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Issue: Rate of Return
Witness: David Murray
Sponsoring Party: MoPSC Staff
Type of Exhibit: Rebuttal Testimony
Case No.: GR-2001-292
Date Testimony Prepared: May 22, 2001

MISSOURI PUBLIC SERVICE COMMISSION
UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY
OF
DAVID MURRAY

FILED²
MAY 22 2001
Missouri Public
Service Commission

MISSOURI GAS ENERGY,
A DIVISION OF SOUTHERN UNION COMPANY

CASE NO. GR-2001-292

Jefferson City, Missouri
May 2001

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DAVID MURRAY**

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David Murray

cost of short-term debt and the cost of common equity to be applied to MGE for rate making purposes in this proceeding.

Direct Testimony Revisions

Q. Do you have any revisions to make to your direct testimony?

A. Yes. The following revisions need to be made:

- Column 4 on Schedule 16 contains historical rather than projected 5-year EPS growth rates. I have attached a revised Schedule 16 that indicates the projected 5-year EPS growth rates from Standard & Poor's Earnings Guide, March 2001.
- The preferred stock balance in Schedule 9 needs to be reduced by \$3,230,450 for the net balance associated with the unamortized issuance expense. Attached is a revised Schedule 9 that contains this revision.
- The long-term debt balance in Schedule 7 should be \$392,997 rather than \$392,457. Attached is a revised Schedule 7 that contains this revision.
- Schedules 10-1 and 10-2 contain some minor errors. Providence Series N should be due May 30, 2020 rather than May 30, 2000. Providence Series T should be due February 1, 2029, rather than April 1, 2018.

Q. Do any of the above revisions change your recommendation?

A. Yes, they do. Schedule 18 contains a revised estimated cost of common equity of 9.60 percent to 10.50 percent when making the necessary revision to Schedule 16. Revised Schedules 23 and 25 are also attached to show the changes resulting from the corrections made. Consequently, the revised cost of capital for MGE is now in the range of 8.74 percent to 9.02 percent.

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1 A. Is your general position in this case still the same considering the changes
2 you have made?

3 A. Yes, it is.

4 **Cost of Common Equity, Capital Structure, Embedded Cost of Long-Term Debt**
5 **and Preferred Stock, and Weighted Average Cost of Short-Term Debt**

6 Q. Is there agreement between OPC and Staff on embedded cost of preferred
7 stock, embedded cost of long-term debt and the weighted average cost of short-term
8 debt?

9 A. Yes. I have agreed to the embedded cost of preferred stock calculated by
10 Mr. Burdette. Mr. Burdette has agreed to the methodology that I used to calculate the
11 embedded cost of long-term debt. Mr. Burdette has also agreed to my weighted average
12 cost of short-term debt, which also was the weighted average cost of short-term debt
13 provided by Mike Noack of MGE. Staff and MGE have not reached any agreement on
14 these issues.

15 Q. Is there agreement between MGE, Staff and OPC on capital structure and
16 cost of common equity?

17 A. Mr. Burdette has agreed to use the Staff's level of short-term debt and
18 long-term debt. Otherwise, no, there has not been an agreement.

19 **Public Counsel's Cost of Common Equity for MGE**

20 Q. Please summarize Mr. Burdette's recommended cost of common equity for
21 MGE.

22 A. Schedule MB-8 of Mr. Burdette's direct testimony indicates his
23 recommended cost of common equity is 9.90 percent based on a dividend yield of 5.04

1 percent and a growth rate of 4.85 percent. On page 14, lines 21 and 22 of Mr. Burdette's
2 direct testimony, he indicates that he expects a growth rate range of 4 percent to 5 percent
3 for his proxy group. On lines 25 and 26 of the same page, he indicates that he expects
4 "the sustainable growth rate for MGE to be in the same range of 4 percent to 5 percent."
5 On lines 26 and 27 of the same page, he indicates that he chose a sustainable growth rate
6 of 4.85 percent for MGE due to Southern Union's aggressive growth strategies.

7 Q. Do you believe Mr. Burdette should have selected a growth rate in the
8 higher end of his calculated range?

9 A. No. The Financial Analysis Department Staff generally recommends the
10 midpoint of its estimated cost of common equity range. This would include the midpoint
11 of the estimated growth range. I have not made an adjustment to the midpoint of my
12 estimated growth range because Southern Union's aggressive growth strategy should not
13 result in an increased cost of capital for Missouri ratepayers. Southern Union's
14 shareholders should incur this risk. Therefore, I disagree with this adjustment.

