ROE - 2020-2022
Atmos Energy Corp.	11.50 %
Northwest Natural Gas Co.	10.00
ONE Gas, Inc.	9.50
Southwest Gas Holdings, Inc.	9.00
Spire, Inc.	9.50
Average	9.90 %

Sources of Information:
Value Line Investment Survey, Ratings & Reports, September 1, 2017

LAC / MGE

Calculation of Trailing P/E Ratios and Projected EPS Growth Rates for the

Proxy Group of Seven Natural Gas Utility Companies

	9/12/2008		9/6/2013		9/1/2017	
	Trailing P/E Ratio	Projected EPS Growth	Trailing P/E Ratio	Projected EPS Growth	Trailing P/E Ratio	Projected EPS Growth
Ahern Gas Proxy Group	19.67	6.39%	17.07	5.92%	26.31	6.29%

Source of Information: Value Line Investment Survey, Standard and Small and Mid-Cap Edition

LAC / MGE
Demonstration of the Inadequacy of
a DCF Return Rate Related to Book Value
When Market Value is Greater than Book Value

		[A]	[B]
		Based on Mr. Gorman's Gas Proxy Group	
Line No.		Market Value	Book Value
1.	Per Share	$ 61.93 (1)	$ 27.77 (2)
2.	DCF Cost Rate (3)	9.05%	9.05%
3.	Return in Dollars (4)	$ 5.605	$ 2.513
4.	Dividends (5)	$ 1.777	$ 1.777
5.	Growth in Dollars (6)	$ 3.828	$ 0.736
6.	Return on Market Value (7)	9.05%	4.06%
7.	Rate of Growth on Market	6.18%	1.19%

Notes:
(1) Average market price for Mr. Gorman's Gas Proxy Group as shown on Schedule MPG-5.
(2) Average book value for Mr. Gorman's Gas Proxy Group as shown on Column 2 of Schedule MPG-7, page 2.
(3) Sustainable growth DCF cost rate from Schedule MPG-8.
(4) Line 1 x Line 2.
(5) Dividends are based on a 2.87% dividend yield, shown on Schedule MPG-8.
(6) Line 3 - Line 4.
(7) Line 3 / Line 1.

Alaska Power Company
Market-to-Book Ratios, Earnings / Book Ratios and
Inflation for Standard & Poor's Industrial Index and
the Standard & Poor's 500 Composite Index
from 1947 through 2016

	Market-to-Book Ratio (1)		Earnings / Book Common Equity Ratio (2)			Earnings / Book Common Equity Ratio - Net of Inflation	
Year	S&P Industrial Index (3)	S&P 500 Composite Index (3)	S&P Industrial Index (3)	S&P 500 Composite Index (3)	Inflation (4)		
1947	1.23	NA	13.0 %	NA	9.0 %	4.0 %	NA
1948	1.13	NA	17.3	NA	2.7	14.6	NA
1949	1.00	NA	16.3	NA	(1.8)	18.1	NA
1950	1.16	NA	18.3	NA	5.8	12.5	NA
