EXHIBIT

Exhibit No.: 200 HS 6-21-04
Issue(s): Rate of Return
Witness/Type of Exhibit: Allen/Direct
Sponsoring Party: Public Counsel
Case No.: GR-2004-0209

DIRECT TESTIMONY

OF

TRAVIS ALLEN

Submitted on Behalf of
the Office of the Public Counsel

MISSOURI GAS ENERGY

Case No. GR-2004-0209

April 15, 2004

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of Missouri Gas Energy's tariffs to implement a general rate increase for natural gas service.	)))	Case No. GR-2004-0209

AFFIDAVIT OF TRAVIS ALLEN

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Travis Allen, of lawful age and being first duly sworn, deposes and states:

1. My name is Travis Allen. I am a Financial Analyst for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my direct testimony consisting of pages 1 through 37 and Schedules TA-1 through TA-13.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Travis Allen

Subscribed and sworn to me this 15th day of April 2004.

KATHLEEN HARRISON
Notary Public - State of Missouri
County of Cole
My Commission Expires Jan. 31, 2006

Kathleen Harrison
Notary Public

My commission expires January 31, 2006.

DIRECT TESTIMONY

OF

TRAVIS ALLEN

MISSOURI GAS ENERGY

A DIVISION OF SOUTHERN UNION COMPANY

CASE NO. GR-2004-0209

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DIRECT TESTIMONY

OF

TRAVIS ALLEN

MISSOURI GAS ENERGY

A DIVISION OF SOUTHERN UNION COMPANY

CASE NO. GR-2004-0209

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Travis Allen, 200 Madison Street, P.O. Box 2230, Jefferson City MO., 65102

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Office of the Public Counsel of the State of Missouri (OPC or Public Counsel) as a Public Utility Financial Analyst.

A. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

Q. I earned a Bachelor of Science degree in Business Economics and Finance with a specialization in Financial Markets and Institutions from Southern Illinois University-Edwardsville in December 2001. I earned a Master of Science degree in Business Economics and Finance with a specialization in Finance from Southern Illinois University-Edwardsville in May 2003.

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. I will present a cost-of-capital analysis for Southern Union's Missouri Gas Energy Division (MGE, Company). I will recommend and testify to the appropriate capital structure, embedded cost rates, fair return on common equity, and weighted average cost of capital that should be allowed in this proceeding.

Q. HAVE YOU PREPARED SCHEDULES IN SUPPORT OF YOUR TESTIMONY?

A. Yes. I have prepared an analysis consisting of 13 Schedules that is attached to this testimony (TA-1 through TA-13). This analysis was prepared by me and is correct to the best of my knowledge and belief.

Q. DOES MISSOURI GAS ENERGY HAVE PUBLICLY TRADED STOCK?

A. No. MGE is a division of Southern Union Company (Southern Union, SUG). Southern Union's common equity trades under the stock ticker SUG.

Q. HOW DID YOU CALCULATE A FAIR RETURN ON COMMON EQUITY FOR MGE?

A. I utilized the standard Discounted Cash Flow (DCF) methodology applied to a group of eight publicly traded gas distribution utilities comparable to MGE to calculate a fair return on common equity for MGE. I substantiated the results of this analysis using a Capital Asset Pricing Model (CAPM) analysis.

SUMMARY OF FINDINGS

Q. PLEASE SUMMARIZE YOUR FINDINGS CONCERNING THE OVERALL COST OF CAPITAL FOR MGE.

A. MGE should be allowed an overall return no greater than 7.38% on its net original-cost rate base. This return has been determined using Southern Union Company's capital structure and embedded cost rates, and a return on common equity based primarily on a DCF analysis of gas distribution companies comparable to MGE.

CAPITAL STRUCTURE

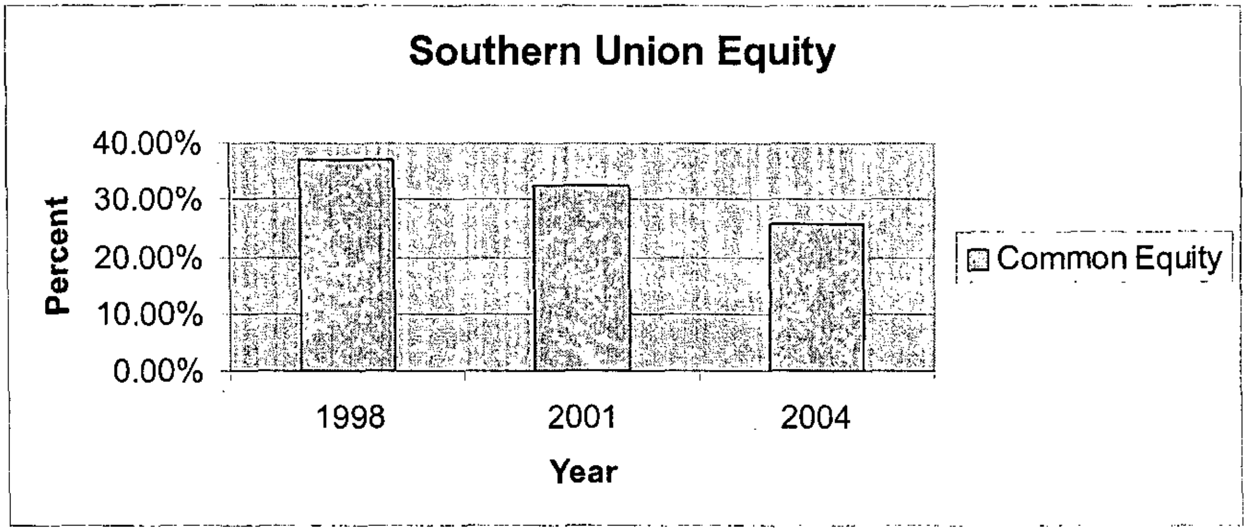
Q. HOW IS MGE CURRENTLY CAPITALIZED?

A. MGE is a division of Southern Union Company and does not issue its own debt or equity. Therefore, I used Southern Union Company's capital structure (and associated embedded costs of preferred stock, long-term debt less the embedded cost of Panhandle Eastern Pipeline's long-term debt, and short-term debt) to calculate an overall rate of return for MGE. Southern Union's capital structure at the end of the test year (12-31-03) consists of 25.98% common equity, 6.14% preferred stock, 60.42% long-term debt and 7.46% short-term debt. This capital structure is shown on schedule TA-1.

Q. IS THE CURRENT CAPITAL STRUCTURE CONSISTENT WITH HOW SOUTHERN UNION HAS BEEN CAPITALIZED IN THE PAST?

A. No it is not. As illustrated in the graph below, the level of common equity in this case (25.98%), is lower than the level in MGE's two previous rate cases (32.47% in GR-2001-292 and 37.08% in GR-98-140[1]) because the Company has continued to take on more debt in order to finance its aggressive growth strategy. A good example of this is Southern Union's recent acquisition of Panhandle Eastern Pipeline Company. In order to help pay for this transaction, Southern Union issued new debt in the amount of $125,000,000. This debt heavy capital structure has allowed Southern Union to achieve its aggressive growth strategy by purchasing assets such as Panhandle Eastern Pipeline. While such growth strategies may be beneficial to shareholders, it is potentially detrimental to MGE ratepayers. The danger for MGE ratepayers is that the commission will reward Southern Union with an equity return higher than that suggested by my comparable group, for consciously positioning themselves into a higher risk class via a debt heavy capital structure. MGE ratepayers should not have to shoulder the increased risk brought about by Southern Union's corporate growth strategy.

[1] GR-2001-292 includes short-term debt while GR-98-140 excludes short-term debt



Q. HOW DOES SOUTHERN UNION'S CURRENT CAPITAL STRUCTURE COMPARE WITH OTHER NATURAL GAS DISTRIBUTION UTILITIES?

A. According to the C.A. Turner Utility Reports, the average common equity ratio for natural gas distribution and integrated natural gas companies, inclusive of short-term debt, is 40.0%. Consequently, Southern Union's 25.98% equity ratio is significantly lower than the industry average.

Q. HOW DOES SOUTHERN UNION'S CAPITAL STRUCTURE COMPARE WITH THE CAPITAL STRUCTURE OF YOUR GROUP OF PROXY COMPANIES?

A. As shown on Schedule TA-2, the average common equity ratio for the eight proxy companies, inclusive of short-term debt, is 40.00%. This average contrasts with Southern Union's 25.98% common equity ratio.