15 **Mr. Dunn's Capital Structure and Cost of Common Equity for MGE**

16 Q. Please summarize Mr. Dunn's capital structure recommendation for MGE.

17 A. Mr. Dunn proposes the use of an average capital structure calculated from
18 his subset of eleven natural gas distribution companies. He arrived at his average capital
19 structure by calculating a 10-year average of the equity ratios of his subset of natural gas
20 distribution companies, except for UGI Corporation. Based on this average, Mr. Dunn
21 proposes the use of a hypothetical capital structure for MGE of 50 percent equity and 50
22 percent debt. Please see page 15, lines 18 through 23 and page 16, lines 1 through 7 of
23 Mr. Dunn's direct testimony for a full explanation of his calculations.

1 Q. Do you agree with Mr. Dunn's use of a hypothetical capital structure for
2 purposes of calculating the cost of capital to be applied to MGE's rate base? If not,
3 please explain.

4 A. No, I do not. The actual capital structure of Southern Union should be
5 used instead of the hypothetical capital structure. As I stated in my direct testimony on
6 page 20, lines 11 through 15: "Because the debt and equity are generated from the parent
7 company, Southern Union Company, MGE relies on Southern Union Company to
8 finance its investment in MGE assets. Because MGE does not issue its own debt or
9 equity, the actual capital structure for Southern Union Company was used for MGE."
10 Additionally, in the last two MGE rate cases, GR-96-285 and GR-98-140, the Staff used
11 the actual capital structure of Southern Union when calculating the weighted average cost
12 of capital for MGE. In fact, in those cases, even the MGE witness, Mr. Bruce H.
13 Fairchild, used the actual capital structure of Southern Union in his direct testimony. In
14 Case No. GR-96-285, Mr. Fairchild cited the following reasons for his use of Southern
15 Union's actual capital structure to determine MGE's cost of capital:

- 16 • These ratios reflect the mix of capital currently employed to
17 finance MGE's investment in assets used to provide gas service in
18 Missouri;
- 19 • Although this capital structure deviates from industry standards for
20 local gas distribution companies (LDCs), it is consistent with
21 Southern Union's entrepreneurial spirit, acquisition orientation, and
22 earnings retention practices; and

- While Southern Union's higher debt ratio, and lower common equity ratio, impart additional financial risks, these are offset by the greater use of cheaper debt and preferred stock capital, and less use of significantly more expensive common equity capital.

Although not verbatim, Mr. Fairchild states essentially the same reasons for the use of Southern Union's capital structure in Case No. GR-98-140. It should be noted that Mr. Fairchild felt that Southern Union was more risky than his comparable group because of the bond rating of Southern Union compared to the comparable group. Therefore, in both cases he recommended an additional 60 basis points be added to his cost of common equity recommendation to take this risk into consideration. In Case No. GR-98-140 the Commission determined that Southern Union's capital structure did not merit a risk premium adjustment because "MGE's risk level decreased in April 1998 when its ratings improved to BBB+. Further, management determines the capital structure." Based on that determination, the Commission adopted Staff's midpoint of 10.93 percent in the last MGE rate case.

Staff of the Financial Analysis Department predominantly uses the actual capital structure of a company or its parent when calculating the cost of capital to be applied to Missouri jurisdictional rate base. Not only has this approach been used by Staff, but this Commission has accepted this approach in the past.

Q. What explanation does Mr. Dunn give for his use of a hypothetical capital structure versus the consolidated capital structure of Southern Union?

A. On page 18, lines 1 through 11 of Mr. Dunn's direct testimony, he claims that Southern Union is a diversified company and therefore, "the consolidated capital

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1 structure bears no particular relationship to any one of the individual lines of business."
2 He claims that the non-utility business investments of Southern Union have the effect of
3 "diversify[ing] the capital arrangements of the company and combined with the
4 appropriateness of adequate divisional accounting require the implementation of a
5 division capital structure system."

