

003

Exhibit No.:
Issue: Fair Rate of Return
Witness: Frank J. Hanley
Sponsoring Party: Missouri Gas Energy
Case No.: GR-2006-0422
Date Testimony Prepared: December 11, 2006

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-2006-0422

FILED²

FEB 07 2007

Missouri Public
Service Commission

SURREBUTTAL TESTIMONY OF

FRANK J. HANLEY, PRESIDENT
AUS CONSULTANTS - UTILITY SERVICES

DECEMBER 11, 2006

MGE Exhibit No. 3
Case No(s) GR-2006-0422
Date 1-8-07 Rptr RF

TABLE OF CONTENTS

	<u>Page No.</u>
I. INTRODUCTION	1
II. SUMMARY	2
III. CAPITAL STRUCTURE	4
IV. COMMON EQUITY COST RATE	7

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

I. INTRODUCTION

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

A. My name is Frank J. Hanley and I am President of AUS Consultants – Utility Services. My business address is 155 Gaither Drive, P.O. Box 1050, Moorestown, New Jersey 08057.

Q. ARE YOU THE SAME FRANK J. HANLEY WHO PREVIOUSLY SUBMITTED DIRECT AND REBUTTAL TESTIMONIES IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF THIS SURREBUTTAL TESTIMONY?

A. The purpose of this surrebuttal testimony is to respond to the rebuttal testimony of David Murray, witness for the Missouri Public Service Commission Staff (the Staff), concerning my direct testimony. Specifically, I will respond to certain comments contained in his executive summary and also specifically to his criticisms of my recommended capital structure ratios and common equity cost rate. In so doing, I will address the infirmities of his position. In addition, I address the implications of Staff's and Missouri Gas Energy's ("MGE") proposed rate design upon common equity cost rate.

I will also address the rebuttal testimony of the Office of the Public Counsel ("OPC") witness Russell Trippensee regarding his comments on the

1 proposed Staff and MGE rate design proposals insofar as those comments pertain to
2 the cost rate of common equity capital.

3
4 **Q. HAVE YOU PREPARED SCHEDULES IN SUPPORT OF THIS**
5 **SURREBUTTAL TESTIMONY?**

6 A. Yes, I have. They have been marked for identification as Schedules FJH-31 through
7 FJH- 36.

8
9 **II. SUMMARY**

10 **Q. PLEASE BRIEFLY SUMMARIZE YOUR TESTIMONY.**

11 A. This testimony focuses upon Mr. Murray's erroneous, backward-looking position
12 with regard to capital structure and related ratios. Supported by my revised rebuttal
13 testimony beginning at page 5, line 16 through page 13, line 10, I will show that his
14 emphasis upon Southern Union Company (SUG) is entirely inappropriate at this
15 juncture in time because ratemaking is prospective and investors' perceptions of
16 SUG make it clear that its capital structure is no longer representative of a gas
17 distribution utility (LDC) such as MGE on a going-forward basis.

18 *With regard to common equity cost rate, I will show that his criticisms of*
19 *my methodologies are misplaced and result in a recommendation on his part which is*
20 *contrary to regulatory consensus and common sense. The cost rate for common*
21 *equity capital is not, and should not be, the result of a mechanical application of a*
22 *cost of equity model(s).*

1 I will show why Mr. Murray's reliance upon the geometric mean for
2 estimating the cost rate of common equity capital is incorrect. I will also show why
3 his criticism of my recommended small size adjustment for MGE is incorrect and
4 why such an adjustment is essential.

5 I will explain why his contention that a utility company is earning more
6 than its cost of equity when the market value of its common stock is above its book
7 value is incorrect and contrary to market evidence. I will also respond to Mr.
8 Murray's comments regarding my testimony in a 1980 Kentucky Power Company
9 case. Finally, I will explain why his contention that the common equity cost rate
10 derived from my proxy group should be reduced if MGE and the Staff's proposed
11 rate design is implemented is absolutely incorrect.

12 In addition, I address OPC Witness Trippensee's comments regarding the
13 implications on the cost rate for common equity capital if MGE and the Staff's
14 proposed rate design is implemented. I will explain why his contention that such rate
15 design will virtually guarantee earning the authorized common equity return is
16 incorrect. In addition, I will explain why his assertion that a "delivery charge" as
17 proposed by staff with a straight fixed variable (SFV) rate designed for MGE would
18 eliminate all risk of earnings variability is also incorrect.

19 Finally, I explain that if the rate design ultimately adopted by the
20 Commission in this case affords MGE's revenue streams substantial protection from
21 the vagaries of the weather (i.e., either a weather normalization adjustment (WNA)
22 mechanism or the SFV rate design proposed by MGE and endorsed by the Staff for

1 the residential customer class), my 15 basis points allowance should be deleted from
2 my revised recommended common equity cost rate of 11.75%, reducing it to
3 11.60%. Moreover, if the SFV rate design proposal is approved in lieu of the WNA,
4 I believe that a reduction of 25 basis points to my updated recommended common
5 equity cost rate of 11.75% is appropriate because the SFV would tend to ameliorate
6 the impact of weather as well as the risk of earnings variability. Thus, if the SFV rate
7 design proposal is approved, my recommended common equity cost rate is 11.50%
8 relative to my recommended hypothetical common equity ratio of 46.00%.

10 III. CAPITAL STRUCTURE

11 **Q. AT PAGE 2, LINES 5-6, MR. MURRAY STATES, "I WILL SHOW THAT**
12 **SOUTHERN UNION HAS ALWAYS USED A LIBERAL AMOUNT OF**
13 **LEVERAGE DATING BACK TO WHEN IT ACQUIRED THE MGE**
14 **PROPERTIES." PLEASE COMMENT.**

15 **A.** The problem with Mr. Murray's statement and analysis is that they are entirely
16 retrospective. As discussed in my rebuttal testimony, ratemaking is prospective as is
17 the process of estimating the cost of capital. Investors' perceptions and expectations
18 as reflected in market prices are what is important. The fact of the matter is that
19 SUG is a dramatically changing corporation. As shown in Schedule FJH-31, there is
20 a significant shifting underway in the makeup of the business segments of SUG.
21 Between fiscal year-end June of 1994 and fiscal year-end December 2005,
22 distribution sales declined from 100% (SIC Code 4924) to only 74%. Moreover, that

1 information does not reflect the impact of the recent acquisition of Sid Richardson
2 Energy Services nor the sales of SUG's significant gas distribution businesses in
3 Pennsylvania and Rhode Island in 2006. Moreover, SUG recently had its corporate
4 credit ratings lowered from BBB to BBB- by Standard & Poor's (S&P) on
5 November 29, 2006. Despite prior knowledge of the negative implications of the
6 shifting to a midstream natural gas company indicated in correspondence between
7 Mr. Murray and S&P analyst, Plana Lee, Mr. Murray continues to ignore the
8 obvious. In the S&P downgrading the rationale identified as Schedule FJH-32, S&P
9 states:

10 The rating action reflects our assessment of the company's movement
11 toward riskier business segments, coupled with an aggressive financial
12 policy that liberally uses debt leverage. Together, these traits embody
13 credit quality at the lower end of the 'BBB' category.
14

15 Moreover on page 2 of Schedule FJH-32 S&P also states:

16 Given Southern Union's movement away from natural gas utilities and
17 toward the midstream industry, cash flows have become less predictable ...
18 the company's credit protection measures have been stretched and its
19 financial policy has been aggressive ...

20 In view of the foregoing and combined with my rebuttal testimony at pages
21 5-13 discussed supra, it is clear that Mr. Murray's misplaced emphasis upon the past
22 and reliance upon the SUG capital structure, which is not reflective of gas
23 distribution operations, is entirely inappropriate.
24

25 **Q. PLEASE COMMENT ON MR. MURRAY'S REBUTTAL TESTIMONY**
26 **BEGINNING AT PAGE 5, LINE 4 THROUGH PAGE 6, LINE 7.**

1 A. In view of the recent and dramatic changes in SUG's business segments and
2 emphasis upon midstream operations as recognized by S&P and reflected in the
3 November 29, 2006 downgrading of SUG's corporate credit rating, Mr. Murray's
4 emphasis upon average historical common equity ratios over past years since the
5 acquisition of MGE is completely irrelevant.