Q. WHAT CAPITAL STRUCTURE DO YOU RECOMMEND?

A. I recommend the following capital structure be used in this proceeding:

	Percent
Common Equity	25.98%
Preferred Stock	6.14%
Long term debt	60.42%
Short term debt	7.46%

Q. IS YOUR RECOMMENDED CAPITAL STRUCTURE USED IN YOUR ANALYSIS?

A. Yes it is.

EMBEDDED COST RATES

Q. WHAT IS THE APPROPRIATE EMBEDDED COST RATE FOR SOUTHERN UNION'S TRUST PREFERRED STOCK?

A. The embedded cost rate is 7.758% for Southern Union's preferred stock. Calculation of the level and embedded cost of preferred stock is shown on Schedule TA-3.

Q. WHAT IS THE APPROPRIATE EMBEDDED COST RATE FOR SOUTHERN UNION'S LONG TERM DEBT?

A. The embedded cost rate is 7.17% for Southern Union's long-term debt as of December 31, 2003, as reported by the Company in response to OPC data request 2002. Calculation of the level and embedded cost of long-term debt is shown on Schedule TA-12.

Q. WHAT IS THE APPROPRIATE EMBEDDED COST RATE FOR SOUTHERN UNION'S SHORT TERM DEBT?

A. The embedded cost of Southern Union's short-term debt is 1.89%. This cost was calculated as a weighted average of the monthly cost rates for the test year. Calculation of the level and embedded cost of short-term debt is shown on Schedule TA-4.

COST OF COMMON EQUITY

Q. WHAT IS YOUR RECOMMENDED COST OF COMMON EQUITY FOR MGE?

MGE should be allowed a return on common equity of no more than 9.34%.

Q. HOW DID YOU ARRIVE AT YOUR RECOMMENDED COST OF COMMON EQUITY FOR MGE?

A. I relied primarily on a Discounted Cash Flow (DCF) analysis performed on a group of eight local distribution companies (LDC's) to calculate a cost of common equity for MGE. Also, I performed a Capital Asset Pricing Model (CAPM) analysis on the group.

DISCOUNTED CASH FLOW MODEL

Q. PLEASE DESCRIBE THE STANDARD DISCOUNTED CASH FLOW (DCF) MODEL YOU USED TO ARRIVE AT THE APPROPRIATE COST OF EQUITY CAPITAL.

A. The model is represented by the following equation:

$$k = D/P + g$$

where "k" is the cost of equity capital (i.e. investors' required return), "D/P" is the current dividend yield (dividend (D) divided by the stock price (P)) and "g" is the expected sustainable growth rate.

If future dividends are expected to grow at a constant rate (i.e., the constant growth assumption) and dividends, earnings and stock price are expected to increase in proportion to each other, the sum of the current dividend yield (D/P) and the expected growth rate (g) equals the required rate of return, or the cost of equity, to the firm. This form of the DCF model is known as the constant growth, or Gordon, DCF model. The constant growth DCF model is based on the following assumptions:

1) A constant rate of growth,

2) The constant growth will continue for an infinite period,

3) The dividend payout ratio remains constant,

4) The discount rate must exceed the growth rate, and

5) The stock price grows proportionately to the growth rate.

Although all of these assumptions do not always hold in a technical sense, the relaxation of these assumptions does not make the model unreliable.

Q. WHAT BASIC FINANCIAL PRINCIPLES IS THE DCF MODEL BASED ON?

A. The DCF model is based on two basic financial principals. First, the current market price of any financial asset, including a share of stock, is equivalent to the value of all expected future cash flows associated with that asset discounted back to the present at the appropriate discount rate. The discount rate that equates anticipated future cash flows and the current market price is defined as the required rate of return, or the company's cost of equity capital.

Cash flows associated with owning a share of common stock can take two forms: selling the stock and dividends. Just as the current value of a share of stock is a function of future cash flows (dividends), the *future* price of the stock at any time is also a function of future dividends. When a share of stock is sold, what is given up is the right to receive all future dividends. Therefore, the DCF model, using expected future dividends as the cash flows, is appropriate regardless of how long the investor plans to hold the stock. Determination of a holding period and an associated terminal price is unnecessary. The irrelevance of investors' time horizons is emphasized by Alexander, Sharpe, and Bailey:

> How far out could we look? In principle the horizon period *H* could be infinitely distant. Common Stocks do not expire of old age. Barring such corporate hazards as bankruptcy or acquisition, they are immortal. As *H* approaches infinity, the present value of the terminal price ought to approach zero.... We can, therefore, forget about the terminal price entirely and express today's price as the present value of a perpetual stream of cash dividends. (<u>Principles of Corporate Financing</u>, Fourth Edition, page 52).

The other basic financial principal on which the DCF is grounded is the "time value of money." Investors view a dollar received today as being worth more than a dollar received in the future because a dollar today can immediately be invested. Therefore, future cash flows are discounted. The rate used by investors to discount future cash flows to the present is the discount rate or opportunity cost of capital.

GROWTH RATE

Q. TO WHAT DOES THE GROWTH COMPONENT OF THE DCF FORMULA REFER?

A. The growth rate variable, g, in the traditional DCF model is the dividend growth rate investors expect to continue into the *indefinite future* (i.e., the <u>sustainable</u> growth rate).

Q. HOW IS THE SUSTAINABLE GROWTH RATE DETERMINED?

A. The sustainable growth rate is determined by analyzing historical and projected financial information for a Company. It is important to recognize the fundamentals of long-term investor-expected growth when developing a sustainable growth rate. Future dividends will be generated by future earnings and the primary source of growth in future earnings is the reinvestment of present earnings back into the firm. This reinvestment of earnings also contributes to the growth in book value. Furthermore, it is the earned return on reinvested earnings and existing capital (i.e., book value) that ultimately determines the basic level of future cash flows. Therefore, one proxy for the future growth rate called for in the DCF formula is found by multiplying the future expected earned return on book equity (r) by the percentage of earnings expected to be retained in the business (b). This calculation, known as the "b*r" method, or *retention* growth rate, results in one measure of the sustainable growth rate called for in the Discounted Cash Flow formula. While the retention growth rate can be calculated using historic data on earnings retention and equity returns, this information is relevant only to the extent that it provides a meaningful basis for determining the future sustainable growth rate. Consequently, projected data on earnings retention and return on book equity are generally more representative of investors' expectations.

Q. CAN YOU PROVIDE AN EXAMPLE THAT ILLUSTRATES THE FUNDAMENTALS OF RETENTION GROWTH AS A PROXY FOR SUSTAINABLE GROWTH?

A. Yes. To better understand the principles of sustainable growth, it is helpful to compare the growth in a utility's cash flows to the fundamental causes of growth in an individual's passbook account. For an individual who has $1,000 in a passbook account paying 5.0% interest, earnings will be $50 for the first year. If this individual leaves 100% of the earnings in the passbook account (retention ratio equals 100%), the account balance at the end of the first year will be $1,050. Total earnings in the second year will be $52.50 ($1,050 x 5.0%), and the growth rate of the account in year two is 5.0% [100%(b) x 5%(r)].

On the other hand, if the individual withdraws \$30 of the earnings from the first year and reinvests only \$20 (retention ratio equals 40%) earnings in the second year will be only \$51.00 (\$1,020 x 5.0%), with growth equaling 2.0% [(\$1,020-\$1,000)/\$1,000 = 2.0% = 40%(b) x 5%(r)]. In both cases, the return, along with the level of earnings retained, dictate future earnings.

These exact principles regarding growth apply to a utility's common stock. When earnings are retained, they are available for additional investment and, as such, generate future growth. When earnings are distributed in the form of dividends, they are unavailable for reinvestment in those assets that would ultimately produce future growth. Either way, for both a utility's common stock or an individual's passbook account, the level of earnings retained, along with the rate of return, determine the level of sustainable growth.

Q. ARE THERE ANY OTHER FACTORS THAT INFLUENCE INVESTOR-EXPECTED SUSTAINABLE GROWTH?

A. Yes. Stock financing will cause investors to expect additional growth if a company is expected to issue new shares at a price above book value. The excess of market price over book value would benefit current shareholders, increasing their per share book equity. Therefore, if stock financing is expected at prices above book value, shareholders will expect their book value to increase, and that adds to the growth expectation stemming from earnings retention, or "b*r" growth. A more thorough explanation of "external" growth is included in Appendix (H). This external growth factor has been included in all historic and projected retention growth rate calculations for the group of comparable utilities.

Q. ARE THERE OTHER GROWTH RATE PARAMETERS THAT ARE SOMETIMES USED TO MEASURE GROWTH?

A. Yes. Other methods sometimes used as a proxy for determining the investor-expected sustainable growth rate utilized in the DCF model include: 1) *historical* growth rates, and 2) analysts' *projections* of expected growth rates. Three commonly employed historic growth parameters are: 1) earnings per share, 2) dividends per share, and 3) book value per share. Additionally, analysts' projections of future growth in earnings per share, dividends per share, and book value per share are sometimes used as an estimate of the sustainable growth rate.