6 Q. Do you agree with Mr. Dunn's assessment of the diversified nature of
7 Southern Union?

8 A. No, I do not. One of the criteria that I used in my analysis to select a
9 comparable group of natural gas distribution companies was that the company must have
10 distribution revenues greater than 90 percent of their total revenues, as reported in the
11 Edward Jones Natural Gas Industry Summary, December 31, 2000 (see page 24, lines 17
12 and 18 of my direct testimony). I used this criterion to ensure that I selected companies
13 that were predominantly in the natural gas distribution business. According to this
14 publication, Southern Union also meets the criterion of at least 90 percent of revenues
15 from distribution. Therefore, Edward Jones defines Southern Union as a natural gas
16 distribution company.

17 Q. What effect does Mr. Dunn's use of a hypothetical capital structure have
18 on the overall cost of capital?

19 A. It has the effect of increasing the overall cost of capital. The following
20 tables illustrate the increase in the cost of capital with the use of a hypothetical capital
21 structure compared to the use of Southern Union's actual capital structure. I have used
22 my suggested cost of common equity figures for both types of capital structure
23 calculations in order to show the pure impact of the use of a hypothetical capital

1 structure. If you were to compare Mr. Dunn's suggested cost of common equity and use
2 of a hypothetical capital structure to the use of my suggested cost of common equity with
3 the use of the actual capital structure, the effect would be that much greater on the cost of
4 capital.

5 *Weighted Cost of Capital as of December 31, 2000 for MGE*
6 *Using MGE's Proposed Hypothetical Capital Structure*
7

8 Using ROE of

9 <u>Capital Component</u>	<u>% of Capital</u>	<u>9.60%</u>	<u>10.05%</u>	<u>10.50%</u>
10 Common Equity	50.00%	4.80%	5.03%	5.25%
11 Preferred Stock	0.00%	0.00%	0.00%	0.00%
12 Long-Term Debt	50.00%	4.18%	4.18%	4.18%
13 Short-Term Debt	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
14 Total	100.00%	8.98%	9.20%	9.43%

15

16 Vs.

17 *Weighted Cost of Capital as of December 31, 2000 for MGE*
18 *Using Southern Union's Actual Capital Structure*
19

20 Using ROE of

21 <u>Capital Component</u>	<u>% of Capital</u>	<u>9.60%</u>	<u>10.05%</u>	<u>10.50%</u>
22 Common Equity	31.24%	3.00%	3.14%	3.28%
23 Preferred Stock	4.19%	0.41%	0.41%	0.41%
24 Long-Term Debt	58.31%	4.87%	4.87%	4.87%
25 Short-Term Debt	<u>6.26%</u>	<u>0.46%</u>	<u>0.46%</u>	<u>0.46%</u>
26 Total	100.00%	8.74%	8.88%	9.02%

27

28 Q. As illustrated above, the cost of capital is higher with the use of a
29 hypothetical capital structure. If Mr. Dunn used Southern Union's actual capital
30 structure, what would have to be done to increase the overall cost of capital to the level
31 he obtained by using his suggested hypothetical capital structure?

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1 A. Because preferred stock, long-term debt and short-term debt are for the
2 most part embedded costs, the only way to increase the overall cost of capital when using
3 actual capital structure is to increase the requested cost of common equity amount. Of
4 course, as Mr. Dunn has illustrated, the use of a hypothetical capital structure would have
5 the effect of increasing the overall cost of capital without having to increase the requested
6 cost of common equity. Therefore, it appears that if Mr. Dunn had used Southern
7 Union's actual capital structure to arrive at the same overall cost of capital, he would have
8 had to make an upward adjustment to the requested cost of common equity.

9 A. Is it appropriate for MGE to request a higher cost of capital through the
10 use of a hypothetical capital structure? If not, why?

11 A. No, it is not. When Southern Union filed applications (GM-2000-500,
12 GM-2000-502, GM-2000-503 and GF-2000-504) to acquire stock and merge with
13 Providence Energy Corporation, Valley Resources, Inc. and Fall River Gas Company,
14 collectively referred to as the "New England Division," it agreed to specific conditions
15 contained in the Staff's recommendation to the Commission. Condition 6 in each of the
16 Staff's recommendations on the merger cases specifically stated the following:

17 Southern Union will not seek an increase in Cost of Capital for MGE as a result of
18 this transaction. Any increases in the Cost of Capital Southern Union seeks for
19 MGE will be supported by documented proof: that the increases are a result of
20 factors not associated with this transaction; that the increases are not a result of
21 changes in business, market, economic, or other conditions for MGE caused by
22 this transaction; or that the increases are not a result of changes in the risk profile
23 of MGE caused by this transaction. Southern Union will ensure that the rates for
24 MGE ratepayers will not increase as a result of this transaction.
25

26 Southern Union also agreed to this condition in their application to merge with
27 Pennsylvania Enterprises, Inc. in Case No. GM-2000-49.