1951	1.27	NA	14.4	NA	5.9	8.5	NA
1952	1.29	NA	12.7	NA	0.9	11.8	NA
1953	1.21	NA	12.7	NA	0.6	12.1	NA
1954	1.45	NA	13.5	NA	(0.5)	14.0	NA
1955	1.81	NA	16.0	NA	0.4	15.6	NA
1956	1.92	NA	13.7	NA	2.9	10.8	NA
1957	1.71	NA	12.5	NA	3.0	9.5	NA
1958	1.70	NA	9.8	NA	1.8	8.0	NA
1959	1.94	NA	11.2	NA	1.5	9.7	NA
1960	1.82	NA	10.3	NA	1.5	8.8	NA
1961	2.01	NA	9.8	NA	0.7	9.1	NA
1962	1.83	NA	10.9	NA	1.2	9.7	NA
1963	1.94	NA	11.4	NA	1.7	9.7	NA
1964	2.18	NA	12.3	NA	1.2	11.1	NA
1965	2.21	NA	13.2	NA	1.9	11.3	NA
1966	2.00	NA	13.2	NA	3.4	9.8	NA
1967	2.05	NA	12.1	NA	3.0	9.1	NA
1968	2.17	NA	12.6	NA	4.7	7.9	NA
1969	2.10	NA	12.1	NA	6.1	6.0	NA
1970	1.71	NA	10.4	NA	5.5	4.9	NA
1971	1.99	NA	11.2	NA	3.4	7.8	NA
1972	2.16	NA	12.0	NA	3.4	8.6	NA
1973	1.96	NA	14.6	NA	8.8	5.8	NA
1974	1.39	NA	14.8	NA	12.2	2.6	NA
1975	1.34	NA	12.3	NA	7.0	5.3	NA
1976	1.51	NA	14.5	NA	4.8	9.7	NA
1977	1.38	NA	14.6	NA	6.8	7.8	NA
1978	1.25	NA	15.3	NA	9.0	6.3	NA
1979	1.23	NA	17.2	NA	13.3	3.9	NA
1980	1.31	NA	15.6	NA	12.4	3.2	NA
1981	1.24	NA	14.9	NA	8.9	6.0	NA
1982	1.17	NA	11.3	NA	3.9	7.4	NA
1983	1.45	NA	12.2	NA	3.8	8.4	NA
1984	1.46	NA	14.6	NA	4.0	10.6	NA
1985	1.67	NA	12.2	NA	3.8	8.4	NA
1986	2.02	NA	11.5	NA	1.1	10.4	NA
1987	2.50	NA	15.7	NA	4.4	11.3	NA
1988	2.13	NA	19.0	NA	4.4	14.6	NA
1989	2.56	NA	18.5	NA	4.7	13.8	NA
1990	2.63	NA	16.3	NA	6.1	10.2	NA
1991	2.77	NA	10.8	NA	3.1	7.7	NA
1992	3.29	NA	13.0	NA	2.9	10.1	NA
1993	3.72	NA	15.7	NA	2.8	12.9	NA
1994	3.73	NA	23.0	NA	2.7	20.3	NA
1995	4.06	2.64	22.9	16.0 %	2.5	20.4	13.5 %
1996	4.79	3.00	24.8	16.8	3.3	21.5	13.5
1997	5.88	3.53	24.6	16.3	1.7	22.9	14.6
1998	7.13	4.16	21.3	14.5	1.6	19.7	12.9
1999	8.27	4.76	25.2	17.1	2.7	22.5	14.4
2000	7.51	4.51	23.9	16.2	3.4	20.5	12.8
2001	NA	3.50	NA	7.4	1.6	NA	5.8
2002	NA	2.93	NA	8.3	2.4	NA	5.9
2003	NA	2.78	NA	14.1	1.9	NA	12.2
2004	NA	2.91	NA	15.3	3.3	NA	12.0
2005	NA	2.78	NA	16.4	3.4	NA	13.0
2006	NA	2.77	NA	17.0	2.5	NA	14.5
2007	NA	2.84	NA	12.8	4.1	NA	8.7
2008	NA	2.24	NA	3.0	0.1	NA	2.9
2009	NA	1.87	NA	10.6	2.7	NA	7.9
2010	NA	2.09	NA	14.2	1.5	NA	12.7
2011	NA	2.07	NA	14.6	3.0	NA	11.6
2012	NA	2.14	NA	13.5	1.7	NA	11.8
2013	NA	2.39	NA	14.5	1.5	NA	13.0
2014	NA	2.66	NA	14.2	0.8	NA	13.4
2015	NA	2.73	NA	11.8	0.7	NA	11.1
2016	NA	2.72	NA	12.5	2.1	NA	10.5