As a matter of completeness, **all** of the above-mentioned techniques for measuring growth were utilized in order to determine a sustainable growth rate.

Q. DID YOU EXCLUDE ANY OF YOUR CALCULATED GROWTH RATES FROM THE DETERMINATION OF AVERAGES?

A. Yes. I excluded any negative growth rates from my calculations.

Q. DID YOU UTILIZE A GROUP OF COMPANIES COMPARABLE TO MGE TO ARRIVE AT A SUSTAINABLE GROWTH RATE?

A. Yes I did. Appendix (F), attached to this testimony, shows the selection criteria used to develop a group of traditional gas utilities with financial risk characteristics similar to MGE. The following companies met the selection criteria: 1)AGL Resources Inc.; 2) Cascade Natural Gas Company; 3) NICOR Inc.; 4) Northwest Natural Gas Co.; 5) People's Energy Corporation; 6) South Jersey Industries, Inc.; 7) Southwest Gas Corporation; and 8) WGL Holdings, Inc. Schedule TA-5 shows the industry group companies and a list of risk measures. Schedule TA-6, page 1, summarizes the growth rate calculations for the group. Schedule TA-6, pages 2-9, contain the growth rate calculations for individual companies.

Q. WHAT GROWTH RATE PARAMETERS HAVE YOU EXAMINED IN ORDER TO ESTABLISH INVESTOR-EXPECTED GROWTH FOR MGE?

A. The following growth parameters have been reviewed for the group of eight companies: 1) my calculations of historic compound growth in earnings, dividends, and book value based on data from Value Line; 2) average of five-year and ten-year historic growth in earnings, dividends, and book value; 3) projected growth rate in earnings, dividends, and book value; 4) historic retention growth rate; and, 5) projected retention growth rate.

Q. PLEASE EXPLAIN IN MORE DETAIL HOW THE HISTORIC GROWTH RATES OF EARNINGS, DIVIDENDS, AND BOOK VALUE WERE DETERMINED.

A. Historic rates of growth in earnings per share (EPS), dividends per share (DPS), and book value per share (BVPS) were analyzed using two methods. First, compound growth rates were calculated for the time period beginning with the averaged value for 1996-1998 and ending with the averaged value for 2001-2003. The second measure of historic growth was taken from Value Line. I averaged Value Line's calculated 5-year and 10-year historical growth rates when both were available. If only one was available, I used that one. The historic rates of growth furnished by Value Line are included in this analysis because:

1) The Value Line growth rates are readily available for investor use;

2) The Value Line rates of growth reflect both a five-year and ten-year time frame;

3) The Value Line rates are measured from an average of three base years to an average of three ending years, thus smoothing the results and limiting the impact of nonrecurring events.

Value Line historic growth measurements for EPS, DPS and BVPS appear on line (21) of Schedule TA-6, pages 2-9.

Q. PLEASE DISCUSS YOUR ANALYSIS OF PROJECTED GROWTH RATE DATA.

A. Projected growth rates in EPS, DPS, and BVPS were taken from Value Line and are found on line 32 of Schedule TA-6, pages 2-9. Projected growth in EPS was also taken from Thomson Financial Network. If Thomson did not issue a projection for a particular company, that space contains n/a. Information from Thomson is available to the average investor. The projected growth in EPS found on line 37 is the average of earnings growth projections furnished by Value Line and Thomson. Value Line's projected growth in dividends and book value are listed again on line 37.

Q. PLEASE DISCUSS YOUR ANALYSIS OF HISTORIC AND PROJECTED RETENTION GROWTH RATES.

A. Historic retention growth was determined using the product of return (r) and retention rate (b) for the years 1996-2003, and the average was calculated (line 11, final column). The projected retention growth data, found on lines 27-29 of Schedule TA-6, pages 2-9 is based on information from Value Line. Projected retention growth was calculated for 2004, 2005, and the period 2007-09. An average of these growth rates was calculated and compared to the growth rate for the 2007-09 period alone. The *larger* value, either the average or the 2007-09 rate was utilized as the projected retention growth rate for every company except Cascade Natural Gas Corporation. In the case of Cascade, the projected retention growth for the period 2007-09 was discarded due to its unreasonably high estimate. Looking at Schedule TA-6 Page 6 Line 29, shows a projected retention growth rate for the period 2007-2009 of 7.46%. This is based on an equity return of 15.00% and a retention ratio of 0.497. I feel that these values are extremely optimistic for two reasons. First, I find it very unlikely in this day and age that a company like Cascade with 100% of its revenue coming from natural gas operations would earn a 15% return on equity. Justification for this view is found on Schedule TA-6 page 6. Looking at Cascade's historic equity return, it is clear that it has never earned a return on equity higher than 13.30% in recent years. Second, I believe that a retention ratio of 0.497 is unlikely due to the fact that its recent retention ratio has never been above 0.347. Consequently, I calculated the average retention growth rate for Cascade over the 2004 and 2005 estimates and selected the larger of the average or the 2005 estimate as the projected retention growth rate.

Investors' expectations regarding growth from external sources (i.e. sales of additional stock at prices above book value) has been included in the determination of both historic and projected growth.

Q. PLEASE SUMMARIZE YOUR HISTORIC AND PROJECTED GROWTH RATE ANALYSIS FOR YOUR PROXY GROUP OF COMPANIES.

A. The following table outlines the results of the analysis of growth rates for the group. The high average growth rate is 6.16% (historic EPS) and the low average growth rate is 1.22% (historic DPS). The overall average of all growth rates for all eight companies is 3.67% (Schedule TA-6, page 1). In all cases, negative growth rates were *not* included in the calculation of averages.

Comparable group growth rate summary:

Average Historical Growth: 3.43%   Average Projected Growth: 4.11%

	EPS	DPS	BVPS
Historic Compound Growth	4.56%	1.64%	3.21%
Historic Value Line Growth	6.16%	1.22%	2.66%
Projected Growth	4.97%	1.53%	5.31%

	Historic	Projected
Retention Growth	4.54%	4.62%

Q. PLEASE DESCRIBE HOW YOU DETERMINED THE EXPECTED GROWTH RATE USED IN YOUR ANALYSIS.

A. In this analysis, I decided to use a growth rate range consisting of a low expected growth rate, a mid/projected retention growth rate, and a high-expected growth rate for each Company. For the low expected growth rate, I used the overall average of all calculated growth rates for each company. The projected retention growth rate is simply each Company's projected br+sv growth rate found on Schedule TA-6 pages 2-9 on line 38. Finally, for the high-expected growth rate, I analyzed the individual Company's growth rates on Schedule TA-6 pages 2-9 to determine if there was any reason to expect a higher rate of growth than the projected retention growth rate. If there was, I recognized it and recorded it as the high-expected growth rate. If there was not, I simply used the projected retention growth rate as the high-expected growth rate. Upon determining the various growth rates for each Company, I averaged them to produce my recommended low-expected growth rate, projected retention growth rate, and high-expected growth rate range. The results are illustrated below.

Company	Low	Projected br+sv	High
Southwest Gas	4.65%	5.87%	5.87%
AGL Resources	3.66%	6.28%	6.28%
South Jersey Inds.	4.95%	5.63%	5.63%
N.W. Nat'l Gas	3.16%	4.46%	4.50%
Cascade Nat'l Gas	3.61%	4.23%	5.00%
Nicor Inc.	3.50%	3.76%	3.76%
WGL Holdings	2.85%	3.58%	4.00%
Peoples Energy	3.00%	3.15%	4.50%
Average	3.67%	4.62%	4.94%

DIVIDEND YIELD

Q. WHAT IS THE APPROPRIATE DIVIDEND YIELD TO USE IN THE DCF?

A. The appropriate dividend yield to use in the DCF is the *expected* dividend yield calculated from the expected dividend over the coming twelve months and the current stock price.

Q. DOES SOUTHERN UNION COMPANY PAY A CASH DIVIDEND?

A. No, it does not.

Q. WHAT DIVIDEND YIELD DID YOU USE IN YOUR DCF COST OF COMMON EQUITY CALCULATION FOR MGE?

A. I used a dividend yield range of 4.37% - 4.40%.

Q. PLEASE DESCRIBE THE CALCULATION OF THE EXPECTED DIVIDEND.

A. I used the following method to determine the expected dividend. First, I annualized the last quarterly dividend for each company (multiplied the last quarterly dividend by four). I then multiplied that number by one plus one-half its low expected growth rate, one plus one-half its projected retention growth rate, and one plus one-half its high expected growth rate

[1+1/2 Low E(g), 1+1/2 Projected br+sv, and 1+1/2 High E(g)]. This calculation is shown in Schedule TA-8.