6

7 **Q. ON PAGES 8 AND 9 OF HIS REBUTTAL TESTIMONY, MR. MURRAY**
8 **DISCUSSES THE TESTIMONIES OF BRUCE H. FAIRCHILD IN PRIOR**
9 **CASES ON BEHALF OF MGE. PLEASE COMMENT.**

10 A. As discussed supra, both ratemaking and the cost of capital are prospective. On a
11 going-forward basis, SUG is now clearly viewed as a midstream company and not a
12 natural gas distribution company. Moreover, Mr. Murray cites Mr. Fairchild's
13 discussion about Southern Union's entrepreneurial spirit. Indeed, it is this
14 "entrepreneurial spirit" which has led to the transition from a primarily natural gas
15 distribution operation to a midstream company. Moreover, such "entrepreneurial
16 spirit" is clearly what has led to S&P's recent downgrading of SUG's credit rating.
17 In this regard, I believe that it would be inappropriate for this Commission to rely
18 upon the capitalization ratios of a company whose "entrepreneurial spirit" is very
19 aggressive and whose financial policies have resulted in the current BBB- credit
20 rating. The point is both a BBB- credit rating and/or Mr. Murray's recommended
21 36.31% common equity ratio are not representative of an LDC. Moreover, as
22 indicated at pages 9-10 of my rebuttal testimony, it is clear that Mr. Murray has

1 recognized that SUG transitioning into a diversified natural gas energy company
2 (midstream) yet he has totally ignored the implications. In fact those implications
3 have now become increasingly clear in view of the November 29, 2006 downgrading
4 of SUG's credit ratings as discussed supra. As a consequence, Mr. Murray's
5 recommendations on capital structure should be disregarded in favor of my
6 recommended hypothetical capital structure consisting of 54% debt capital and 46%
7 common equity capital.

8 9 IV. COMMON EQUITY COST RATE

10 **Q. AT PAGE 2, LINES 9-19 OF HIS REBUTTAL TESTIMONY MR. MURRAY**
11 **CRITICIZES YOUR COST OF COMMON EQUITY CALCULATIONS AS**
12 **HE CLAIMS THEY ARE UPWARDLY BIASED DUE TO YOUR REMOVAL**
13 **OF RESULTS THAT FALL BELOW THE LOWEST AUTHORIZED**
14 **RETURN ON COMMON EQUITY FOR ANATURAL GAS DISTRIBUTION**
15 **COMPANY. PLEASE COMMENT.**

16 A. Rate of return analysis is not simply the mechanical application of mathematical
17 models. It must be combined with the proper exercise of informed expert judgment.
18 The resultant cost rates from the applications of models must pass reality checks as
19 well. Mr. Murray's recommendations do not pass such reality checks. As discussed
20 in my rebuttal testimony at pages 3-4, the average recently awarded return on
21 common equity in litigated cases of gas distribution companies during the two-year
22 period ending September 2006 was 10.58% relative to a 48.61% common equity

1 ratio. The average spread between the authorized return on common equity over
2 Moody's A-rated public utility bonds was 4.71%. With an indicated prospective
3 yield on A-rated public utility bonds of 6.39%, an 11.10% common equity cost rate
4 is indicated, thereby confirming that Mr. Murray's contention as well his 8.65%-
5 9.25% ROE recommendation fail a common sense reality check. Even the lowest
6 award in 2006 of 9.60% is related to a 45.00% common equity ratio. Moreover, it
7 was a settlement (as opposed to a fully litigated rate case) for the gas operations of
8 Central Hudson Gas & Electric Company and was based upon a future rate year.
9 The settlement also provided for earnings between a 10.6% and 11.6% ROE to be
10 shared equally between ratepayers and shareholders, and between 11.6% and 14.0%
11 to be shared 65% to ratepayers and 35% to shareholders while all incremental
12 earnings above 14% are to be deferred for the future benefit of ratepayers. In view
13 of the foregoing, it is clear that Mr. Murray's recommendations do not pass a
14 common sense reality check.

15
16 **Q. AT PAGE 11, LINE 9 TO PAGE 13, LINE 25 OF HIS REBUTTAL**
17 **TESTIMONY MR. MURRAY DISCUSSES THE PROPOSITION THAT IF**
18 **THE MARKET-TO-BOOK RATIO OF A COMPANY IS ABOVE 1.00 TIME,**
19 **THIS MEANS THAT A COMPANY IS EARNING MORE THAN ITS COST**
20 **OF CAPITAL. DO YOU AGREE?**

21 A. No. Regulation is a substitute for the competition of the marketplace. That being the
22 case, one should be able to look at non-price regulated entities operating in the

1 marketplace to determine if this proposition is true. Accordingly, I performed an
2 analysis to determine whether or not there exists such a relationship between market-
3 to-book ratios and earned rates of return on book common equity. That is, if Mr.
4 Murray's contention is valid, non-price regulated companies operating freely in the
5 marketplace should sell at the approximate book values of their common stocks,
6 consistently, over time. As indicated by the analysis shown Schedule FJH-33, there
7 is no validity to such presumption. Schedule FJH-33 contains the market-to-book
8 ratios and earned rates of return on book common equity for the S&P Industrial
9 Index and its successor, the S&P 500 Composite Index (which does not include
10 public utilities) over a long period of time. On Schedule FJH-32, I have shown the
11 market-to-book ratios, rates of return on book common equity (earnings/book ratios),
12 annual inflation rates, and the earnings/book ratios net of inflation (real rates of
13 earnings) annually for the years 1947 through 2005. In each and every year, the
14 market-to-book ratios equal or exceeded 1.00 times. In 1949, the only year in which
15 the market-to-book ratio was 1.00, the real rate of earnings on book equity, adjusted
16 for deflation, was 18.1% (16.3% + 1.8%). In contrast, in 1961, when the S&P
17 Industrial Index experienced a market-to-book ratio of 2.01 times, the real rate of
18 earnings on book equity for the Index was only 9.1% (9.8% - 0.7%). In 2005 the
19 preliminary market-to-book ratio for the Index was 3.35 times, while the average real
20 rate of earnings on book equity was 16.5% (19.9% - 3.4%).

21 This analysis clearly demonstrates that competitive, non-priced regulated
22 companies have never sold below book value, on average, and have sold at book

1 value in only one year since 1947. Thus, it is clear that there is no relationship
2 between the rates of earnings on book equity and market-to-book ratios. Moreover,
3 as indicated at pages 33-34 of my direct testimony, Phillips and Bonbright confirm
4 that the earnings of utilities should be sufficiently high to achieve market-to-book
5 ratios which are consistent with those prevailing for stocks of unregulated companies
6 (Phillips) and that market prices are beyond the control, but not beyond the influence
7 of rate regulation (Bonbright).

8 Mr. Murray's contention is without merit and should be disregarded.

9
10 **Q. AT PAGE 14, LINE 1 THROUGH PAGE 17, LINE 12 OF HIS REBUTTAL,**
11 **MR. MURRAY CONTINUES HIS DISCUSSION ABOUT MARKET-TO-**
12 **BOOK RATIOS. HE CRITICIZES YOUR USE, ALBEIT AS A CHECK**
13 **ONLY, OF THE FINANCIAL RISK ADJUSTMENT AS UTILIZED BY THE**
14 **PENNSYLVANIA PUBLIC UTILITY COMMISSION, AND MENTIONS A**
15 **1980 CASE IN WHICH YOU TESTIFIED ON BEHALF OF KENTUCKY**
16 **POWER COMPANY. HOW DO YOU RESPOND TO HIS COMMENTS?**

17 **A.** I have demonstrated, as discussed supra, that his contention about market-to-book
18 ratios is incorrect. Moreover, the financial risk adjustment I utilized in 2006 has
19 been utilized only as a check on my primary findings of common equity cost rate,
20 simply because it is a technique which has been used by another state regulatory
21 commission, i.e., Pennsylvania.

1 Mr. Murray's discussion of my 1980 testimony, totally takes out of context,
2 the Kentucky Power testimony cited by Mr. Murray at page 16, lines 5 through 12 of
3 his rebuttal testimony.