Notes:

(1) Market-to-Book Ratio equals average of the high and low market price for the year divided by the average book
(2) Earnings/Book equals earnings per share for the year divided by the average
(3) On January 2, 2001 Standard & Poor's released Global Industry Classification Standard (GICS) price indexes for all Standard & Poor's U.S. indexes. As a result, all S&P Indexes have been calculated with a common base of 100 at a start date of December 31, 1994. Also, the GICS industrial sector is not comparable to the former S&P Industrial Index and data for the former S&P
(4) As measured by the Consumer Price Index (CPI).

Sources of Information:

Standard & Poor's Security Price Index Record, 2000 Edition, p. 40
Standard & Poor's Statistical Service, Current Statistics, March 2013, p. 30
Standard & Poor's Compustat Services, Inc. PC Plus Research Insight Database
Morningstar SBBI Appendix A Tables, Morningstar Stocks, Bonds, Billls, and Inflation | 1926-2016, © 2017 Morningstar.
sp 500 eps est.xlsx. http://www.spindices.com/indices/equity/sp-500
finance.yahoo.com

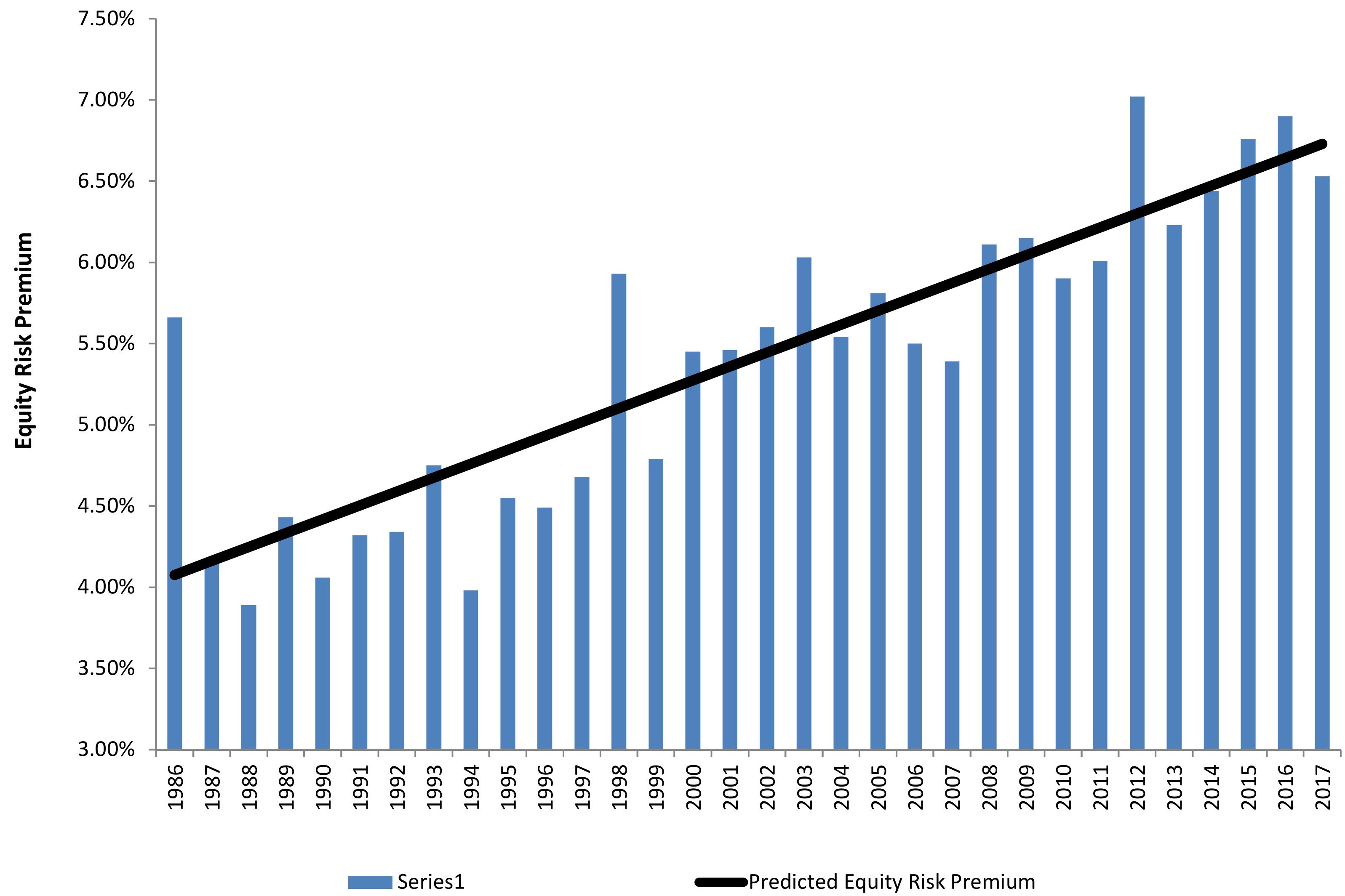
LAC / MGE
Regression Predictions of Observed Equity Risk Premiums Relative to Treasury Bond Yields
1986 - June 2017

Mr. Gorman's Observations (1)		Regression Predictions		
Year	Equity Risk Premium	*Observation*	*Predicted Y*	*Residuals*
1986	5.66%	1	0.040752841	0.015847159
1987	4.16%	2	0.041608706	-8.70601E-06
1988	3.89%	3	0.042464571	-0.003564571
1989	4.43%	4	0.043320436	0.000979564
1990	4.06%	5	0.044176301	-0.003576301
1991	4.32%	6	0.045032166	-0.001832166
1992	4.34%	7	0.045888032	-0.002488032
1993	4.75%	8	0.046743897	0.000756103
1994	3.98%	9	0.047599762	-0.007799762
1995	4.55%	10	0.048455627	-0.002955627
1996	4.49%	11	0.049311492	-0.004411492
1997	4.68%	12	0.050167357	-0.003367357
1998	5.93%	13	0.051023222	0.008276778
1999	4.79%	14	0.051879087	-0.003979087
2000	5.45%	15	0.052734952	0.001765048
2001	5.46%	16	0.053590817	0.001009183
2002	5.60%	17	0.054446683	0.001553317
2003	6.03%	18	0.055302548	0.004997452
2004	5.54%	19	0.056158413	-0.000758413
2005	5.81%	20	0.057014278	0.001085722
2006	5.50%	21	0.057870143	-0.002870143
2007	5.39%	22	0.058726008	-0.004826008
2008	6.11%	23	0.059581873	0.001518127
2009	6.15%	24	0.060437738	0.001062262
2010	5.90%	25	0.061293603	-0.002293603
2011	6.01%	26	0.062149468	-0.002049468
2012	7.02%	27	0.063005334	0.007194666
2013	6.23%	28	0.063861199	-0.001561199
2014	6.44%	29	0.064717064	-0.000317064
2015	6.76%	30	0.065572929	0.002027071
2016	6.90%	31	0.066428794	0.002571206
2017	6.53%	32	0.067284659	-0.001984659

Notes:
(1) From Schedule MPG-12.