Q. PLEASE EXPLAIN YOUR CALCULATION OF THE DIVIDEND YIELD RANGE.

A. The appropriate dividend yield to use in the DCF equation is equal to the *expected* dividend divided by *current* stock price. Schedule TA-7 shows the average weekly stock price of each company in my proxy sample over a six-week period ending 3-26-04. I used a six-week period for determining the average weekly stock prices because I believe that this period of time is long enough to avoid daily fluctuations and recent enough so that the stock price captured is representative of current expectations. The low growth, projected br+sv growth, and high growth dividend yield expectations were then calculated for each company by dividing their specific low growth, projected br+sv growth, and high growth-expected dividends, by their specific average weekly stock price. This produced a low growth, projected br+sv growth, and high growth-expected dividend yield for each company. I then averaged the company specific low growth, projected br+sv growth, and high growth dividend yield calculations and used this as my dividend yield range. As shown in Schedule TA-8, the dividend yield used in this analysis ranges from a low of 4.37% to a high of 4.40%.

Q. IS THE METHOD YOU USED TO CALCULATE THE DIVIDEND YIELD CONSISTENT WITH DCF PRINCIPLES?

A. Yes. The DCF equation calls for the dividend yield calculated from expected dividends and current market prices of stock, both of which I utilized in my calculation.

DCF COST OF EQUITY

Q. WHAT IS THE COST-OF-EQUITY RANGE FOR YOUR PROXY GROUP?

A. The following table, using data from Schedule TA-8, outlines the total cost of equity range for my proxy group:

	Dividend Yield	Growth	Cost of Equity
Low	4.37%	3.67%	8.04%
Projected br+sv	4.39%	4.62%	9.01%
High	4.40%	4.94%	9.34%

Q. WHAT RETURN ON COMMON EQUITY DO YOU RECOMMEND FOR MGE?

A. MGE should be allowed a return on common equity of no more than 9.34% and no less than 9.01%.

Q. WHY ARE YOU RECOMMENDING THE HIGH END OF YOUR COST OF EQUITY RANGE?

A. I'm recommending the high end of my cost of equity range in recognition of the fact that Southern Union has a lower equity ratio than several of the companies included in my proxy group. I feel that tailoring my recommendation to the upper end of this range properly compensates for this higher level of risk.

CAPITAL ASSET PRICING MODEL

Q. PLEASE DESCRIBE THE CAPITAL ASSET PRICING MODEL YOU USED TO SUBSTANTIATE YOUR RECOMMENDED RETURN ON COMMON EQUITY.

A. The Capital Asset Pricing Model (CAPM) is described by the following equation:

$$K = Rf + \beta(Rm - Rf)$$

where,

K = the cost of common equity for the security being analyzed,

Rf = the risk free rate,

β = beta = the company or industry-specific beta risk measure,

Rm = market return, and

(Rm - Rf) = market premium.

The formula states that the cost of common equity is equal to the risk free rate of interest plus beta multiplied by the difference between the return on the market and the risk free rate (the market risk premium).

The formula says that the cost of common equity is equal to the risk free rate plus some proportion of the market risk premium - that proportion being equal to beta. The market overall has a beta of 1.0. Firms with a beta less than 1.0 are assumed to be less risky than the market; firms with beta greater than 1.0 are assumed to be more risky than the market. The appropriate beta to use in the CAPM formula is the beta that represents the risk of the industry (or project) being analyzed. Therefore, I utilized the betas of my comparable companies when calculating a cost of equity capital for MGE. Beta for my group of comparable companies ranges from 0.55 to 1.00, with an average of 0.78.

Q. WHAT ARE THE DRAWBACKS OF THE CAPITAL ASSET PRICING MODEL?

A. I believe that there are theoretical and practical drawbacks associated with each of the inputs needed to perform a CAPM analysis when used in a utility rate-setting environment. First, there is no consensus on how the risk-free rate of return should be determined. For correct application, the rate on 3-month U.S. Treasury Bills should be used. U.S. Treasury Bills are free of default risk and have virtually no interest rate risk. However, rates on U.S. Treasury Bills can fluctuate more than longer-term U.S. Treasury Securities over time, resulting in a somewhat more volatile measure of equity capital cost rates.

Treasury Bonds, while more stable, are not free of risk since they are subject to substantial interest rate risk; an element of risk investors do not face with the purchase of short-term Treasuries. Investors must be compensated for future investment opportunities foregone, as well as for potential changes in inflation and interest rates. Consequently, when investors tie up their money for longer periods of time, as they do when purchasing long-term Treasuries, they are compensated for this increased risk by receiving higher yields on their investment. Consequently, since interest rate risk is fully recognized in the yields on Treasury Bonds, long-term Treasuries do not represent the risk-free return called for in the CAPM.

Secondly, while the CAPM is an ex-ante, or forward-looking model, beta coefficients (the only variable in a CAPM analysis that is company or industry specific) are not. The measurement of beta is derived completely with historical, or ex-post, information. Consequently, historical betas may not reflect either current or expected risk.

Finally, there is substantial debate over what actually constitutes the "market portfolio." This debate revolves around the fact that the "market portfolio" against which return volatility of a particular security is measured determines, to a large extent, the outcome of a CAPM analysis. While the "market portfolio" theoretically includes all assets (stocks, bonds, real estate, gold, etc.), the "market portfolio" used to derive betas is actually only a small part of the true "market portfolio." Given these limitations, I feel that the CAPM is best used as a check on the reasonableness of my DCF analysis.

Q. HOW DID YOU ARRIVE AT THE VALUES OF THE RISK FREE RATE AND THE MARKET RETURN (OR MARKET PREMIUM) USED IN YOUR ANALYSIS?

A. I performed my CAPM analysis using three variations of the risk-free rate, the three-month U.S. Treasury-Bill, the ten-year U.S. Treasury Note, and the thirty-year U.S. Treasury Note. However, due to my belief that the yield on the 3-month U.S. Treasury Bill should be the primary surrogate for the risk-free rate, I have decided to use the average 2004 yield on the 3-month T-Bill of 0.917%. The ten and thirty-year T-Note analysis was included primarily for completeness and is shown on Schedule TA-9.

In Stocks, Bonds, and Inflation: 2003 Yearbook, Ibbotson Associates indicates that the historic arithmetic mean market return from 1926-2002 is 12.2%. Thus, the market premium that I used in my primary CAPM analysis was 11.28% (12.2%-0.917%).

Q. WHAT DOES YOUR CAPM ANALYSIS SHOW?

A. As can be seen on Schedule TA-9, I performed a CAPM analysis on the group of eight comparable LDCs. The average CAPM cost of common equity for the group is 9.17%, with a high of 12.20% and a low of 7.12%.

I believe that this analysis lends support to and shows the reasonableness of my recommended cost of common equity for MGE. As shown, the average CAPM cost of common equity of 9.17% is merely one half of a basis point from the middle of my recommended cost of common equity range, 9.01%-9.34%.

WEIGHTED AVERAGE COST OF CAPITAL

Q. WHAT OVERALL, OR WEIGHTED AVERAGE, COST OF CAPITAL IS INDICATED BY YOUR ANALYSIS?

A. The weighted average cost of capital (WACC) range that I calculated for MGE is 7.29% - 7.38%. The lower/higher end of this range is based on a range of 9.01% to 9.34% return on equity, 7.758% embedded cost of preferred stock, 7.17% embedded cost of long-term debt, and 1.89% embedded cost of short term debt. The capital structure contains 25.98% common equity, 6.14% preferred stock, 60.42% long-term debt and 7.46% short-term debt. The WACC calculation is shown on Schedule TA-13.

Q. WHAT PRE-TAX COVERAGE RATIO IS IMPLIED BY YOUR RECOMMENDATION?

A. Based on a WACC of 7.29% and an assumed overall tax factor of 1.6136, as suggested by the Company, the pre-tax coverage ratio is approximately 2.63 times. Based on a WACC of 7.38% and assuming the same overall tax factor, the pre-tax coverage ratio is approximately 2.66 times. Consequently, selecting any return on equity, and corresponding WACC, within my recommended range will provide Southern Union with a sufficient interest coverage ratio.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

APPENDIX A

DEVELOPMENT & PURPOSES OF REGULATION

Q. WHY ARE PUBLIC UTILITIES REGULATED?

A. The nature of public utility services generally requires a monopolistic mode of operation. Only a limited number of companies (and quite often only one) are normally allowed to provide a particular utility service in a specific geographic area. Public utilities are often referred to as "natural" monopolies; a state created by such powerful economies of scale or scope that only one firm can or should provide a given service. Even when a utility is not a pure monopoly, it still has substantial market power over at least some of its customers.