4
5 **Q. PLEASE EXPLAIN HOW YOUR 1980 TESTIMONY CITED BY MR.**
6 **MURRAY IS TAKEN OUT OF CONTEXT.**

7 **A.** The late 1970s and early 1980s were a period of extraordinarily high interest rate
8 levels. This caused market-to-book ratios to decline substantially, especially for
9 capital-intensive public utilities. Because public utilities are extremely capital-
10 intensive and their need to attract additional capital so important, the very high level
11 of interest rates during that period of time had such an extraordinarily adverse
12 impact on their market-to-book ratios, that their common stocks sold well below
13 their book values. My 1980 comment about the achieved rates of earnings on the
14 book equity of electric utilities being too low was simply a statement of fact. The
15 residual of a cost of service analysis, and hence in an income statement, is the
16 earnings available for common equity. Those earnings provide the margin for the
17 coverage of fixed charges, including interest on debt capital. It is because the levels
18 of fixed charges declined to such a great extent that bond ratings were adversely
19 impacted and, in turn, market-to-book ratios. Thus, the achieved rates of earnings on
20 book equity did adversely affect public utilities, especially the electric utilities,
21 resulting in bond downgradings and market-to-book ratios of less than 1.00 time.
22 Moreover, Mr. Murray's citation of my testimony is misleading in that it fails to

1 reveal that in 1980, as now, I never relied upon a single methodology in order to
2 formulate my recommended common equity cost rate. My recommendations then
3 were lower than indicated by use of the DCF model. Now, exclusive reliance upon
4 the DCF model usually understates the true cost of common equity capital. By
5 consistently using multiple cost of common equity models to formulate my
6 recommendations of common equity cost rate over the years, my testimonies have
7 been consistent.

8
9 **Q. ON PAGE 20, LINE 7 THROUGH PAGE 21, LINE 1 OF HIS REBUTTAL,**
10 **MR. MURRAY ADDRESSES YOUR RISK PREMIUM ANALYSIS AND**
11 **SUGGESTS THAT IT IS MORE APPROPRIATE TO USE A RECENT**
12 **AVERAGE YIELD ON Baa UTILITY BONDS AS A STARTING POINT IN**
13 **THE RISK PREMIUM ANALYSIS. PLEASE COMMENT.**

14 A. As indicated previously, the cost of capital and the ratemaking paradigm are both
15 prospective. Investor expectations are reflected in the market prices they pay both
16 for equity securities as well as debt securities. Indeed, the DCF model upon which
17 Mr. Murray relies so heavily is designed to reflect investors' expectations of the
18 future. Consequently, it is most appropriate to reflect investor expectations with
19 regard to interest rate levels, including yields on long-term debt capital in a risk
20 premium analysis. While those expectations may not prove to be a reality, they are
21 what influences the market prices investors pay, and therefore, should be reflected.
22 When long-term interest rates started to decline rapidly in the early 1980s as inflation

1 was brought under control, there was little question about using expected lower
2 interest rate levels in such analyses rather than "recent" higher interest rate levels on
3 utility bonds. Mr. Murray's view is another case of mismatching as discussed in my
4 rebuttal testimony at pages 7-9. It is most appropriate to reflect investors'
5 expectations in the application of the DCF model as well as in the risk premium
6 model because in estimating the cost of capital the analyst must attempt to reflect
7 what investors expect to achieve in the future. It is not a current computation of an
8 actual return over some past period of time.

9
10 **Q. ON PAGE 21, LINE 4 THROUGH PAGE 24, LINE 15 OF HIS REBUTTAL**
11 **TESTIMONY, MR. MURRAY CRITICIZES YOUR USE OF THE**
12 **ARITHMETIC MEAN IN ESTIMATING THE COST OF EQUITY**
13 **CAPITAL. HE SUGGESTS THAT THE GEOMETRIC MEAN IS THE**
14 **APPROPRIATE MEAN TO UTILIZE. HOW DO YOU RESPOND TO HIS**
15 **CRITICISM?**

16 A. In my rebuttal testimony at page 19, line 15 through page 20, line 17, I explain why
17 the arithmetic mean is the only correct mean to use when estimating the cost of
18 capital. In addition to the charts presented in Schedule FJH-24, Schedule FJH-22,
19 particularly at page 4, contains the Ibbotson Associates' explanation why the
20 arithmetic average equity risk premium is most appropriate when discounting cash
21 flows. They state at page 4 of Schedule FJH-22 as follows:

22 The equity risk premium data presented in this book are arithmetic
23 average risk premia as opposed to geometric average risk premia. The

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

11
12 In addition, the quote set forth from Reilley & Brown at the top of page 22 of Mr.
13 Murray's testimony actually confirms that the arithmetic means is the correct mean
14 to use when estimating the cost of capital. Reilley and Brown state:

15
16 The geometric mean is appropriate for long-run asset class
17 comparisons, whereas the arithmetic mean is what you would use to
18 estimate the premium for a given year (e.g., the expected performance
19 next year). (underlining added for emphasis)

20
21 It is precisely because we are estimating the cost of capital that the arithmetic mean
22 should be utilized. In addition, the risk premium and CAPM models are single period
23 models which is confirmed in the quote from a text by Stowe, Robinson, Pinto, and
24 McLeavey as shown at the bottom of page 22 of Mr. Murray's testimony. Those
25 authors state the following as contained in Mr. Murray's excerpt:

26 The arithmetic mean more accurately measures average one-period
27 returns; the geometric mean more accurately measures multiperiod
28 growth.

29
30 The information from Ibbotson Associates, as discussed at pages 19-20 of my
31 rebuttal testimony, mentioned supra, explains precisely why the arithmetic mean is
32 most appropriate. The use of the geometric mean smooths the rate of change to a
33 single constant rate of growth which provides no insight, or counsel, to investors of

1 the potential volatility related to the investment they intend to make. Mr. Murray's
2 criticism of the arithmetic mean is incorrect and should be disregarded.

3
4 **Q. AT PAGE 26, LINES 1-15 OF HIS REBUTTAL, MR. MURRAY CRITICIZES**
5 **YOUR USE OF THE INCOME RETURN ON LONG-TERM U. S.**
6 **GOVERNMENT SECURITIES WHEN CALCULATING AN HISTORICAL**
7 **EARNED RISK PREMIUM DIFFERENCE BETWEEN EQUITIES AND**
8 **RISK-FREE SECURITIES. HOW DO YOU RESPOND?**

9 A. His criticism is completely incorrect. The information contained at pages 2 and 3 of
10 Schedule FJH-22 accompanying my rebuttal testimony provide a very detailed
11 explanation of why it is incorrect. Beginning at page 2 of Schedule FJH-22 Ibbotson
12 Associates state, regarding Income Return, the following:

13 Another point to keep in mind when calculating the equity risk
14 premium is that the income return on the appropriate-horizon
15 Treasury security, rather than the total return, is used in the
16 calculation. The total return is comprised of three return components:
17 the income return, the capital appreciation return, and the
18 reinvestment return. The income return is defined as the portion of
19 total return that results from a periodic cash flow or, in this case, the
20 bond coupon payment. The capital appreciation return results from
21 the price change of a bond over a specific period. Bond prices
22 generally change in reaction to unexpected fluctuations in yield.
23 Reinvestment return is the return on a given month's investment
24 income when reinvested into the same asset class in the subsequent
25 months of the year. The income return is best used in the estimation
26 of the equity risk premium because it represents the truly riskless
27 portion of the return. (underlining added for emphasis).

28
29 Since the CAPM requires the use of a risk-free rate of return, it is quite clear from

1 the foregoing that the income return is the only appropriate return to utilize. Mr.
2 Murray is incorrect.

3
4 **Q. PLEASE ADDRESS MR. MURRAY'S REASONING FOR NOT UTILIZING**
5 **THE ECAPM AS SET FORTH AT PAGE 27, LINES 7 THROUGH 14 OF HIS**
6 **REBUTTAL.**

7 A. His reasoning is really a non-reason. The fact of the matter is that the financial
8 world utilizes and relies upon adjusted betas. That is why the major beta publishing
9 agencies, such as Value Line, publish adjusted betas which account for regression
10 bias, i.e., the tendency of low beta stocks to drift up towards a beta of one and high
11 beta stocks to drift down towards a beta of one. Since utilities' betas, generally, are
12 well below 1.0, they need to be adjusted so that such built-in regression bias is
13 accounted for. Moreover, the ECAPM is well established in the financial literature,
14 for example, see my direct testimony at pages 58-59 as well as my rebuttal testimony
15 at pages 22-23, and Schedule FJH-25.