T-Statistic 9.840485551

Predicted Equity Risk Premium Relative to Treasury Bond Yields Based on Regression Analysis of Mr. Gorman's Study on Schedule MPG-12



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Regression Analysis of Observed Equity Risk Premiums Relative to Treasury Bond Yields

1986 - June 2017

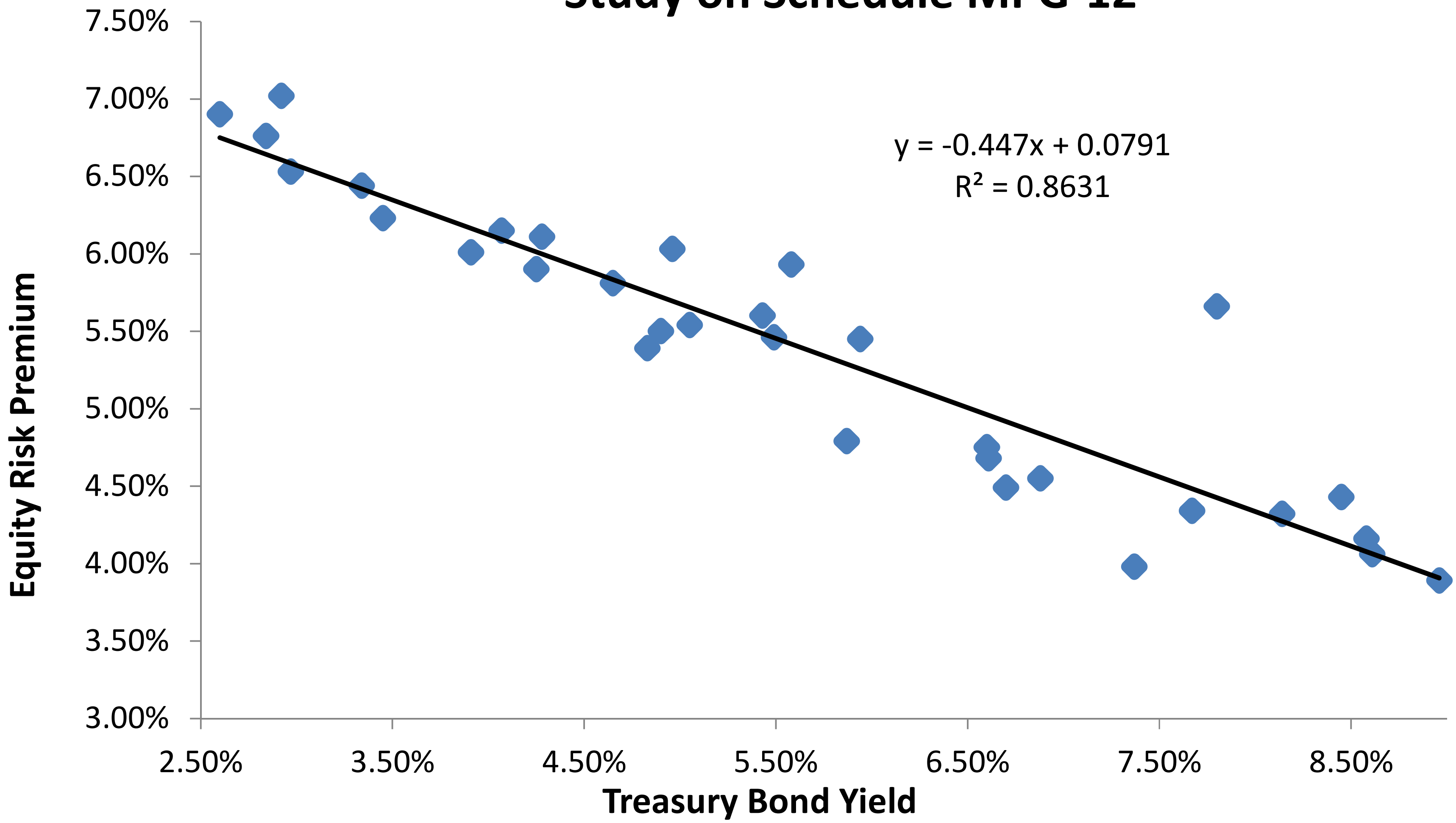
OPC's Observations (1)			Regression Predictions		
Year	Equity Risk Premium	Treasury Bond Yield	*Observation*	*Predicted Y*	*Residuals*
1986	5.66%	7.80%	1	0.044254831	0.012345169
1987	4.16%	8.58%	2	0.040768316	0.000831684
1988	3.89%	8.96%	3	0.039069758	-0.000169758
1989	4.43%	8.45%	4	0.041349402	0.002950598
1990	4.06%	8.61%	5	0.040634219	-3.42195E-05
1991	4.32%	8.14%	6	0.042735068	0.000464932
1992	4.34%	7.67%	7	0.044835917	-0.001435917
1993	4.75%	6.60%	8	0.049618701	-0.002118701
1994	3.98%	7.37%	9	0.046176885	-0.006376885
1995	4.55%	6.88%	10	0.048367131	-0.002867131
1996	4.49%	6.70%	11	0.049171712	-0.004271712
1997	4.68%	6.61%	12	0.049574002	-0.002774002
1998	5.93%	5.58%	13	0.05417799	0.00512201
1999	4.79%	5.87%	14	0.052881721	-0.004981721
2000	5.45%	5.94%	15	0.052568829	0.001931171
2001	5.46%	5.49%	16	0.05458028	1.97199E-05
2002	5.60%	5.43%	17	0.054848474	0.001151526
2003	6.03%	4.96%	18	0.056949322	0.003350678
2004	5.54%	5.05%	19	0.056547032	-0.001147032
2005	5.81%	4.65%	20	0.058334989	-0.000234989
2006	5.50%	4.90%	21	0.057217516	-0.002217516
2007	5.39%	4.83%	22	0.057530408	-0.003630408
2008	6.11%	4.28%	23	0.059988848	0.001111152
2009	6.15%	4.07%	24	0.060927526	0.000572474
2010	5.90%	4.25%	25	0.060122945	-0.001122945
2011	6.01%	3.91%	26	0.061642708	-0.001542708
2012	7.02%	2.92%	27	0.066067901	0.004132099
2013	6.23%	3.45%	28	0.063698858	-0.001398858
2014	6.44%	3.34%	29	0.064190546	0.000209454
2015	6.76%	2.84%	30	0.066425492	0.001174508
2016	6.90%	2.60%	31	0.067498266	0.001501734
2017	6.53%	2.97%	32	0.065844406	-0.000544406