In order to secure the benefits arising from monopolistic-type operations, utilities are generally awarded an exclusive franchise (or certificate of public convenience) by the appropriate governmental body. Since an exclusive franchise generally protects a firm from the effects of competition, it is critical that governmental control over the rates and services provided by public utilities is exercised. Consequently, a primary objective of utility regulation is to produce market results that closely approximate the conditions that would be obtained if utility rates were determined competitively. Based on this competitive standard, utility regulation must: 1) secure safe and adequate service; 2) establish rates sufficient to provide a utility with the opportunity to cover all reasonable costs, including a fair rate of return on the capital employed; and 3) restrict monopoly-type profits.

APPENDIX B

CALCULATION OF THE WEIGHTED AVERAGE COST OF CAPITAL

Q. PLEASE EXPLAIN HOW THE WEIGHTED AVERAGE COST OF CAPITAL IS USED IN TRADITIONAL RATEMAKING AND HOW IT IS DERIVED.

A. The basic standard of rate regulation is the revenue-requirement standard, often referred to as the rate base-rate of return standard. Simply stated, a regulated firm must be permitted to set rates which will cover operating costs and provide an opportunity to earn a reasonable rate of return on assets devoted to the business. A utility's total revenue requirement can be expressed as the following formula:

$$R = O + (V - D + A)r$$

where R = the total revenue required,

O = cost of operations,

V = the gross value of the property,

D = the accrued depreciation, and

A = other rate base items,

r = the allowed rate of return/weighted average cost of capital.

This formula indicates that the process of determining the total revenue requirement for a public utility involves three major steps. First, allowable operating costs must be ascertained. Second, the net depreciated value of the tangible and intangible property, or net investment in property, of the enterprise must be determined. This net value, or investment (V - D), along with other allowable items is referred to as the rate base. Finally, a "fair rate of return" or weighted average cost of capital (WACC) must be determined. This rate, expressed as a percentage, is multiplied by the rate base. The weighted average cost of capital (WACC) is applied to the rate base (V-D+A) since it is generally recognized the rate base is financed with the capital structure. The allowed rate of return, or WACC, is typically defined as follows:

$$r = i(D/C) + l(P/C) + k(E/C)$$

where i = embedded cost of debt capital,

D = amount of debt capital,

l = embedded cost of preferred stock,

P = amount of preferred stock,

k = cost of equity capital,

E = amount of equity capital, and

C = amount of total capital.

This formula indicates that the process of determining WACC involves separate determinations for each type of capital utilized by a utility. Under the weighted cost approach, a utility company's total invested capital is expressed as 100 percent and is divided into percentages that represent the capital secured by the issuance of long-term debt, preferred stock, common stock, and sometimes short-term debt. This division of total capital by reference to its major sources permits the analyst to compute separately the cost of both debt and equity capital. The cost rate of each component is weighted by the appropriate percentage that it bears to the overall capitalization. The sum of the weighted cost rates is equal to the overall or weighted average cost of capital and is used as the basis for the fair rate of return that is ultimately applied to rate base.

APPENDIX C

LEGAL REQUIREMENT FOR A FAIR RATE OF RETURN

Q. IS THERE A JUDICIAL REQUIREMENT RELATED TO THE DETERMINATION OF THE APPROPRIATE RATE OF RETURN FOR A REGULATED UTILITY?

A. Yes. The criteria established by the U.S. Supreme Court closely parallels economic thinking on the determination of an appropriate rate of return under the cost of service approach to regulation. The judicial background to the regulatory process is largely contained in two seminal decisions handed down in 1923 and 1944. These decisions are,

> Bluefield Water Works and Improvement Company v. Public Service Commission, 262 U.S. 679 (1923), and
>
> FPC v. Hope Natural Gas Co., 320 U.S. 591 (1944)

In the Bluefield Case, the Court states,

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility, and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally.

Together, Hope and Bluefield have established the following standards,

1). A utility is entitled to a return similar to that available to other enterprises with similar risks;

2). A utility is entitled to a return level reasonably sufficient to assure financial soundness and support existing credit, as well as raise new capital; and

3). A fair return can change along with economic conditions and capital markets. Furthermore, in Hope, the Court makes clear that regulation does not guarantee utility profits.

APPENDIX D

REGULATION IN MISSOURI

Q. WHAT IS THE ORIGIN AND RATIONALE FOR THE REGULATION OF PUBLIC UTILITIES IN THE STATE OF MISSOURI?

A. All investor owned public utilities operating in the state of Missouri are subject to the Public Service Commission Act, as amended. The Public Service Commission Act was initially passed by the Forty-Seventh General Assembly on April 15, 1913. (Laws of 1913 pp.557-651, inclusive).

In State ex rel Kansas City v. Kansas City Gas Co. 163 S.W. 854 (Mo.1914), the case of first impression pertaining to the Public Service Commission Act, the Missouri Supreme Court described the rationale for the regulation of public utilities in Missouri as follows:

> That act (Public Service Commission Act) is an elaborate law bottomed on the police power. It evidences a public policy hammered out on the anvil of public discussion. It apparently recognizes certain generally accepted economic principles and conditions, to wit: That a public utility (like gas, water, car service, etc.) is in its nature a monopoly; that competition is inadequate to protect the public, and, if it exists, is likely to become an economic waste; that regulation takes the place of and stands for competition; that such regulation to command respect from patron or utility owner, must be in the name of the overlord, the state, and, to be effective, must possess the power of intelligent visitation and the plenary supervision of every business feature to be finally (however invisible) reflected in rates and quality of service. (Kansas City Gas Co. at 857-58).

The General Assembly has determined that the provisions of the Public Service Commission Act "shall be liberally construed with a view to the public welfare, efficient facilities and substantial justice between patrons and public utilities" (See: 386.610 RSMo 2000). Pursuant to the above legislative directive, when developing the cost of equity capital for a public utility operating in Missouri, it is appropriate to do so with a view toward the public welfare; giving the utility an amount that will allow for efficient use of its facilities and the proper balance of interests between the ratepayers and the utility.

APPENDIX E

MARKET-TO-BOOK RATIO ILLUSTRATION

Q. COULD YOU PROVIDE AN EXAMPLE ILLUSTRATING THE IMPORTANCE OF MARKET-TO-BOOK RATIOS AND THEIR RELATIONSHIP TO THE COST OF EQUITY CAPITAL?

A. Yes. Assume that a utility's equity has a book value of $10 per share and that, for simplicity, this utility pays out all its earnings in dividends. If regulators allow the utility a 12% return, investors will expect the company to earn (and pay out) $1.20 per share. If investors require a 12% return on this investment, they will be willing to provide a market price of $10 per share for this stock ($1.20 dividends/$10 market price = 12%). In that case, the allowed/expected return is equal to the cost of capital and the market price is equal to the book value.

Now, assume the investors' required return is 10%. Investors would be drawn to a utility stock in a risk class for which they require a 10% return but was expected to pay out a 12% return. The increased demand by investors would result in an increase in the market price of the stock until the total share yield equaled the investors' required return. In our example, that point would be $12 per share ($1.20 dividends/$12 market price = 10%). As such, the allowed/expected return (12%) is greater than the required return (10%) and the per share market price ($12/share) exceeds book value ($10/share), producing a market-to-book ratio greater than one ($12/$10 = 1.20). Consequently, when the market-to-book ratio for a given utility is greater than one, the earned or projected return on book equity is greater than the cost of capital.

APPENDIX F

DEVELOPMENT OF A PROXY GROUP

Q. PLEASE EXPLAIN HOW YOU DEVELOPED A GROUP OF GAS UTILITIES WITH RISK CHARACTERISTICS SIMILAR TO MGE.

A. The following selection criteria have been used to develop a group of comparable gas utilities:

1). Publicly traded company;

2). No Missouri-regulated operations;

3). Greater than 60% of total revenues from regulated sales of gas;

4). Total revenues less than $3.0 billion;

5). Covered by Value Line;

6). Standard & Poor's Bond Rating of at least BBB-;

The following companies met the selection criteria: 1)AGL Resources Inc.; 2) Cascade Natural Gas Company; 3) NICOR Inc.; 4) Northwest Natural Gas Co.; 5) People's Energy Corporation; 6) Southwest Gas Corporation; 7) South Jersey Industries, Inc.; and 8) WGL Holdings, Inc.

Q. HAVE YOU MADE ANY RISK EVALUATIONS FOR THE INDUSTRY GROUP?

A. Yes. As shown on Schedule TA-5, I have examined several measures that typically act as indicators of relative risk.

The beta coefficient;

Fixed charge coverage;

Value Line Safety rating;

Bond Rating from Standard & Poor's;

Average common equity ratio;

Value Line Financial Strength.

Also, the level of revenues from regulated gas operations acts as a risk measure.

Q. WHAT CONCLUSIONS CAN BE DRAWN FROM THIS ANALYSIS?

A. Generally, the level of overall, or total, risk for the industry companies is representative of the risks faced by MGE as a regulated natural gas distributor.