1 It appears that Southern Union's capital structure has been directly
2 affected by the acquisition of the New England Division, which occurred in the second
3 half of 2000. This is apparent because, as stated in my direct testimony, the equity ratio
4 has decreased significantly since this acquisition and the debt ratio has increased
5 significantly. Southern Union's request for an increased cost of capital, whether it was
6 requested directly through an increased cost of common equity or through the use of a
7 hypothetical capital structure, would be in direct violation of this condition and the
8 Orders by this Commission in the aforementioned cases.

9 Q. Please summarize Mr. Dunn's recommended cost of common equity for
10 MGE?

11 A. Mr. Dunn used the discounted cash flow (DCF) model to calculate a
12 "benchmark, industry cost of capital." He then used this data and "judgment" in
13 finalizing his recommendation. Mr. Dunn calculated a dividend yield of 5.40 percent, of
14 which 0.30 percent was the result of the addition of flotation costs, and then he chose a
15 growth rate range of 6 percent to 7 percent to arrive at his initial cost of common equity
16 range for MGE of 11.40 percent to 12.40 percent. It appears he then rounded this range
17 up to 11.50 percent to 12.50 percent. After Mr. Dunn took into consideration what he felt
18 were risks specific to MGE, he chose to recommend a cost of common equity for MGE
19 of 12.50 percent. He also suggested an additional arbitrary 0.25 percent addition to the
20 overall cost of capital for a "performance" adjustment.

21 Q. Does Staff agree with Mr. Dunn's 25 basis point adjustment to the cost of
22 capital for "performance" of MGE?

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1 A. No. As stated in Lisa A. Kremer's rebuttal testimony on page 15, lines 1
2 through 11, there should not be an adjustment to the cost of capital for any claim of
3 "exemplary or superior" service. I agree with Ms. Kremer's position.

4 Q. Does Staff agree with Mr. Dunn's 30 basis point adjustment to the
5 dividend yield to take flotation costs into consideration?

6 A. No. It is Staff's and my opinion that flotation costs should be recovered on
7 a dollar for dollar basis when they are incurred and not as an adjustment to the cost of
8 common equity. Staff's position has not changed regarding this issue.

9 Q. Do you agree with Mr. Dunn's conclusions that MGE should receive the
10 higher end of his recommended cost of common equity range because it is more risky
11 than the proxy group that he used?

12 A. No, I do not.

13 Q. What types of risks does Mr. Dunn claim are specific to MGE?

14 A. In his direct testimony on page 39, lines 11 through 22 and page 40, lines
15 1 through 18, Mr. Dunn cites a variety of specific business risks that he claims MGE
16 faces in providing natural gas service to its service areas in Missouri. First, he discusses
17 business risks such as "changes in business conditions, fluctuations in the number of
18 ultimate customers, variations in ultimate customer usage patterns, price competition
19 from other types of energy and changes in weather." Second, he claims "MGE makes
20 investments in facilities which have extremely long book investment and useful lives."
21 Third, he claims "MGE needs large quantities of material, capital and labor to supply its
22 services." Finally, he claims "another critical risk element for MGE is the fact that their
23 substantial investment in facilities to serve customers is immobile."

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1 Q. Do you agree that these risks are specific to MGE?

2 A. No, I do not. These risks are common to the natural gas distribution
3 industry. Therefore, all of these risks would be captured in my DCF calculation of the
4 cost of common equity because these risks would be reflected in the stock prices of my
5 comparable group.

6 Q. Do you agree with Mr. Dunn's assessment that MGE faces additional risk
7 because it is a small company when compared to the proxy group?

8 A. No. In the case of the analysis of MGE, I used companies that were
9 comparable to Southern Union, and as a result, comparable to MGE, to determine the
10 cost of common equity for MGE. Southern Union is comparable to MGE because its
11 operations are at the core of Southern Union's principal business operations. This is
12 confirmed by Southern Union's June 30, 2000 annual report to its shareholders, which
13 states that Southern Union's "core business is the distribution of natural gas as a public
14 utility." This is the same approach Staff took in the recent St. Louis County Water
15 Company case, WR-2000-844, that the Commission adopted.