Notes:

(1) From Schedule MPG-12.

T-Statistic -13.75000558

Predicted Equity Risk Premium Relative to Treasury Bond Yields Based on Regression Analysis of Mr. Gorman's Study on Schedule MPG-12



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Regression Predictions of Observed Equity Risk Premiums Relative to A Rated Utility Bond Yields

1986 - June 2017

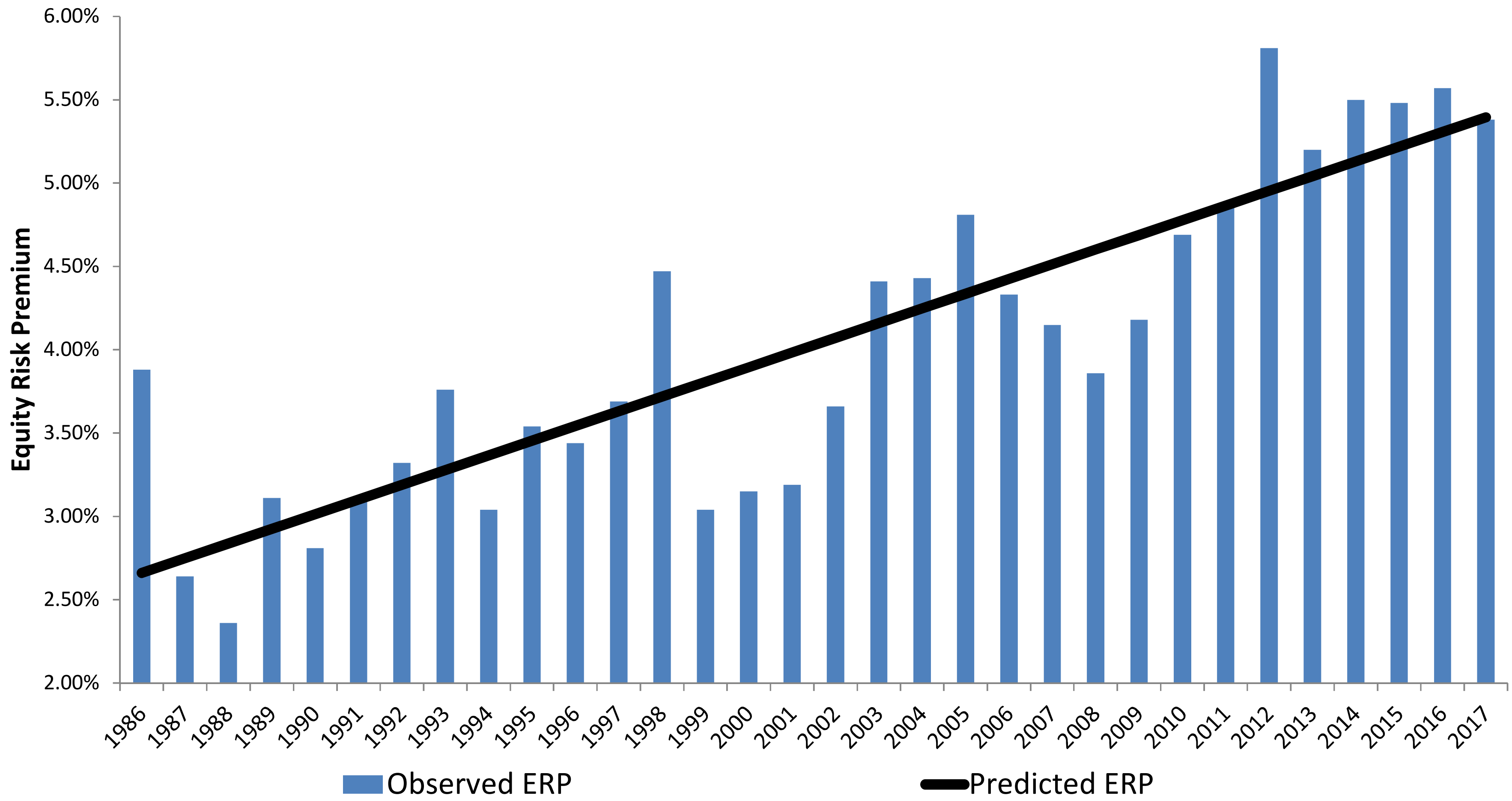
OPC's Observations (1)			Regression Predictions		
Year	Equity Risk Premium		*Observation*	*Predicted Y*	*Residuals*
1986	3.88%		1	0.026604545	0.012195455
1987	2.64%		2	0.02748651	-0.00108651
1988	2.36%		3	0.028368475	-0.004768475
1989	3.11%		4	0.02925044	0.00184956
1990	2.81%		5	0.030132405	-0.002032405
1991	3.10%		6	0.03101437	-1.43695E-05
1992	3.32%		7	0.031896334	0.001303666
1993	3.76%		8	0.032778299	0.004821701
1994	3.04%		9	0.033660264	-0.003260264
1995	3.54%		10	0.034542229	0.000857771
1996	3.44%		11	0.035424194	-0.001024194
1997	3.69%		12	0.036306158	0.000593842
1998	4.47%		13	0.037188123	0.007511877
1999	3.04%		14	0.038070088	-0.007670088
2000	3.15%		15	0.038952053	-0.007452053
2001	3.19%		16	0.039834018	-0.007934018
2002	3.66%		17	0.040715982	-0.004115982
2003	4.41%		18	0.041597947	0.002502053
2004	4.43%		19	0.042479912	0.001820088
2005	4.81%		20	0.043361877	0.004738123
2006	4.33%		21	0.044243842	-0.000943842
2007	4.15%		22	0.045125806	-0.003625806
2008	3.86%		23	0.046007771	-0.007407771
2009	4.18%		24	0.046889736	-0.005089736
2010	4.69%		25	0.047771701	-0.000871701
2011	4.88%		26	0.048653666	0.000146334
2012	5.81%		27	0.04953563	0.00856437
2013	5.20%		28	0.050417595	0.001582405
2014	5.50%		29	0.05129956	0.00370044
2015	5.48%		30	0.052181525	0.002618475
2016	5.57%		31	0.05306349	0.00263651
2017	5.38%		32	0.053945455	-0.000145455