APPENDIX G

EFFICIENT NATURE OF THE CAPITAL MARKETS

Q. IS THE DISCOUNTED CASH FLOW MODEL INHERENTLY CAPABLE OF ADJUSTING FOR THE LEVEL OF REAL OR PERCEIVED RISKINESS TO A GIVEN SECURITY?

A. Yes. It is impossible for any one analyst to systematically interpret the impact that each and every risk variable facing an individual firm has on the cost of equity capital to that firm. Fortunately, this type of risk-by-risk analysis is not necessary when determining the appropriate variables to be plugged into the DCF formula.

As stated earlier, the DCF model can correctly identify the cost of equity capital to a firm by adding the current dividend yield (D/P) to the correct determination of investor-expected growth (g). Thus, the difficult task of determining the cost of equity capital is made easier, in part, by the relative ease of locating dividend and stock price information and the efficient nature of the capital markets.

Q. PLEASE EXPLAIN THAT STATEMENT.

A. The DCF model is based on the assumption that investors (1) calculate intrinsic values for stocks on the basis of their interpretation of available information concerning future cash flows and risk, (2) compare the calculated intrinsic value for each stock with its current market price, and (3) make buy or sell decisions based on whether a stock's intrinsic value is greater or less than its market price.

Only if its market price is equal to or lower than its intrinsic value as calculated by the marginal investor will a stock be demanded by that investor. If a stock sells at a price significantly above or below its calculated intrinsic value, buy or sell orders will quickly push the stock towards market equilibrium. The DCF model takes on the following form when used by investors to calculate the intrinsic value of a given security,

$$P\text{^} = D/k-g$$

where P^= the intrinsic value of the security,

D = the current dividend,

g = the expected growth rate, and

k = the required return on the security

Since the required rate of return for any given investor is based on both the perceived riskiness of the security and return opportunities available in other segments of the market, it can be easily demonstrated that when perceived riskiness is increased, the investors' required return is also increased and the market value of the investment falls as it is valued less by the marginal investor. Returning to the form of the DCF model used to determine the cost of equity capital to the firm,

$$k = D/P + g$$

we see that the required return rises as an increase in the perceived risk associated with a given security drives the price down. Within this context, the DCF formula incorporates all known information, including information regarding risks, into the cost of equity capital calculation. This is known as the "efficient market" hypothesis.

Q. IS THE "EFFICIENT MARKET" HYPOTHESIS SUPPORTED IN THE FINANCIAL LITERATURE?

A. Yes. Modern investment theory maintains that the U.S. capital markets are efficient and, at any point in time, the prices of publicly traded stocks and bonds reflect all available information about those securities. Additionally, as new information is discovered, security prices adjust virtually instantaneously. This implies that, at any given time, security prices reflect "real" or intrinsic values. This point is further clarified by Brealey and Myers in Principles of Corporate Finance, Fourth Edition:

> When economists say that the security market is efficient, they are not talking about whether the filing is up-to-date or whether the desktops are tidy. They mean that information is widely and cheaply available to investors and that all relevant and ascertainable information is already reflected in security prices. (pg. 290)

> Suppose, e.g., that you wish to sell an antique painting at an auction but you have no idea of its value. Can you be sure of receiving a fair price? The answer is that you can if the auction is sufficiently competitive. In other words, you need to satisfy yourself that it is to be properly conducted (that includes no collusion among bidders), that there is no substantial cost involved in submitting a bid, and that the auction is attended by a reasonable number of skilled potential bidders, each of whom has access to the available information. In this case, no matter how ignorant *you* may be, competition among experts will ensure that the price you realize fully reflects the value of the painting.
>
> In just the same way, competition among investment analysts will lead to a stock market in which prices at all times reflect true value. But what do we mean by *true value*? It is a potentially slippery phrase. True value does not mean ultimate *future* value -- we do not expect investors to be fortune-tellers. It means an equilibrium price which incorporates *all* the information available to investors at that time. That was our definition of an efficient market. (pg. 293-294)

APPENDIX H

DETERMINATION OF RETENTION (BR + SV) GROWTH & SUSTAINABLE GROWTH VS. EARNINGS AND DIVIDEND GROWTH RATES

Q. PREVIOUSLY YOU STATED THAT IT IS CRITICAL TO UNDERSTAND THE SOURCES OF GROWTH WHEN DEVELOPING A SUSTAINABLE GROWTH RATE RECOMMENDATION. PLEASE PROVIDE AN EXAMPLE THAT ILLUSTRATES HOW SUSTAINABLE GROWTH IS MEASURED.

A. To understand how investors develop a growth rate expectation, it is helpful to look at an illustration that shows how expected growth is measured. To do this, assume that a hypothetical utility has a first period common equity, or book value per share of $20.00; the investor-expected return on that equity is 12 percent; and the stated company policy is to pay out 50 percent of earnings in dividends. The first period earnings per share are expected to be $2.40 ($20 per share book equity x 12% equity) and the expected dividend is $1.20. The amount of earnings not paid out to shareholders ($1.20), referred to as retained earnings, raises the book value of the equity to $21.20 in the second period. The following table continues the hypothetical for a three-year period and illustrates the underlying determinants of growth.

	Year 1	Year 2	Year 3	Gr.
Book Value	$20.00	$21.20	$22.47	6.00%
Equity Return	12%	12%	12%	
Earnings/Sh.	$2.40	$2.54	$2.67	6.00%
Payout Ratio	50%	50%	50%	
Dividend/Sh.	$1.20	$1.27	$1.34	6.00%

As can be seen, earnings, dividends, and book value all grow at the same rate when the payout ratio and return on equity remain stable. Moreover, key to this growth is the amount of earnings retained or reinvested in the firm and the return on equity.

Letting "b" equal the retention ratio of the firm (or 1 minus the payout ratio) and letting "r" equal the firm's expected return on equity, the DCF growth rate "g" (also referred to as the sustainable growth rate) is equal to their product, or

$$g = br.$$

As shown in the example, the growth rate for the hypothetical company is 6.00 percent (12% ROE x 50% payout ratio).

Dr. Gordon has determined that this equation embodies the underlying fundamentals of growth and, therefore, is a primary measure of growth to be used in the DCF model (Gordon, The Cost of Capital to a Public Utility, 1974, p.81). It should be noted, however, Dr. Gordon's research also indicates that analysts' growth rate projections are useful in estimating investors' expectations. As a result, analysts' published growth rate projections, along with other historic and projected growth rates, are considered in this analysis for the purpose of reaching an accurate estimation of the expected sustainable growth rate.

Q. CAN THE RETENTION GROWTH RATE MODEL BE FURTHER REFINED IN ORDER TO BEST REPRESENT INVESTORS' EXPECTATIONS?

A. Yes. The above hypothetical example does not allow for the existence of external sources of equity financing (i.e., sales of common stock). Stock financing will cause investors to expect additional growth if the company is expected to issue additional shares at a market price which exceeds book value.

The excess of market value over book value per share would benefit current shareholders by increasing their per share equity value. Therefore, if the company is expected to continue to issue stock at a price that exceeds book value per share, the shareholders would continue to expect their book value to increase and would add that growth expectation to that stemming from the retention of earnings, or internal growth.

On the other hand, if a company is expected to issue new common equity at a price below book value, that would have a negative effect on shareholders' current growth rate expectations. Finally, with little or no expected equity financing or a market-to-book ratio at or near one, investors would expect the long-term sustainable growth rate for the company to equal the growth from earnings retention.

Dr. Gordon identifies the growth rate which includes both expected internal and external financing as,

$$g = br + sv$$

where, g = DCF expected growth rate,

r = return on equity,

b = retention ratio,

v = fraction of new common stock sold that accrues to the current shareholder,

s = funds raised from the sale of stock as a fraction of existing equity.

Additionally,

$$v = 1 - BV/MP$$

where,

MP = market price,
BV = book value.

The second term (sv), which represents the external portion of the expected growth rate, does not normally represent a major source of growth when compared to the expected growth attributed to the retention of earnings. For example, the FERC Generic Rate of Return Model estimates the (sv) component in the range of 0.1% to 0.2%. However, I have used this equation as the basis for determining sustainable growth for the comparable group.

Q. IS HISTORIC OR PROJECTED GROWTH IN EARNINGS OR DIVIDENDS APPROPRIATE FOR DETERMINING THE DCF GROWTH RATE?

A. No, not always. As I have stated, growth derived from earnings or dividends alone can be unreliable for ratemaking purposes due to external influences on these parameters such as changes in the historic or expected rate of return on common equity or changes in the payout ratio. An extended example will demonstrate this point.