16 Q. Do you have any concerns about the companies Mr. Dunn selected for his
17 proxy group?

18 A. Yes. Mr. Dunn includes two natural gas distribution utilities, Atmos
19 Energy and Laclede Gas, which operate in the state of Missouri. It is has been Staff's
20 position that any Missouri jurisdictional utility companies should be eliminated because
21 they are directly impacted by decisions of this Commission.

22 Additionally, Mr. Dunn uses two companies in his comparable group,
23 Energen Corporation and UGI Corporation, that Edward Jones, Natural Gas Industry

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1 Summary, December 31, 2000, does not define as natural gas distribution companies.
2 Value Line has these companies classified as natural gas distribution companies, but I did
3 not rely on Value Line for their classification because I could not determine Value Line's
4 specific definition of a natural gas distribution company.

5 Q. Do you have any concerns with the Mr. Dunn's recommended growth rate
6 range?

7 A. Yes, I do. On pages 24 through 29 of his direct testimony, Mr. Dunn
8 explains his determination of the growth rate. From his discussion of historical and
9 projected growth rates, he chose a growth rate range of 6 percent to 7 percent, of which
10 he chose 7 percent for MGE. His selection of 7 percent for MGE appears to be quite
11 arbitrary. It does not appear that he placed much, if any, weight on the historical growth
12 rates. However, it is hard to determine this because Mr. Dunn did not show any
13 calculations on how he achieved his growth rate range. If you were to apply my
14 methodology of averaging the projected and historical growth rates to Mr. Dunn's
15 historical and projected growth rates, you would achieve a midpoint average growth rate
16 of 6.58 percent. Further, if you were to remove the companies that I previously
17 mentioned and use my methodology with Mr. Dunn's numbers, you would achieve a
18 midpoint average growth rate of 6.03 percent. Consequently, it appears that Mr. Dunn
19 has chosen a growth rate for MGE based predominantly on the projected growth rates,
20 without much consideration for the historical growth rates. It is important to consider
21 historical growth rates because as stated in David C. Parcell's book, The Cost of Capital -
22 A Practitioner's Guide, "investors, as a group, do not utilize a single growth estimate
23 when they price a utility's stock. Thus rate of return analysts should consider multiple

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1 growth estimates in order to better capture the growth embodied in a utility's stock price."

2 It is important to note that Mr. Parcell emphasizes that analysts should consider **multiple**

3 growth estimates. This applies to projected as well as historical growth rates.

4 Additionally, Mr. Parcell states: "Analysts should recognize that individual investors

5 have different expectations regarding growth and therefore no single indicator captures

6 the growth expectations of all investors." Therefore, it is important to not only give

7 weight to multiple projected growth rates, but to also give weight to historical growth

8 rates because that is in fact what investors as a group will do.

9 Q. Do you agree with Mr. Dunn's assessment of the current capital market
10 conditions?

11 A. I do not agree with Mr. Dunn's assessment of the current capital market
12 conditions.

13 **Summary and Conclusions**

14 Q. Please summarize the conclusions of your rebuttal testimony.

15 A. I conclude the following:

- 16 1. The calculation of the cost of capital for MGE should be based on
17 the actual capital structure of Southern Union as of
18 December 31, 2000, as shown in my revised Schedule 9;
- 19 2. My revised cost of common equity stated in Schedule 25, which is
20 9.60 percent to 10.50 percent, would produce a fair and reasonable
21 cost of common equity for the Missouri jurisdictional natural gas
22 distribution rate base for MGE, a division of Southern Union
23 Company.

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1 Q. Does this conclude your rebuttal testimony?

2 A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

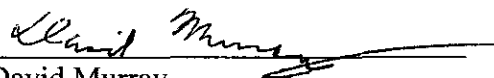
In The Matter of Missouri Gas Energy's Tariff)
Filing For General Rate Increase)

Case No. GR-2001-292

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

David Murray, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 15 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.


David Murray

Subscribed and sworn to before me this 21st day of May 2001.