16
17 **Q. AT PAGES 27-29 OF HIS REBUTTAL TESTIMONY, MR. MURRAY**
18 **CRITIZES YOUR USE OF THE CEM. HE STATES AT PAGE 28, LINES 3-**
19 **4, "IF THE ALLOWED RETURNS ARE SET BASED ON EXPECTED**
20 **RETURNS, THEN IT IS POSSIBLE THAT THESE RETURNS WILL**
21 **REMAIN ABOVE THE COST OF CAPITAL." PLEASE COMMENT.**

1 A. This statement by Mr. Murray indicates a lack of understanding of the market prices
2 paid by investors. The model upon which he relies, the DCF, is based entirely upon
3 investor expectations. Sometimes those expectations are met; sometimes they are
4 exceeded and returns are greater than expected; and sometimes, perhaps all too often,
5 they are disappointing and the returns are far less than those expected. However, it is
6 the expectations that influence the market prices that investors pay.

7 Moreover, the CEM has a long, well-established history in utility ratemaking.

8

9 **Q. AT PAGES 30-31 OF HIS REBUTTAL TESTIMONY, MR. MURRAY TAKES**
10 **ISSUE WITH YOUR SIZE ADJUSTMENT OF 30 BASIS POINTS TO TAKE**
11 **INTO ACCOUNT MGE'S SMALLER SIZE VIS-À-VIS THE PROXY**
12 **COMPANIES. HE SAYS THE STUDY DID NOT SPECIFICALLY APPLY**
13 **TO REGULATED UTILITIES. HE ALSO CITES A STUDY BY**
14 **PROFESSOR ANNIE WONG, WHO SUGGESTS THAT SIZE PREMIUMS**
15 **DO NOT APPLY TO PUBLIC UTILITIES. PLEASE COMMENT.**

16 A. Mr. Murray and Professor Wong are incorrect. The financial literature is quite clear
17 about the small size effect. See, for example, the quotes from Professor Eugene
18 Brigham and Ibbotson Associates at pages 13-14 of my direct testimony. Moreover,
19 as noted by Ibbotson Associates, the size relationship "cuts across the entire size
20 spectrum but is most evident among smaller companies."

21 Let me first address Mr. Murray's comment. It is true that the study upon
22 which I rely was based upon all stocks in the New York Stock Exchange, the

1 American Stock Exchange and the NASDAQ. I have prepared Schedule FJH-34
2 which shows that all the companies in my proxy groups of gas distribution
3 companies, as well as SUG and all of the companies in Mr. Murray's proxy group as
4 well as the two companies he identified as having operations in Missouri all are
5 traded on the New York Stock Exchange. Schedule FJH-35 which consists of three
6 pages, compares the size effect within industries of the Ibbotson study upon which I
7 relied. Page 3 of Schedule FJH-35 shows that for the utility grouping S.I.C. Code
8 49, Electric, Gas & Sanitary Services, there was indeed a size premium for small
9 companies of 3.08% based upon current data contained in the Ibbotson Associates
10 Valuation Edition, 2006 Yearbook. This means that there was an average size
11 premium of 308 basis points in absolute terms, which was 28.19% greater than the
12 arithmetic mean return of 10.89% for the large Electric, Gas & Sanitary Services
13 company group (or 13.96% for the small Electric, Gas & Sanitary Services company
14 group) over the same period, 1926 through 2005.

15 In addition, Professor Wong's study is flawed because she attempted to relate
16 a change in size to beta, and beta accounts for only a small percentage of
17 diversifiable company-specific risk. Size is company-specific and it is a
18 diversifiable risk. For example, the average R^2 , or coefficient of determination, for
19 Mr. Murray's proxy companies are as follows:

	<u>R^2</u>
21	
22	
23	AGL Resources, Inc. 0.4225
24	New Jersey Resources Corp. 0.3648

1	Northwest Natural Gas Co.	0.2927
2	Piedmont Natural Gas Co., Inc.	0.3538
3	South Jersey Industries, Inc.	0.2021
4	WGL Holdings, Inc.	<u>0.3889</u>
5		
6	Average for the Six Company Proxy Group	<u>0.3375</u>
7		
8	Atmos Energy Corp.	0.2954
9	The Laclede Group, Inc.	<u>0.3315</u>
10		
11	Average	<u>0.3135</u>
12		

13 As shown above, the beta for Mr. Murray's six company proxy group
14 accounts for only 33.75% of diversifiable company risk and only 31.35% for the two
15 companies with operations in Missouri. This means that 66.25% (1.00 - 0.3375) of
16 total risk is unexplained by beta for Mr. Murray's group of six companies; and
17 68.65% (1.00 - 0.3135) of total risk is unexplained by beta for the two companies
18 having operations in Missouri. Mr. Murray's contention is incorrect as are the
19 conclusions drawn by Professor Wong and they should be disregarded.

20

21 **Q. AT PAGE 3, LINES 8-9 OF HIS REBUTTAL TESTIMONY, MR. MURRAY,**
22 **IN ATTEMPTING TO DENIGRATE THE SMALL SIZE ADJUSTMENT**
23 **WHICH YOU MADE FOR MGE STATES: "ADDITIONALLY, MGE IS**
24 **NOT A STAND-ALONE COMPANY, SO IT IS NOT APPROPRIATE TO**
25 **PRETEND THAT IT IS A SMALL PUBLICLY-TRADED COMPANY."**
26 **PLEASE COMMENT.**

1 A. By relying upon the proxy LDCs that he utilized to formulate a recommended range
2 of common equity cost rate, that is precisely what Mr. Murray has done. He has
3 assigned cost rates, albeit incorrect, derived from stand-alone proxy companies
4 whose common stocks are actively traded in the marketplace. Moreover, as
5 discussed in my rebuttal testimony at pages 9-11, Mr. Murray exacerbates the
6 problem by utilizing a common equity cost rate derived from these proxy companies
7 and applying it to SUG's capital structure. This approach is incorrect for the reasons
8 set forth by Morin as well as Brealey and Myers as shown at pages 10-11 of my
9 rebuttal testimony.

10

11 **Q. AT PAGE 31 OF HIS REBUTTAL TESTIMONY, LINES 16 THROUGH 27,**
12 **MR. MURRAY DISCUSSES STAFF'S PROPOSED RATE DESIGN AND ITS**
13 **IMPLICATIONS, AS WELL AS MGE'S PROPOSED RATE DESIGN ON**
14 **COMMON EQUITY COST RATE. HE SUGGESTS AT LINE 26 THAT THE**
15 **COMMON EQUITY COST RATE DERIVED FROM YOUR PROXY GROUP**
16 **SHOULD BE REDUCED RATHER THAN INCREASED. IS HE CORRECT?**

17 A. No. As explained in my direct testimony, at page 73, a substantial proportion of the
18 companies in each of my proxy groups had protection from the vagaries of weather.
19 My 15 basis point upward adjustment to the common equity cost rate derived
20 therefrom was to reflect the proportional upward adjustment of cost rate which
21 would apply to MGE if no such protection is afforded it. There should not be any
22 reduction from the cost rate derived from my proxy companies as they reflect

1 investors' knowledge of such protection. My adjustment upwards of 15 basis points
2 is applicable only if such protection is not afforded to MGE. However, if such
3 protection is afforded to MGE, I concur that my recommended common equity cost
4 rate should be reduced by 15 basis points. This means that, if, and only if, such
5 protection is afforded to MGE in this proceeding, my updated common equity cost
6 rate recommendation of 11.75% (from my rebuttal testimony) would then be reduced
7 to 11.60% relative to my recommended hypothetical common equity ratio of
8 46.00%.

9 Alternatively, should the straight-fixed variable rate design proposal be
10 adopted in lieu of the WNA, a reduction in common equity cost rate of 25 basis
11 points is warranted due to the mitigating impact such a rate design would have on the
12 impact of weather as well as MGE's declining average use per customer
13 phenomenon, which would reduce my updated recommended 11.75% common
14 equity cost rate to 11.50% relative to my recommended hypothetical common equity
15 ratio of 46.00%.

16 Finally, in an effort to clarify the record, relative to Mr. Murray's uncertainty
17 as to whether I was aware, at the time I drafted my direct testimony, of the proposed
18 rate design supported by MGE Witness Russell A. Feingold, I was not.