T-Statistic 9.539188758

Notes:

(1) From Schedule MPG-13.

Predicted Equity Risk Premium Relative to A Rated Public Utilty Bond Yields Based on Regression Analysis of Mr. Gorman's Study on Schedule MPG-13



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Regression Analysis of Observed Equity Risk Premiums Relative to A Rated Utility Bond Yields

1986 - June 2017

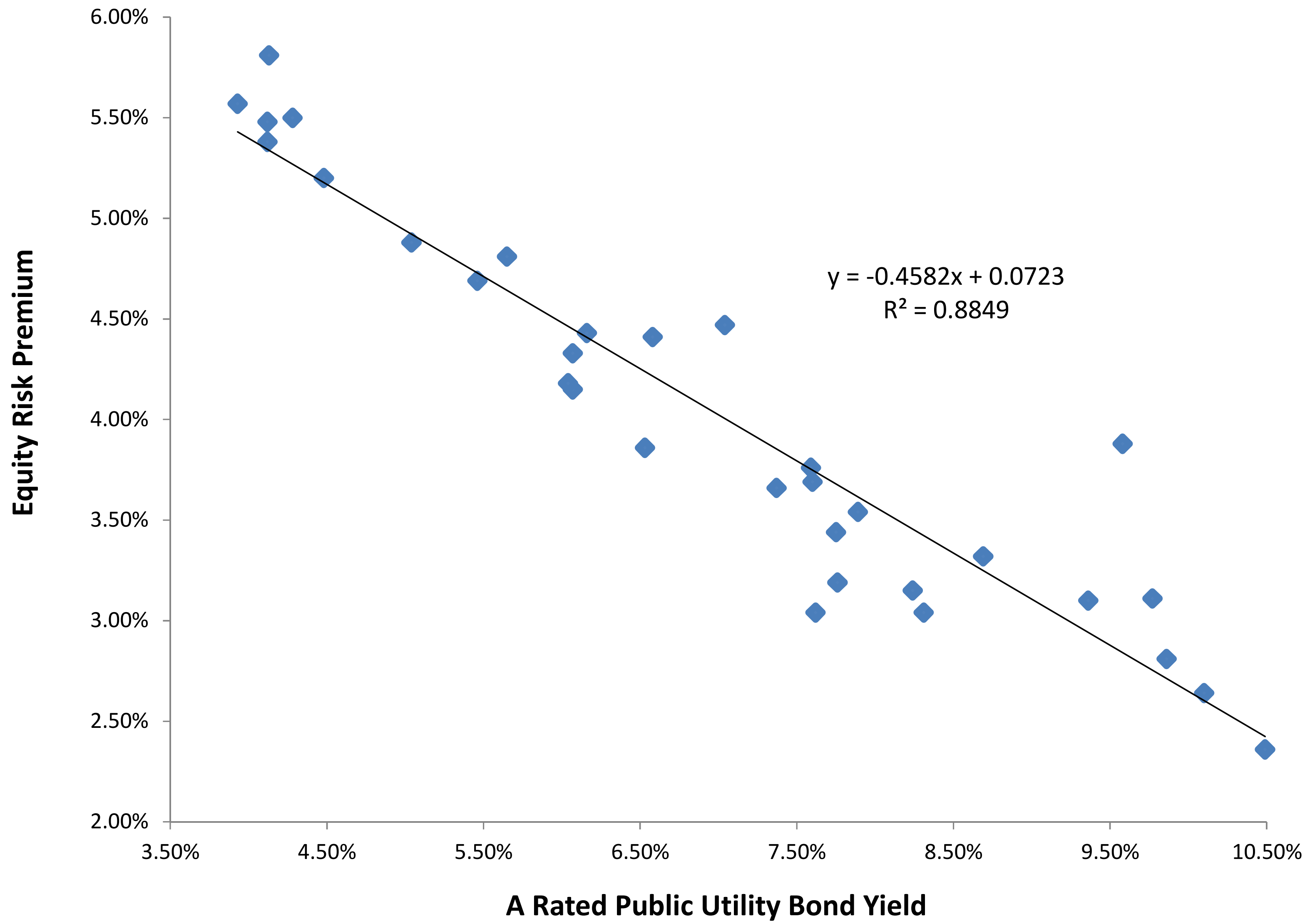
OPC's Observations (1)			Regression Predictions		
Year	Equity Risk Premium	Moody's A Rated Bond Yield	*Observation*	*Predicted Y*	*Residuals*
1986	3.88%	9.58%	1	0.02840782	0.01039218
1987	2.64%	10.10%	2	0.02602522	0.00037478
1988	2.36%	10.49%	3	0.02423827	-0.00063827
1989	3.11%	9.77%	4	0.027537255	0.003562745
1990	2.81%	9.86%	5	0.027124882	0.000975118
1991	3.10%	9.36%	6	0.029415843	0.001584157
1992	3.32%	8.69%	7	0.032485731	0.000714269
1993	3.76%	7.59%	8	0.037525846	7.41537E-05
1994	3.04%	8.31%	9	0.034226862	-0.003826862
1995	3.54%	7.89%	10	0.036151269	-0.000751269
1996	3.44%	7.75%	11	0.036792739	-0.002392739
1997	3.69%	7.60%	12	0.037480027	-0.000580027
1998	4.47%	7.04%	13	0.040045904	0.004654096
1999	3.04%	7.62%	14	0.037388389	-0.006988389
2000	3.15%	8.24%	15	0.034547596	-0.003047596
2001	3.19%	7.76%	16	0.036746919	-0.004846919
2002	3.66%	7.37%	17	0.038533869	-0.001933869
2003	4.41%	6.58%	18	0.042153588	0.001946412
2004	4.43%	6.16%	19	0.044077996	0.000222004