SHARON S WILES
NOTARY PUBLIC STATE OF MISSOURI
COLE COUNTY
MY COMMISSION EXP. AUG. 23, 2002

Historical Capital Structures for Southern Union Company
Consolidated Basis
(Thousands of Dollars)

Capital Components	1996	1997	1998	1999	2000
Common Equity	\$245,915	\$267,462	\$296,834	\$301,058	\$735,854
Preferred Stock	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Long-Term Debt	\$386,009	\$386,844	\$408,184	\$392,997	\$735,967
Short-Term Debt	\$0	\$0	\$1,600	\$21,003	\$3
Total	<u>\$731,924</u>	<u>\$754,306</u>	<u>\$806,618</u>	<u>\$815,058</u>	<u>\$1,571,824</u>

Capital Structure	1996	1997	1998	1999	2000
Common Equity	33.60%	35.46%	36.80%	36.94%	46.82%
Preferred Stock	13.66%	13.26%	12.40%	12.27%	6.36%
Long-Term Debt	52.74%	51.28%	50.60%	48.22%	46.82%
Short-Term Debt	0.00%	0.00%	0.20%	2.58%	0.00%
Total	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>

Notes: The amount of Long-Term Debt includes Current Maturities.

Source: Southern Union Company's Stockholders June 30 Annual Reports

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**Capital Structure as of December 31, 2000
for Southern Union Company**

Capital Component	Amount in Dollars	Percentage of Capital
Common Stock Equity	\$720,664,676	31.24%
Preferred Stock	96,769,550 *	4.19%
Long-Term Debt	1,345,097,661 **	58.31%
Short-Term Debt	144,388,920 ***	6.26%
Total Capitalization	<u>\$2,306,920,807</u>	<u>100.00%</u>

**Gas Distribution Financial Ratio Benchmarks
Total Debt / Total Capital - Including Preferred Stock**

Standard & Poor's Corporation's Utility Rating Service, Financial Statistics as of July 7, 2000 (median)	Lower Quartile BBB 52%	Median BBB 56%	Upper Quartile BBB 61%
-------------------------------------------------------------------------------------------------------------------	-------------------------------------	-----------------------------	-------------------------------------

Note: * Preferred stock was reduced by \$3,230,450 for net balance of unamortized issuance expense.

** See Schedule 10-1 for the amount of Long-Term Debt at 12/31/00.

*** Short-term debt balance equals short-term debt as of December 31, 2000 less
Construction Work in Progress (CWIP)

Source: Southern Union Company's response to Staff's Data Request No. 3801.

SOUTHERN UNION COMPANY
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Historical and Projected Growth Rates
for the Eight Comparable Natural Gas Distribution Companies

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Company Name	Historical Growth Rate (DPS, EPS and BVPS)	Projected 5 Year Growth IBES (Mean)	Projected 5 Year Growth Zacks (Mean)	Projected 5-Year EPS Growth S&P	Projected 3-5 Year EPS Growth Value Line	Average Projected Growth	Average of Historical & Projected Growth
AGL Resources, Inc.	1.25%	5.30%	5.67%	6.00%	5.50%	5.62%	3.44%
Cascade Natural Gas	3.06%	5.00%	3.83%	4.00%	6.50%	4.83%	3.94%
Energysouth, Inc.	7.11%	6.00%	6.00%	6.00%	7.00%	6.25%	6.68%
New Jersey Resources Corporation	4.92%	6.50%	6.43%	7.00%	7.50%	6.86%	5.89%
Peoples Energy Corporation	3.68%	6.00%	5.93%	6.00%	7.00%	6.23%	4.96%
Piedmont Natural Gas Company, Inc.	5.47%	5.00%	6.00%	5.00%	7.00%	5.75%	5.61%
South Jersey Industries, Inc.	2.71%	5.00%	5.00%	5.00%	8.50%	5.88%	4.29%
WGL Holdings, Inc.	3.52%	4.50%	6.17%	4.00%	7.50%	5.54%	4.53%
	<u>3.96%</u>	<u>5.41%</u>	<u>5.63%</u>	<u>5.38%</u>	<u>7.06%</u>	<u>5.87%</u>	<u>4.92%</u>

Proposed Range of Growth:

4.95%-5.85%

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

Column 7 = [(Column 1 + Column 6) / 2]

Sources: Column 1 = Average of 10-Year and 5-Year Annual Compound Growth Rates from Schedule 15-3.

Column 2 = I/B/E/S Inc.'s Institutional Brokers Estimate System, February 15, 2001.

Column 3 = Zacks, <http://www.zacks.com>, March 12, 2001.

Column 4 = Standard & Poor's Earnings Guide, March 2001.

Column 5 = The Value Line Investment Survey: Ratings and Reports, December 22, 2000.