19
20 **Q. AT PAGE 6 OF HIS REBUTTAL TESTIMONY, OPC WITNESS**
21 **TRIPPENSEE SUGGESTS THAT IF THE FIXED DELIVERY CHARGE**
22 **PROPOSED BY STAFF WITNESS ROSS IS PUT INTO PLACE, MGE**

1 **“WOULD EFFECTIVELY BE GUARANTEED TO EARN THE**
2 **AUTHORIZED RATE OF RETURN FOR SERVING THESE CUSTOMER**
3 **CLASSES.” PLEASE COMMENT.**

4 A. If Mr. Trippensee were correct, every LDC that has some type of similar revenue
5 decoupling mechanism in place would be consistently achieving their authorized
6 rates of return. Such is not the case. If it were the case, rate cases would be virtually
7 eliminated. The implementation of such rate design does enhance the opportunity to
8 earn a fair rate of return, but does nothing of the sort of guaranteeing such return.

9
10 **Q. HAS MR. TRIPPENSEE INTRODUCED ANY EMPIRICAL STUDIES**
11 **WHICH SUBSTANTIATE HIS PROPOSITION THAT A GUARANTEED**
12 **RETURN IS A CERTAINTY GIVEN THE IMPLEMENTATION OF**
13 **STAFF’S AND MGE’S RATE PROPOSALS?**

14 A. No. If he has such studies, he has not produced them in this case. As a matter of
15 fact, the proxy companies utilized by Staff Witness Murray and myself substantially
16 enjoy protections from the vagaries of the weather and two of the companies in my
17 proxy group of four gas distribution companies and five of the companies in my
18 proxy group of eight gas distribution companies also have protections in the form of
19 revenue decoupling mechanisms as shown on Schedule FJH-36. Consequently,
20 under the Efficient Market Hypothesis, those facts are reflected in their market prices
21 and, hence, in the market-determined common equity cost rates which I calculated
22 and upon which I base my recommendation. That is why, as discusses supra, my

1 updated recommended common equity cost rate of 11.75% would be reduced to
2 11.60% if the WNA is approved, and alternatively, to 11.50% if the SFV rate design
3 proposal is approved in lieu of the WNA.
4

5 **Q. AT PAGE 12 OF HIS REBUTTAL TESTIMONY, MR. TRIPPENSEE**
6 **REFERS TO A SUPPOSED DOWNWARD TREND IN AUTHORIZED**
7 **RETURNS FOR NATURAL GAS COMPANIES DETERMINED FROM AN**
8 **OCTOBER 5, 2006 REPORT PUBLISHED BY REGULATORY RESEARCH**
9 **ASSOCIATES ENTITLED REGULATORY FOCUS. HAVE YOU HAD AN**
10 **OPPORTUNITY TO REVIEW THAT REPORT?**

11 A. Yes, I have. AUS Consultants is a subscriber to Regulatory Focus. As a matter of
12 fact, it is the source of much of the information shown on Schedule FJH-18.
13 Reference to Schedule FJH-18, which accompanied my rebuttal testimony, reveals
14 that there is only one decision during the third quarter of 2006 and it was for Central
15 Hudson Gas & Electric. That hardly indicates a trend because it is but a single order
16 from but a single Commission (the New York Public Service Commission). I
17 observe several important aspects of this decision as discussed supra. First of all,
18 this was the result of a settlement and not a fully litigated rate decision. Moreover,
19 New York utilizes a future rate year. In this instance, the historic test year-end was
20 March 31, 2006, but the rate year upon which the revenue requirement for the first
21 year of a three-year rate plan was for the period ending June 30, 2007. The
22 Commission approved a settlement of a three-year rate plan authorizing rate

1 increases on July 1, 2006 and July 1, 2007. Moreover, the authorization provides for
2 a sharing of earnings between 10.6% and 11.6% return on common equity, i.e., equal
3 sharing between ratepayers and shareholders. Clearly, such a plan, with a ceiling of
4 10.6% return on common equity before any sharing with ratepayers, actually affirms
5 the average rate of return on litigated decisions of 10.58% relative to a 48.61%
6 common equity ratio as shown on Schedule FJH-18. Moreover, such data also
7 confirm that Mr. Trippensee's conclusion, as well as Mr. Murray's recommendation
8 fail such a reality check.

9

10 **Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

11 A. Yes, it does.

Missouri Gas Energy
Business Segment Information for
Southern Union Company for the Fiscal Years 1993, 1994 and 2005

Business Segments	Segment SIC Codes	Fiscal Year Ended: December 2005					Fiscal Year Ended: June 1994					Fiscal Year Ended: June 1993											
		Segment Sales (\$ mill)	% Of Total	Segment Oper Inc (\$ mill)	% Of Total	Segment Depr (\$ mill)	% Of Total	Segment Cap Exp (\$ mill)	% Of Total	Segment Assets (\$ mill)	% Of Total	% Of Total	Segment Sales (\$ mill)	% Of Total	Segment Oper Inc (\$ mill)	% Of Total	Segment Depr (\$ mill)	% Of Total	Segment Cap Exp (\$ mill)	% Of Total	Segment Assets (\$ mill)	% Of Total	
Distribution	4924	4922	\$ 1,503,272	74 %	\$(43,928)	(19) %	\$ 53,278	50 %	\$ 84,896	31 %	\$ 2,490,164	43 %											
Transportation and Storage	4922	NA	\$ 505,233	25	\$281,344	124	\$ 62,171	49	\$189,415	68	\$3,155,549	54											
Corporate & Other	4811	8741	\$ 10,925	1	\$(10,899)	(5)	\$ 0,944	1	\$ 2,306	1	\$ 191,106	3											
Natural Gas Utility	4924	4922	\$ 374,500	100 %	\$ 32,000	100 %	\$ 21,900	100 %	\$ 38,200	100 %	\$ 891,000	100 %											
Natural Gas Utility	4924	4922	\$ 209,000	100 %	\$ 19,800	100 %	\$ 14,400	100 %	\$ 18,500	100 %	\$ 416,200	100 %											

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus / Research Insight Data Base

RESEARCH

Research Update:

Southern Union And Unit Downgraded To 'BBB-', Off Watch Neg

Publication date: 29-Nov-2006
Primary Credit Analyst: Plana Lee, New York (1) 212-438-3119;
plana_lee@standardandpoors.com

Rationale

On Nov. 29, 2006, Standard & Poor's Ratings Services lowered its corporate credit ratings on Southern Union Co. and subsidiary Panhandle Eastern Pipe Line L.P. to 'BBB-' from 'BBB'. At the same time, Standard & Poor's removed the ratings from CreditWatch with negative implications.

The outlook is stable. The rating was originally placed on CreditWatch on Sept. 15, 2006.

The rating action reflects our assessment of the company's movement toward riskier business segments, coupled with an aggressive financial policy that liberally uses debt leverage. Together, these traits embody credit quality at the lower end of the 'BBB' category.

Houston, Texas-based Southern Union engages in natural gas transportation, storage, liquefied natural gas (LNG) terminaling, gathering and processing, and distribution.

The ratings are based on a business risk profile at the consolidated entity that is categorized as satisfactory and an aggressive financial risk profile. Southern Union's credit strengths include the cash flow stability of its regulated interstate natural gas pipeline assets, a hedging program designed to mitigate the commodity price exposure of its Southern Union Gas Services gathering and processing segment (SUGS), and its remaining low-risk gas distribution businesses in Missouri and Massachusetts.

Southern Union's pipeline assets (about 51% of total expected 2007 EBITDA) include wholly owned Panhandle Eastern Pipe Line and its subsidiaries (collectively Panhandle Energy), which transport gas from the Gulf Coast and Anadarko basin to the Midwest and Great Lakes markets. Subsequent to the closing of the currently pending transaction with Energy Transfer Partners, Southern Union will also have a 50% ownership interest in Florida Gas Transmission Co. The pipeline segments bring stability to cash flows due to generally favorable FERC regulation, access to multiple supply points, strong markets, and manageable re-contracting risk.

These strengths are partially offset by the weak business risk profile of the gathering and processing segment at SUGS (23% of total EBITDA). Southern Union's acquisition of SUGS for \$1.6 billion in March 2006 increased its business and financial risk. SUGS' percent-of-proceeds contracts account for about 80% of its margins and expose the company to volatile commodity prices. Moreover, the purchase price was initially financed entirely with debt, which was later repaid with proceeds from \$1.1 billion in utility asset sales and \$600 million in junior subordinated debt.