2005	4.81%	5.65%	20	0.046414777	0.001685223
2006	4.33%	6.07%	21	0.044490369	-0.001190369
2007	4.15%	6.07%	22	0.044490369	-0.002990369
2008	3.86%	6.53%	23	0.042382684	-0.003782684
2009	4.18%	6.04%	24	0.044627827	-0.002827827
2010	4.69%	5.46%	25	0.047285342	-0.000385342
2011	4.88%	5.04%	26	0.049209749	-0.000409749
2012	5.81%	4.13%	27	0.053379299	0.004720701
2013	5.20%	4.48%	28	0.051775626	0.000224374
2014	5.50%	4.28%	29	0.052692011	0.002307989
2015	5.48%	4.12%	30	0.053425118	0.001374882
2016	5.57%	3.93%	31	0.054295684	0.001404316
2017	5.38%	4.12%	32	0.053425118	0.000374882

T-Statistic -15.18530447

Notes:

(1) From Schedule MPG-13.

Predicted Equity Risk Premium Relative to A Rated Utility Bond Yields Based on Regression Analysis of Mr. Gorman's Study on Schedule MPG-13



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Gorman Corrected Risk Premium Method
Reflecting a Forecasted Equity Risk Premium
Relative to an A2 Bond Rating

Based on Treasury Bond Yields

Projected 30 Year Treasury Bond (1)	3.70	%
Expected Risk Premium Over Long-Term Treasury Bonds (2)	6.73	
Indicated Common Equity Cost Rate Based on Risk Premium Method	10.43	%
Projected 30 Year Treasury Bond (1)	3.70	%
Expected Equity Risk Premium due to Inverse Relationship between Treasury Bond Yields and Equity Risk Premia (3)	6.26	
Indicated Common Equity Cost Rate Based on Risk Premium Method	9.96	%