If we take the example above and assume that, in year two, the expected return on equity rises from 12 percent to 15 percent, the resulting growth rate in earnings and dividends per share dramatically exceeds what the company could sustain indefinitely. The error that can result from exclusive reliance on earnings or dividends growth is illustrated in the following table:

	Year 1	Year 2	Year 3	Gr.
Book Value	$20.00	$21.20	$22.79	6.75%
Equity Return	12%	15%	15%	
Earnings/Sh.	$2.40	$3.18	$3.42	19.37%
Payout Ratio	50%	50%	50%	
Dividends/Sh.	$1.20	$1.59	$1.71	19.37%

Due to the change in return on equity in year two, the compound growth rate for dividends and earnings is greater than 19 percent, which is the result only of a short-term increase in the equity return rather than the intrinsic ability of the firm to grow continuously at a 19 percent annual rate.

For year one, the sustainable rate of growth (g=br) is 6.00 percent, just as it was in the previous example. On the other hand, in years two and three, the sustainable growth rate increases to 7.50 percent. (15% ROE x 50% retention rate = 7.50%). Consequently, if the utility is expected to continually earn a 15 percent return on equity and retain 50 percent of earnings for reinvestment, a growth rate of 7.50 percent would be a reasonable estimate of the long-term sustainable growth rate. However, the compound growth rate in earnings and dividends, which is over 19 percent, dramatically exceeds the actual investor-expected growth rate.

As can be seen in the hypothetical, the 19 percent growth rate is simply the result of the change in return on equity from year one to year two, not the firm's ability to grow sustainably at that rate. Consequently, this type of growth rate cannot be relied upon to accurately measure investors' sustainable growth rate expectations. In this instance, to rely on either earnings or dividend growth would be to assume the return on equity could continue to increase indefinitely. This, of course, is a faulty assumption; the recognition of which emphasizes the need to analyze the fundamentals of actual growth.

Q. IS HISTORIC GROWTH IN DIVIDENDS AN ACCURATE INDICATOR OF INVESTORS' GROWTH EXPECTATIONS WHEN THE HISTORICAL PAYOUT RATIO HAS BEEN ERRATIC OR TRENDED DOWNWARD OVER TIME?

A. As stated, no. It can also be demonstrated that a change in our hypothetical utility's payout ratio makes the past rate of growth in dividends an unreliable basis for predicting investor-expected growth. If we assume the hypothetical utility consistently earns its expected equity return but in the second year changes its payout ratio from 50 percent to 75 percent, the resulting growth rate in dividends far exceeds a reasonable level of sustainable growth.

	Year 1	Year 2	Year 3	Gr.
Book Value	$20.00	$21.20	$21.84	4.50%
Equity Return	12%	12%	12%	
Earnings/Sh.	$2.40	$2.54	$2.62	4.50%
Payout Ratio	50%	75%	75%	
Dividends/Sh.	$1.20	$1.91	$1.97	28.13%

Although the company has registered a high dividend growth rate (28.13%), it is not representative of the growth that could be sustained, as called for in the DCF model. In actuality, the sustainable growth rate (br) has declined due to the increased payout ratio. To utilize a 28 percent growth rate in a DCF analysis for this hypothetical utility would be to assume that the payout ratio could continue to increase indefinitely and lead to the unlikely result that the firm could consistently pay out more in dividends than it earns.

Allen - Direct
GR-2004-0209 Missouri Gas Energy

Capital Structure - December 31, 2003

	Amount	Percent
Common Stock Equity	$ 946,502,000.00	25.98%
Preferred Stock	$ 223,828,509.00	6.14%
Long Term Debt	$ 2,201,221,491.00	60.42%
Short Term Debt	$ 271,779,956.00	7.46%
	$ 3,643,331,956.00	100.00%

Sources: Company response to OPC DR2001 and DR2005

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GR-2004-0209 Missouri Gas Energy

Percent Common Equity (Including Short-Term Debt) - Proxy Group
C.A. Turner Utility Reports

Company	% Common Equity
Southwest Gas	33%
AGL Resources	27%
South Jersey Inds.	37%
N.W. Nat'l Gas	48%
Cascade Nat'l Gas	40%
Nicor Inc.	40%
WGL Holdings	49%
Peoples Energy	47%
Average	40%
Southern Union Corp.	25.98%

Source: February 2004 C.A. Turner Utility Reports

Allen - Direct
GR-2004-0209 Missouri Gas Energy

Preferred Stock as of December 31, 2003

	Amount	Annual Dividend
Preferred Stock	$ 230,000,000.00	$ 17,365,000.00
Less Issuance Costs	$ 6,171,491.00	
Net Proceeds	$ 223,828,509.00	
Embedded Cost of Preferred Stock		**7.758%**

Source: Company Response to OPC DR2002

Allen - Direct
GR-2004-0209 Missouri Gas Energy

Short Term Debt as of December 31, 2003

	Wtd. Avg. Effective Interest Rate	S.T. Debt EOM Balance	CWIP	Balance Less CWIP	Weight	Weighted Cost
1/31/2003	2.08%	$ 272,950,000.00	$1,196,635.00	$ 271,753,365.00	8.33%	0.173%
2/28/2003	1.89%	$ 255,179,030.00	$1,290,813.00	$ 253,888,217.00	7.78%	0.147%
3/31/2003	2.01%	$ 232,129,030.00	$1,196,265.00	$ 230,932,765.00	7.08%	0.142%
4/30/2003	1.91%	$ 217,550,000.00	$1,353,357.00	$ 216,196,643.00	6.63%	0.127%
5/31/2003	2.00%	$ 260,150,000.00	$1,645,353.00	$ 258,504,647.00	7.93%	0.159%
6/30/2003	1.95%	$ 273,250,000.00	$1,668,072.00	$ 271,581,928.00	8.33%	0.162%
7/31/2003	1.97%	$ 282,750,000.00	$1,547,849.00	$ 281,202,151.00	8.62%	0.170%
8/31/2003	2.29%	$ 314,250,000.00	$1,911,262.00	$ 312,338,738.00	9.58%	0.219%
9/30/2003	1.92%	$ 319,150,000.00	$2,455,518.00	$ 316,694,482.00	9.71%	0.186%
10/31/2003	1.34%	$ 273,950,000.00	$1,839,626.00	$ 272,110,374.00	8.34%	0.112%
11/30/2003	1.64%	$ 283,825,000.00	$1,796,073.00	$ 282,028,927.00	8.65%	0.142%
12/31/2003	1.71%	$ 295,175,000.00	$1,047,767.00	$ 294,127,233.00	9.02%	0.154%
		$ 3,280,308,060.00		$ 3,261,359,470.00	100.00%	1.89%

Average Monthly Level less CWIP: **$ 271,779,955.83**

Weighted Average Interest Rate: 1.89%

Company Response to OPC DR2005

Allen - Direct
GR-204-0209 Missouri Gas Energy

Proxy Companies

C.A. Turner Utility Reports - Feb. 2004: Statistical Information
Natural Gas Distribution and Integrated Natural Gas Companies

Company	Public	Revenue	% Rev Gas	S&P	Payout Ratio	Dividend Yield	Mkt.-to-Book Ratio	Common Equity Ratio (a)	Missouri Reg?
Southwest Gas	Yes	$ 1,215,700,000.00	83.0%	BBB-	65.0%	3.50%	1.33	33.0%	No
AGL Resources	Yes	$ 954,000,000.00	95.0%	A-	52.0%	3.80%	2.10	27.0%	No
South Jersey Inds.	Yes	$ 651,000,000.00	77.0%	A	56.0%	3.90%	2.01	37.0%	No
N.W. Nat'l Gas	Yes	$ 573,600,000.00	98.0%	A	80.0%	4.20%	1.65	48.0%	No
Cascade Nat'l Gas	Yes	$ 302,800,000.00	100.0%	BBB+	117.0%	4.30%	2.19	40.0%	No
Nicor Inc.	Yes	$ 2,623,600,000.00	89.0%	AA	72.0%	5.60%	1.98	40.0%	No
WGL Holdings	Yes	$ 2,064,300,000.00	64.0%	AA-	56.0%	4.60%	1.65	49.0%	No
Peoples Energy	Yes	$ 2,138,400,000.00	71.0%	A-	73.0%	5.00%	1.84	47.0%	No
Average		**$ 1,315,425,000.00**	**84.6%**		**71.4%**	**4.36%**	**1.84**	**40.1%**	
Southern Union	*Yes*	*$ 1,320,200,000.00*	*97.0%*	*BBB+*	*0.0%*	*0.00%*	*1.43*	*28.0%*	*Yes*

Value Line Investment Survey

	Beta	Fixed Charge Coverage	Timeliness	Financial Strength	Safety
Southwest Gas	0.75	1.90	4	B	3
AGL Resources	0.75	2.90	4	B++	2
South Jersey Inds.	0.55	3.40	4	B++	2
N.W. Nat'l Gas	0.65	2.90	4	B++	2
Cascade Nat'l Gas	0.70	2.20	4	B	3
Nicor Inc.	1.00	4.80	5	A	2
WGL Holdings	0.70	5.10	5	A	1
Peoples Energy	0.75	4.70	5	A	1
Average	**0.73**	**3.49**	**4.375**		**2**
Southern Union	*0.90*	*1.70*	*3*	*B*	*3*