SUGS' commodity price risk is somewhat mitigated through 2007 by a hedging program consisting of natural gas puts with an \$11 floor for 2006 on 45,000 million Btu (mmBtu) per day (about 85% of equity volumes) and a \$10 floor for 2007 on 25,000 mmBtu per day (about 50% of equity volumes). Furthermore, the company has added ethane, propane, and crude oil puts with an average \$12.04 floor on 8,000 mmBtu per day for the remainder of 2006 and an average \$11.40 floor on 26,000 mmBtu per day for 2007, resulting in an effective hedge position of about 90% for both years. SUGS also has a strong market-share position in the Texas and New Mexico region, where it has operated for more than 60 years.

At Southern Union's Trunkline LNG facility (12% of total EBITDA), capital costs are high and are expected to reach about \$250 million for the LNG infrastructure enhancement project (IEP), which will add ambient air vaporization and natural gas liquids extraction capabilities to the terminal. IEP is fully contracted with BG Group under long-term contracts and should add

an estimated \$35 million in EBIT upon completion in 2008.

Following the sale of the Rhode Island and Pennsylvania utilities, Missouri Gas Energy (MGE) and New England Gas Co, (together 14% of total EBITDA) are Southern Union's remaining low-risk gas-distribution businesses. MGE makes up the bulk of this segment, and its strong business risk profile reflects reasonably favorable regulation by the Missouri Public Service Commission, a mostly residential customer base, the ability to recover fuel costs from customers as they are incurred, a franchise with Kansas City, Mo. that extends through 2010, and a perpetual franchise with St. Joseph, Mo.

Given Southern Union's movement away from natural gas utilities and toward the midstream industry, cash flows have become less predictable and, as a result, stronger credit-protection measures are expected to maintain ratings. However, at the same time, the company's credit protection measures have been stretched and its financial policy has been aggressive, with hybrid securities, preferred stock and convertible debt combined making up about 17% of the capital structure.

Southern Union's expected credit protection metrics at year-end 2006, including trailing twelve-month funds from operations to fully adjusted total debt of about 9%, adjusted total debt to EBITDA of about 5x, and adjusted total debt to capital of about 60%, are weak for the 'BBB-' rating. The ratings incorporate the expected equity issuance of \$100 million in 2008 for the convertible notes issued in 2005, and the additional debt incurred as part of the pending transaction with Energy Transfer Partners. Going forward, the company will be required to guard its balance sheet and be less reliant on debt leverage to maintain the current ratings.

As part of the rating action, the rating on the company's \$600 million junior subordinated notes was lowered to 'BB' from 'BB+'. The 'BB' rating is two notches below the corporate credit rating. The notching reflects Southern Union's investment grade corporate credit rating, the subordination of the hybrid issue, and the optional deferral of interest payments. The hybrid securities have a maturity of 60 years, are callable after five years, and have received intermediate (50%) equity credit for leverage purposes.

Liquidity

Southern Union's liquidity is adequate. The company's primary liquidity source is cash flow from operations, which was \$328 million for the nine months ended Sept. 30, 2006, and cash on hand was \$6.9 million as of that date. The company also has access to a \$400 million revolving credit facility maturing in May 2010, of which \$195 million was outstanding as of Sept 30, 2006. Consolidated Southern Union's long-term debt maturities over the next several years are manageable at \$455 million in 2007, \$525 million in 2008, and \$60 million in 2009.

Outlook

The stable outlook reflects the higher risk of Southern Union's midstream business, somewhat offset by the stability afforded by its utility and pipeline transport segments. The stable outlook also incorporates expectations that the company will continue to mitigate commodity price exposure through active hedging beyond 2007. Rating improvement is possible if Southern Union mitigates its increased business risk through investments in lower-risk businesses, combined with a strengthening of its consolidated financial profile. Conversely, further downward rating movement could occur if the company continues to acquire higher-risk businesses that are financed by selling lower-risk assets and incurring additional debt.

Ratings List

Downgraded, Off Watch Neg

	To	From
Southern Union Co.		
Corporate Credit Rating	BBB-/Stable/--	BBB/Watch Neg/--
Senior Unsecured	BBB-	BBB/Watch Neg
Junior Subordinated	BB	BB+/Watch Neg
Preferred Stock	BB	BB+/Watch Neg

Panhandle Eastern Pipe Line LP

Corporate Credit Rating	BBB-/Stable/--	BBB/Watch Neg/--
Senior Unsecured	BBB-	BBB/Watch Neg

Complete ratings information is available to subscribers of RatingsDirect, the real-time Web-based source for Standard & Poor's credit ratings, research, and risk analysis, at www.ratingsdirect.com. All ratings affected by this rating action can be found on Standard & Poor's public Web site at www.standardandpoors.com; under Credit Ratings in the left navigation bar, select Find a Rating, then Credit Ratings Search.

Analytic services provided by Standard & Poor's Ratings Services (Ratings Services) are the result of separate activities designed to preserve the independence and objectivity of ratings opinions. The credit ratings and observations contained herein are solely statements of opinion and not statements of fact or recommendations to purchase, hold, or sell any securities or make any other investment decisions. Accordingly, any user of the information contained herein should not rely on any credit rating or other opinion contained herein in making any investment decision. Ratings are based on information received by Ratings Services. Other divisions of Standard & Poor's may have information that is not available to Ratings Services. Standard & Poor's has established policies and procedures to maintain the confidentiality of non-public information received during the ratings process.

Ratings Services receives compensation for its ratings. Such compensation is normally paid either by the issuers of such securities or third parties participating in marketing the securities. While Standard & Poor's reserves the right to disseminate the rating, it receives no payment for doing so, except for subscriptions to its publications. Additional information about our ratings fees is available at www.standardandpoors.com/usratingsfees.



Missouri Gas Energy
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 2005

Year	Market-to-Book Ratio (1)		Earnings/Book Ratio (2)		Inflation (4)	Earnings / Book Ratio - Net of Inflation	
	S&P Industrial Index (3)	S&P 500 Composite Index (3)	S&P Industrial Index (3)	S&P 500 Composite Index (3)			
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	12.5	NA	4.7	7.9	NA
1969	2.10	NA	12.1	NA	5.1	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	1.57	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	4.05	2.64	22.9	15.0 %	2.5	20.4	13.5 %
1996	4.79	2.99	24.8	16.8	3.3	21.5	13.5
1997	6.68	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	16.7	2.7	22.5	14.0
2000	7.51	4.51	23.9	15.6	3.4	20.5	12.2
2001	NA	3.50	NA	15.0	1.6	NA	13.4
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	3.12 (5)	NA	16.1	3.3	NA	12.8
2005	NA	3.35 (5)	NA	19.9	3.4	NA	16.5
Average	2.34 %	3.48 %	14.9 %	15.4 %	3.9 %	10.9 %	12.9 %

- Notes: (1) Market-to-Book Ratio equals average of the high and low market price for the year divided by the average book value
(2) Earnings/Book equals earnings per share for the year divided by the average book value
(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 Industrial Index has been discontinued
(4) As measured by the Consumer Price Index (CPI)
(5) Ratios for 2004 are based upon estimated book values using the actual average price and the estimated book value calculated by adding the 2004 or 2005 earnings per share to the 2003 and 2004 book value per share and then subtracting the 2004 and 2005 dividends per share as provided by Standard & Poor's Security Price Index Record, 2006 Edition Pp. 471 and 473 and 2005.