Based on A2 Rated Public Utility Bond Yields

Moody's A2 Rated Public Utility Bond Yield (4)	5.07	%
Expected Equity Risk Premium Over A Rated Public Utility Bonds (5)	5.39	
Indicated Common Equity Cost Rate Based on Risk Premium Method	10.46	%
Moody's A2 Rated Public Utility Bond Yield (4)	5.07	%
Expected Equity Risk Premium due to Inverse Relationship between Treasury Bond Yields and Equity Risk Premia (6)	4.91	
Indicated Common Equity Cost Rate Based on Risk Premium Method	9.98	%
Average of Four Methods	10.21	%

Notes:
(1) From Schedule MPG-13.
(2) From Schedule PMA-16, Page 2.
(3) From Schedule PMA-16, Page 4.
(4) From Schedule MPG-11, Page 1.
(5) From Schedule PMA-17, Page 6.
(6) From Schedule PMA-17, Page 8.

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Calculation of a Projected A Rated Public Utility Yield for Use in the Risk Premium Model

Projected Aaa Corporate Bond (1)	4.80%

Bond Spread Between Aaa Corporate Bonds and A Rated Public Utility Bonds (2)

	Aaa Corp Bonds	A Rated PU Bonds	Spread
Jul-17	3.78%	4.05%	0.27%
Jun-17	3.68%	3.94%	0.26%
May-17	3.85%	4.12%	0.27%
		Average Spread	0.27%
		Projected A Rated Public Utility Bond	5.07%

Notes:

(1) Fourth Quarter 2018 projection of Aaa corporate bonds as reported by Blue Chip Financial Forecasts, August 1, 2017.

(2) From Bloomberg Professional Services.

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Corrected Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)
-

	1	2	3	4	5	6
Mr. Gorman's Gas Proxy Group	Value Line Adjusted Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate (3)	ECAPM Cost Rate (4)	Indicated Common Equity Cost Rate (5)
Atmos Energy Corp.	0.70	7.53	3.70	8.97	9.54	9.25
New Jersey Resources Corp.	0.80	7.53	3.70	9.72	10.10	9.91
Northwest Natural Gas Co.	0.65	7.53	3.70	8.59	9.25	8.92
South Jersey Industries, Inc.	0.80	7.53	3.70	9.72	10.10	9.91
Southwest Gas Holdings, Inc.	0.75	7.53	3.70	9.35	9.82	9.58
Spire, Inc.	0.70	7.53	3.70	8.97	9.54	9.25
Average	0.73			9.22 %	9.72 %	9.47 %

Notes:

(1) Average of Ibbotson Arithmetic monthly risk premium of large stocks minus the income return on long-term government bonds, the application of a regression to the the Ibbotson data to derive a projected MRP, the PRPM projected risk premium based on Ibbotson and Bloomberg data through July 2017, the Value Line 3-5 year projected total return of the market for the 13 weeks ended 8/11/17 less the projected risk-free rate, and the total return on the S&P 500 as measured by Bloomberg less the projected risk-free rate as shown below.

SBBI Large Stocks Total Return 1926-2016	11.97	%
SBBI Long-Term Gov't Bonds Income Return 1926-2016	5.17	
SBBI Risk Premium	6.80	%
PRPM Risk Premium through July, 2017	6.79	%
Application of a Regression to Ibboston Historical Data:	8.48	%
VL Projected 3-5 year return on the market		
From VL Summary and Index for 13 wks ended 8/11/17	7.59	%
Value Line Projected 3-5 year dividend yield	2.01	
Value Line Projected 3-5 year total return on the market	9.60	%
Gorman Risk-Free Rate	3.70	
Value Line Projected Risk Premium	5.90	%
Total return on the Market based on the S&P 500:	13.37	%
Projected Risk-Free Rate (described in Note 2):	3.70	
MRP based on Bloomberg data	9.67	
Average Risk Premium	7.53	%

(2) From Schedule MPG-17.
(3) From note 3 of Schedule PMA-D5, page 2 of 2.
(4) From note 4 of Schedule PMA-D5, page 2 of 2.
(5) Average of Columns 4 and 5.

Sources of Information:
0
Value Line Summary and Index
Value Line Standard Edition
Bloomberg Professional Services
0

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Laclede Gas Company's Request to Increase its Revenues for Gas Service	)))	File No. GR-2017-0215
In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase its Revenues for Gas Service	)))	File No. GR-2017-0216

AFFIDAVIT

STATE OF WASHINGTON)
) SS.
CITY OF SEATTLE)

Pauline M. Ahern, of lawful age, being first duly sworn, deposes and states:

1. My name is Pauline M. Ahern. I am an Executive Director of ScottMadden, Inc. My business address is 1900 West Park Road, Suite 250, Westborough, MA 01581. My mailing address is 3000 Atrium Way, Suite 241, Mount Laurel, NJ 08054.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony on behalf of Laclede Gas Company and MGE.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Pauline M Ahern
Pauline M. Ahern

Subscribed and sworn to before me this October 16th, 2017.

CHAD MIZOGUCHI
Notary Public
State of Washington
Commission Expires May 19, 2020

Notary Public