SOUTHERN UNION COMPANY
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**DCF Estimated Costs of Common Equity
for the Eight Comparable Natural Gas Distribution Companies**

	(1)	(2)	(3)	(4)	(5)
Company Name	Expected Annual Dividend	Average High/Low Stock Price	Projected Dividend Yield	Average of Historical & Projected Growth	Estimated Cost of Common Equity
AGL Resources, Inc.	\$1.08	\$21.404	5.05%	3.44%	8.48%
Cascade Natural Gas	\$0.96	\$18.895	5.08%	3.94%	9.02%
Energysouth, Inc.	\$0.91 *	\$21.385	4.26%	6.68%	10.93%
New Jersey Resources Corporation	\$1.74	\$40.728	4.27%	5.89%	10.16%
Peoples Energy Corporation	\$2.02	\$40.923	4.94%	4.96%	9.89%
Piedmont Natural Gas Company, Inc.	\$1.48	\$34.413	4.30%	5.61%	9.91%
South Jersey Industries, Inc.	\$1.47	\$29.758	4.92%	4.29%	9.21%
WGL Holdings, Inc.	\$1.25	\$28.393	4.40%	4.53%	8.94%
Average			<u>4.65%</u>	<u>4.92%</u>	<u>9.57%</u>

Proposed Dividend Yield: 4.65%

Proposed Range of Growth: 4.95%-5.85%

Estimated Cost of Common Equity: 9.60% - 10.50%

Notes: Column 1 = Estimated Dividends Declared per share represents the average projected dividends for 2000 and 2001.

* Used actual 1999 dividend for Energysouth because no projections were available.

Column 3 = (Column 1 / Column 2).

Column 5 = (Column 3 + Column 4).

Sources: Column 1 = The Value Line Investment Survey: Ratings & Reports, December 22, 2000.

Column 2 = Schedule 17.

Column 4 = Schedule 16.

SOUTHERN UNION COMPANY
CASE NO. GR-2001-292

**Pro Forma Pre-Tax Interest Coverage Ratios
for Southern Union Company**

	<u>9.60%</u>	<u>10.05%</u>	<u>10.50%</u>
1. Common Equity (Schedule 10)	\$720,664,676	\$720,664,676	\$720,664,676
2. Earnings Allowed (ROE * [1])	\$69,183,809	\$72,426,800	\$75,669,791
3. Tax Multiplier (1 / { 1 - Tax Rate })	1.6231	1.6231	1.6231
4. Pre-Tax Earnings ([2] * [3])	\$112,292,240	\$117,555,939	\$122,819,638
5. Preferred Dividends	\$9,480,000	\$9,480,000	\$9,480,000
6. Annual Interest Costs (Schedule 10-1 & Schedule 12)*	\$109,529,624	\$109,529,624	\$109,529,624
7. Avail. for Coverage ([4] + [5] + [6])	\$231,301,864	\$236,565,563	\$241,829,262
8. Pro Forma Pre-Tax Interest Coverage ([7] / [6])	2.11 x	2.16 x	2.21 x

Natural Gas Distribution Financial Medians - Pretax Interest Coverage (x)

Standard & Poor's Corporation's Utility Rating Service as of July 7, 2000	Lower Quartile <u>BBB</u> 1.98	Median <u>BBB</u> 2.85	Upper Quartile <u>BBB</u> 3.01
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Note: * Long-term debt interest expense plus short-term debt interest expense.

**Weighted Cost of Capital as of December 31, 2000
for Missouri Gas Energy**

Capital Component	Percentage of Capital	Embedded Cost	Weighted Cost of Capital Using Common Equity Return of:		
			9.60%	10.05%	10.50%
Common Stock Equity	31.24%	----	3.00%	3.14%	3.28%
Preferred Stock	4.19%	9.80%	0.41%	0.41%	0.41%
Long-Term Debt	58.31%	8.36%	4.87%	4.87%	4.87%
Short-Term Debt	6.26%	7.31%	0.46%	0.46%	0.46%
	<u>100.00%</u>		<u>8.74%</u>	<u>8.88%</u>	<u>9.02%</u>

Notes:

See Schedule 9 for the Capital Structure Ratios.

See Schedule 10-1 for the Embedded Cost of Long-Term Debt.

See Schedule 11 for the Embedded Cost of Preferred Stock.

See Schedule 12 for Weighted Average Cost of Short-Term Debt.