Source of Information: Standard & Poor's Security Price Index Record, 2000 Edition, p. 40
Standard & Poor's Statistical Service, Current Statistics, August 2001, p. 29
Standard & Poor's Statistical Service, Current Statistics, January 2001, p. 36
Standard & Poor's Current Statistics, June 2006, p. 28.
Standard & Poor's Security Price Index Record, 2006 Edition, pp. 1, 471 and 473
Standard & Poor's Compustat Services, Inc. PC Plus Research Insight Data Base
Ibbotson Associates, Stocks, Bonds, Bills and Inflation - Valuation Edition 2005 Yearbook, 2006

Missouri Gas Energy
Exchanges on Which the Common Shares of the Proxy Companies Relied
upon by Mr. Hanley and Mr. Murray and Southern Union Co. are Traded

<u>Proxy Group of Four Gas Distribution Companies</u>	<u>Stock Exchange</u>
Cascade Natural Gas Corporation	NYSE
NICOR Inc.	NYSE
Northwest Natural Gas Company	NYSE
Piedmont Natural Gas Co., Inc.	NYSE
<u>Proxy Group of Eight Value Line Gas Distribution Companies</u>	
Cascade Natural Gas Corporation	NYSE
The Laclede Group, Inc.	NYSE
New Jersey Resources Corp.	NYSE
NICOR Inc.	NYSE
Northwest Natural Gas Company	NYSE
Peoples Energy Corporation	NYSE
Piedmont Natural Gas Co., Inc.	NYSE
WGL Holdings, Inc.	NYSE
Southern Union Company	NYSE
<u>Witness Murray's Proxy Group of Six Comparable Natural Gas Distribution Companies for Missouri Gas Energy</u>	
AGL Resources Inc.	NYSE
New Jersey Resources Corp.	NYSE
Northwest Natural Gas Company	NYSE
Piedmont Natural Gas Co., Inc.	NYSE
South Jersey Industries, Inc.	NYSE
WGL Holdings, Inc.	NYSE
<u>Two Natural Gas Distribution Companies Identified by Witness Murray as Having Operations in Missouri</u>	
Atmos Energy Corporation	NYSE
The Laclede Group, Inc.	NYSE

Source of Information: AUS Utility Reports
December 2006

Stocks, Bonds, Bills,
and Inflation

SBBI

Valuation Edition
2006 Yearbook

ibbotson

Table 7-14

Size Effect within Industries
Summary Statistics and Excess Returns

(Through Year-end 2005)

SIC Code	Description	Years	Large Company Group		
			Geometric Mean	Arithmetic Mean	Standard Deviation
10	Metal Mining	80	7.87%	11.47%	29.09%
13	Oil and Gas Extraction	43	11.41%	14.34%	26.13%
15	Building Construction-General Contractors & Op Builders	34	12.93%	19.66%	39.85%
16	Hvy Construction Other than Bldg. Construction-Contractors	35	7.28%	10.93%	30.54%
20	Food and Kindred Spirits	80	10.88%	12.52%	18.98%
22	Textile Mill Products	80	7.00%	11.87%	32.64%
23	Apparel & other Finished Products Made from Fabrics & Similar	46	8.01%	12.64%	32.81%
24	Lumber and Wood Products, Except Furniture	43	9.62%	12.26%	25.37%
25	Furniture and Fixtures	36	10.11%	12.46%	22.37%
26	Paper & Allied Products	76	10.29%	13.68%	28.09%
27	Printing, Publishing and Allied Products	47	10.71%	12.81%	21.05%
28	Chemicals and Allied Products	80	11.78%	13.91%	22.45%
29	Petroleum Refining & Related Industries	80	11.40%	13.50%	21.34%
30	Rubber & Miscellaneous Plastics Products	59	10.83%	13.54%	25.34%
31	Leather & Leather Products	43	12.74%	17.08%	33.02%
32	Stone, Clay, Glass & Concrete Products	77	8.66%	12.46%	31.50%
33	Primary Metal Industries	80	8.08%	12.01%	30.39%
34	Fabricated Metal Products, Except Machinery & Trans. Equip.	80	9.56%	12.08%	23.10%
35	Industrial & Commercial Machinery & Computer Equipment	80	10.58%	14.09%	27.68%
36	Electrical Equipment & Components, Except Computer	80	9.86%	13.58%	28.54%
37	Transportation Equipment	80	10.82%	15.07%	32.08%
38	Measuring, Analyzing & Controlling Instruments	69	12.04%	14.14%	21.96%
39	Miscellaneous Manufacturing Industries	44	7.88%	11.74%	28.57%
40	Railroad Transportation	80	9.65%	12.67%	24.86%
42	Motor Freight Transportation & Warehousing	42	9.78%	13.24%	28.28%
45	Transport by Air	60	7.26%	11.67%	32.37%
48	Communications	43	8.89%	11.20%	22.08%
49	Electric, Gas & Sanitary Services	80	8.78%	10.89%	21.48%
50	Wholesale Trade-Durable Goods	60	10.12%	12.34%	22.64%
51	Wholesale Trade-Nondurable Goods	38	9.94%	12.89%	24.91%
53	General Merchandise Stores	80	9.88%	13.09%	26.56%
54	Food Stores	49	11.29%	13.79%	23.37%
56	Apparel & Accessory Stores	59	14.08%	18.18%	32.15%
57	Home Furniture, Furnishings, and Equipment Stores	33	12.37%	23.69%	60.37%
58	Eating and Drinking Places	37	10.85%	15.36%	33.13%
59	Miscellaneous Retail	43	12.66%	15.93%	26.94%
60	Depository Institutions	37	11.64%	13.78%	21.37%
61	Nondepository Credit Institutions	56	12.83%	15.66%	26.45%
62	Security and Commod. Brokers, Dealers, Exchanges	33	17.78%	24.55%	43.10%
63	Insurance Carriers	37	10.63%	12.51%	20.39%
64	Insurance Agents, Brokers, and Service	33	14.79%	16.25%	18.21%
65	Real Estate	43	7.34%	11.82%	30.63%
67	Holding & Other Investment Offices	76	10.00%	13.17%	25.21%
70	Hotels, Rooming Houses, Camps, & Other Lodging	36	10.03%	15.69%	35.13%
72	Personal Services	36	8.73%	13.40%	30.78%
73	Business Services	43	10.20%	15.01%	32.56%
78	Motion Pictures	55	12.11%	16.67%	33.13%
79	Amusement and Recreation Services	33	12.44%	16.16%	27.50%
80	Health Services	34	13.17%	18.92%	35.76%

Source: Center for Research in Security Prices, University of Chicago.

Firm Size and Return

Table 7-14 (continued)

Size Effect within Industries
Summary Statistics and Excess Returns

(Through Year-end 2005)

SIC Code	Description	Small Company Group			Excess Return
		Geometric Mean	Arithmetic Mean	Standard Deviation	
10	Metal Mining	8.31%	16.30%	46.05%	4.83%
13	Oil and Gas Extraction	12.81%	21.07%	46.60%	6.73%
15	Building Construction-General Contractors & Op Builders	6.64%	15.87%	43.37%	-3.79%
16	Hvy. Construction Other than Bldg. Construction-Contractors	18.58%	23.57%	37.33%	12.65%
20	Food and Kindred Spirits	12.36%	15.95%	30.16%	3.44%
22	Textile Mill Products	9.77%	15.35%	34.60%	3.49%
23	Apparel & other Finished Products Made from Fabrics & Similar	5.72%	11.52%	37.95%	-1.12%
24	Lumber and Wood Products, Except Furniture	11.02%	21.19%	53.51%	8.93%
25	Furniture and Fixtures	9.12%	13.29%	29.62%	0.83%
26	Paper & Allied Products	14.21%	19.79%	42.06%	6.12%
27	Printing, Publishing and Allied Products	16.30%	19.15%	24.91%	6.34%
28	Chemicals and Allied Products	13.38%	18.87%	39.59%	4.95%
29	Petroleum Refining & Related Industries	13.21%	17.68%	31.92%	4.18%
30	Rubber & Miscellaneous Plastics Products	12.60%	17.05%	32.93%	3.52%
31	Leather & Leather Products	11.75%	16.79%	34.22%	-0.29%
32	Stone, Clay, Glass & Concrete Products	9.71%	14.54%	33.16%	2.08%
33	Primary Metal Industries	13.01%	18.76%	38.48%	6.75%
34	Fabricated Metal Products, Except Machinery & Trans. Equip.	11.77%	17.41%	37.42%	5.33%
35	Industrial & Commercial Machinery & Computer Equipment	12.20%	17.59%	35.60%	3.50%
36	Electrical Equipment & Components, Except Computer	12.01%	20.02%	45.90%	6.44%
37	Transportation Equipment	12.04%	18.32%	38.31%	3.25%
38	Measuring, Analyzing & Controlling Instruments	13.25%	18.19%	35.01%	4.05%
39	Miscellaneous Manufacturing Industries	8.07%	12.55%	31.90%	0.82%
40	Railroad Transportation	8.46%	14.82%	36.36%	2.15%
42	Motor Freight Transportation & Warehousing	7.21%	13.19%	38.93%	-0.04%
45	Transport by Air	8.71%	17.13%	48.27%	5.46%
48	Communications	17.30%	25.50%	46.18%	14.30%
49	Electric, Gas & Sanitary Services	10.34%	13.95%	29.63%	3.08%
50	Wholesale Trade-Durable Goods	11.01%	16.26%	36.38%	3.92%
51	Wholesale Trade-Nondurable Goods	8.64%	12.33%	28.69%	-0.56%
53	General Merchandise Stores	9.37%	16.84%	43.14%	3.75%
54	Food Stores	10.00%	13.82%	29.54%	0.03%
56	Apparel & Accessory Stores	11.87%	18.02%	38.93%	-0.16%
57	Home Furniture, Furnishings, and Equipment Stores	15.82%	26.33%	51.19%	2.64%
58	Eating and Drinking Places	2.03%	7.97%	36.84%	-7.39%
59	Miscellaneous Retail	12.11%	17.66%	36.52%	1.74%
60	Depository Institutions	15.33%	17.99%	25.10%	4.21%
61	Nondepository Credit Institutions	13.52%	17.44%	29.94%	1.78%
62	Security and Commod. Brokers, Dealers, Exchanges	14.58%	21.59%	42.10%	-2.96%
63	Insurance Carriers	13.39%	16.25%	24.02%	3.74%
64	Insurance Agents, Brokers, and Service	11.82%	19.26%	43.80%	3.01%
65	Real Estate	6.72%	11.65%	34.85%	-0.16%
67	Holding & Other Investment Offices	11.19%	15.46%	31.25%	2.28%
70	Hotels, Rooming Houses, Camps, & Other Lodging	6.42%	12.53%	37.23%	-3.16%
72	Personal Services	18.06%	22.49%	32.80%	9.09%
73	Business Services	13.95%	23.68%	59.91%	8.67%
78	Motion Pictures	6.18%	14.05%	45.60%	-2.62%
79	Amusement and Recreation Services	11.18%	15.10%	31.68%	-1.07%
80	Health Services	15.59%	22.05%	40.75%	3.13%

Source: Center for Research in Security Prices, University of Chicago

Missouri Gas Energy
Decoupling Mechanisms, Conservation Adjustments and other Revenue Normalization Adjustment Clauses
for Mr. Hanley's Proxy Group of Four Gas Distribution Companies (1),
the Proxy Group of Eight Value Line Gas Distribution Companies (2)
and Southern Union Company
and Witness Murray's Proxy Group of Six Comparable Natural Gas Distribution Companies (3)
and Two Natural Gas Distribution Companies Identified by Witness Murray as Having Operations In Missouri (4)

Decoupling Mechanisms,
Conservation and Other
Revenue Normalization
Adjustment Clauses

<u>Companies</u>	
AGL Resources, Inc. (3)	Yes (5)
Atmos Energy Corporation (4)	No
Cascade Natural Gas Corporation (1, 2)	No (6)
The Laclede Group, Inc. (2, 4)	No
New Jersey Resources Corp. (2, 3)	Yes (7)
NICOR Inc. (1, 2)	No
Northwest Natural Gas Company (1, 2, 3)	Yes (8)
Peoples Energy Corporation (2)	No
Piedmont Natural Gas Co., Inc. (1, 2, 3)	Yes (9)
South Jersey Industries, Inc. (3)	Yes (7)
WGL Holdings, Inc. (2, 3)	Yes (10)
<u>Southern Union Company</u>	No

- Notes: (1) The companies in Mr. Hanley's proxy group of four LDCs are Cascade, NICOR Inc., Natural Gas Corporation, Northwest Natural Gas Company and Piedmont Natural Gas Company.
- (2) The companies in Mr. Hanley's proxy group of eight Value Line LDCs are Cascade, The Laclede Group, Inc., New Jersey Resources Corp., NICOR Inc., Northwest Natural Gas Company, Peoples Energy Corporation, Piedmont Natural Gas Company and WGL Holdings, Inc.
- (3) The companies in Witness Murray's Proxy Group of Six Comparable Natural Gas Distribution Companies are AGL Resources Inc, New Jersey Resources Corp., Northwest Natural Gas Company, Piedmont Natural Gas Company, South Jersey Industries, Inc. and WGL Holdings, Inc.
- (4) The Two companies Identified by Witness Murray as having operations in Missouri are Atmos Energy Corporation and The Laclede Group, Inc.
- (5) Straight-Fixed-Variable Rates Atlanta Gas Light's revenue is recognized under a straight-fixed-variable rate design whereby Atlanta Gas Light charges rates to its customers based primarily on monthly fixed charges. This mechanism minimizes the seasonality of revenues since the fixed charge is not volumetric and the monthly charges are not set to be directly weather dependent. Weather indirectly influences the number of customers that have active accounts during the heating season, and this has a seasonal impact on Atlanta Gas Light's revenues since generally more customers are connected in periods of colder weather than in periods of warmer weather.
- (6) On October 10, 2006, Cascade Natural Gas, the Washington Utilities and Transportation Commission Staff, the Public Counsel section of the Washington Attorney General's Office, and others reached a settlement in Cascade's pending gas rate case proceeding (Docket No. UG-060256). The settlement does not specify traditional rate case parameters such as rate of return, but calls for CGC to implement a partial decoupling mechanism on a pilot basis for a three-year period. The mechanism would defer non weather-related margin variances (e.g., changes in usage related to conservation and energy efficiency improvements). The Commission has not approved the Mechanism yet. A WUTC decision is expected in January 2007.
- (7) On October 12, 2006, the New Jersey Board of Public Utilities (BPU) approved a three-year pilot energy conservation programs and revenue decoupling mechanisms that had been proposed by New Jersey Natural Gas (NJNG) and South Jersey Gas (SJG). Under the programs, NJNG and SJG will implement enhanced customer education and energy conservation programs. In place of the existing weather normalization clauses, the companies will implement a conservation and usage adjustment (CUA) mechanism that is designed to remove the impact on company earnings and revenue of sales fluctuations due to weather variations and customer participation in the conservation programs. The CUA mechanism is to be implemented during the October 2006 billing cycle, with the first adjustment under the mechanism to become effective in October 2007. NJNG is a subsidiary of New Jersey Resources (NJR), and SJG is a subsidiary of South Jersey Industries (SJI).
- (8) Northwest Natural Gas Company has a conservation tariff in the state of Oregon, which includes two components. The first component is a price elasticity adjustment, which adjusts for anticipated increases or decreases in consumption attributable to annual changes in commodity costs or periodic changes in its general rates. The second component is a conservation adjustment calculated on a monthly basis to account for deviations between actual and expected volumes (decoupling adjustment). Additional or credits to customers resulting from the decoupling adjustment are recorded to a deferral account, which is included in the next year's annual PGA. Baseline consumption was determined by customer consumption data used in the 2003 Oregon general rate case, adjusted for added consumption resulting from new customers. The Adjustment Clause was scheduled to expire in September 2005, but in 2005 was renewed by the Oregon Commission. The Commission approved the continuation of the conservation tariff for an additional four years, through September 30, 2009, and increased the mechanism's coverage from a partial decoupling of 80 percent of residential and commercial gas usage to a full decoupling of 100 percent.
- (9) Piedmont Natural Gas Company has WNA Clauses in place in the states of South Carolina and Tennessee. Furthermore, up to September 2006, the company had a WNA Clause in the state of North Carolina. However, on September 14, 2006, the North Carolina Utilities Commission (NCUC) adopted a settlement reached by the Company and the North Carolina Attorney General on July 18, 2006, regarding the company's Customer Utilization Tracker (CUT). The CUT is a mechanism that decouples the recovery of authorized margins from sales levels. The CUT applies to changes in sales levels caused by any factor. The CUT was originally approved on November 3, 2005 as an experimental provision for three-years, which automatically will terminate on November 1, 2008, unless renewed by the NCUC and with the modifications approved on September 14, 2006, the NCUC concurrently eliminated the existing Weather Normalization Adjustment Clause.
- (10) In August 2005, Washington Gas received approval from the Public Service Commission of Maryland to implement a Revenue Normalization Adjustment mechanism (RNA). The RNA is a billing adjustment mechanism that is designed to stabilize the level of distribution charge revenues received from Maryland customers as a result of deviations in customer usage caused by variations in weather from normal levels and other matters such as conservation.