(a) Common Equity Ratio Includes Short-Term Debt
Source: February 2004 C.A. Turner Utility Reports, Value Line Investment Survey

Allen - Direct
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Summary - Discounted Cash Flow Growth for Comparable Companies

Historic Growth

Company	Retention br+sv	Compound Growth EPS	Compound Growth DPS	Compound Growth BVPS	Value Line EPS	Value Line DPS	Value Line BVPS
Southwest Gas	3.11%	5.26%	0.00%	4.12%	19.25%	-2.00%	2.25%
AGL Resources	4.94%	5.41%	0.31%	3.61%	3.25%	0.50%	2.50%
South Jersey Inds.	5.88%	9.70%	1.04%	5.96%	5.75%	0.50%	2.25%
N.W. Nat'l Gas	3.49%	2.06%	0.81%	3.43%	5.50%	1.00%	4.00%
Cascade Nat'l Gas	3.32%	9.94%	1.76%	0.74%	6.00%	1.25%	1.00%
Nicor Inc.	6.30%	1.90%	5.39%	1.66%	4.75%	5.00%	2.50%
WGL Holdings	4.86%	0.30%	1.65%	3.76%	2.00%	1.75%	4.25%
Peoples Energy	4.39%	1.94%	2.16%	2.40%	2.75%	1.75%	2.50%
Comparables Average	**4.54%**	**4.56%**	**1.64%**	**3.21%**	**6.16%**	**1.22%**	**2.66%**

Projected Growth

Company	Retention br+sv	Value Line EPS	Value Line DPS	Value Line BVPS
Southwest Gas	5.87%	7.75%	1.50%	4.00%
AGL Resources	6.28%	5.50%	0.50%	7.50%
South Jersey Inds.	5.63%	5.50%	2.20%	10.00%
N.W. Nat'l Gas	4.46%	4.50%	2.00%	3.50%
Cascade Nat'l Gas	4.23%	6.50%	0.50%	4.50%
Nicor Inc.	3.76%	1.75%	3.00%	2.50%
WGL Holdings	3.58%	3.75%	1.00%	4.50%
Peoples Energy	3.15%	4.50%	1.50%	6.00%
Average	**4.62%**	**4.97%**	**1.53%**	**5.31%**

Average Projected Growth
4.11%

Ranges

Company	Overall Average	Low	High	Hi/Low Average	Median
Southwest Gas	4.65%	0.00%	19.25%	0.09625	4.00%
AGL Resources	3.66%	0.31%	7.50%	0.03905	3.61%
South Jersey Inds.	4.95%	0.50%	10.00%	0.0525	5.63%
N.W. Nat'l Gas	3.16%	0.81%	5.50%	0.03155	3.49%
Cascade Nat'l Gas	3.61%	0.50%	9.94%	0.0522	3.32%
Nicor Inc.	3.50%	1.66%	6.30%	0.0398	3.00%
WGL Holdings	2.85%	0.30%	4.86%	0.0258	3.58%
Peoples Energy	3.00%	1.50%	6.00%	0.0375	2.50%
Average	**3.67%**	**0.70%**	**8.67%**	**4.68%**	**3.64%**

Note: Negative growth rates are not included in averages and are excluded from determination of "Low"
Source: Value Line Investment Survey; February 2004 C.A. Turner Utility Reports;
Thomson Financial

Allen - Direct
GR-2004-0209 Missouri Gas Energy

Discounted Cash Flow Growth Parameters
SOUTHWEST GAS

Historic Growth

	Compound Growth			Retention Growth				
Historic Data	EPS	DPS	BVPS	Rentention Ratio (b)	Equity Return (r)	Growth (b*r)		
1996	0.25	0.82	14.20	-2.280	1.70%	-3.88%		
1997	0.77	0.82	14.09	-0.065	5.40%	-0.35%		
1998	1.65	0.82	15.67	0.503	10%	5.03%		
1999	1.27	0.82	16.31	0.354	7.80%	2.76%		
2000	1.21	0.82	16.82	0.322	7.20%	2.32%		
2001	1.15	0.82	17.27	0.287	6.60%	1.89%		
2002	1.16	0.82	17.91	0.293	6.50%	1.91%		
2003	1.13	0.82	18.6	0.274	6.00%	1.65%		
96-98 Average	0.89	0.82	14.65		Avg. Internal			
01-03 Average	1.15	0.82	17.93		Growth (b*r):	2.59%	s	v
							2.11%	0.2481
					ADD: External			
					Growth (sv):	0.5235%		
Compound Growth	**5.26%**	**0.00%**	**4.12%**					
					Historic			
					"br+sv" Growth	**3.11%**		
Value Line	EPS	DPS	BVPS					
Historic Growth	**19.25%**	**-2.00%**	**2.25%**					
(Avg. of 5 and 10 yr. If both are available)								

Projected Growth

Retention Growth Calculation				Retention	Equity	Growth		
Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)		
2004 est'd	$1.60	$0.82	$19.50	0.488	8.00%	3.90%		
2005 est'd	$1.70	$0.82	$20.50	0.5176	8.50%	4.40%		
2007-2009 est'd	$2.15	$0.90	$22.80	0.581	9.50%	5.52%		
Analyst's Estimates					Projected			
Value Line	10.50%	1.50%	4.00%		Growth (br)	5.52%		
							s	v
Thomson	5.00%	n/a	n/a		ADD: External		1.41%	0.2481
					Growth (sv)	0.35%		
Average								
Proj'd Growth	**7.75%**	**1.50%**	**4.00%**		Projected			
					"br+sv" Growth	**5.87%**		

Note: Negative (b*r) growth is not included in retention growth averages.
Source: The Value Line Investment Survey, February 2004 C.A. Turner Utility Reports
Thomson Financial

Allen - Direct
GR-2004-0209 Missouri Gas Energy

Discounted Cash Flow Growth Parameters
AGL RESOURCES

	Historic Growth	Compound Growth				Retention Growth			
	Historic Data	EPS	DPS	BVPS	Rentention Ratio (b)	Equity Return (r)	Growth (b*r)		
1	1996	1.37	1.06	10.56	0.226	12.10%	2.74%		
2	1997	1.37	1.08	10.99	0.212	11.30%	2.39%		
3	1998	1.41	1.08	11.42	0.234	12.30%	2.88%		
4	1999	0.91	1.08	11.59	-0.187	7.90%	-1.48%		
5	2000	1.29	1.08	11.5	0.163	11.50%	1.87%		
6	2001	1.5	1.08	12.19	0.280	12.30%	3.44%		
7	2002	1.82	1.08	12.52	0.407	14.50%	5.90%		
8	2003	2.08	1.11	14.66	0.466	14.00%	6.53%		
9									
10	96-98 Average	1.38	1.07	10.99		Avg. Internal			
11	01-03 Average	1.80	1.09	13.12		Growth (b*r):	3.68%		
12								s	v
13						ADD: External		2.40%	0.5238
14						Growth (sv):	1.2571%		
15	Compound Growth	**5.41%**	**0.31%**	**3.61%**					
16						Historic			
17						"br+sv" Growth	**4.94%**		
18									
19									
20	Value Line	EPS	DPS	BVPS					
21	Historic Growth	**3.25%**	**0.50%**	**2.50%**					
22	(Avg. of 5 and 10 yr. If both are available)								
23									
24	**Projected Growth**								
25	Retention Growth Calculation				Retention	Equity	Growth		
26	Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)		
27	2004 est'd	$2.10	$1.12	$15.55	0.467	13.50%	6.30%		
28	2005 est'd	$2.15	$1.12	$16.60	0.4791	13.00%	6.23%		
29	2007-2009 est'd	$2.35	$1.12	$19.85	0.523	12.00%	6.28%		
30									
31	Analyst's Estimates					Projected			
32	Value Line	6.50%	0.50%	7.50%		Growth (br)	6.28%		
33									
34	Thomson	4.50%	n/a	n/a		ADD: External		s	v
35						Growth (sv)	0%	0%	0.5238
36	Average								
37	Proj'd Growth	**5.50%**	**0.50%**	**7.50%**		Projected			
38						"br+sv" Growth	**6.28%**		

Note: Negative (b*r) growth is not included in retention growth averages.
Source: The Value Line Investment Survey, February 2004 C.A. Turner Utility Reports
Thomson Financial

Discounted Cash Flow Growth Parameters
SOUTH JERSEY INDS.

Historic Growth

	Compound Growth			Retention Growth		
Historic Data	EPS	DPS	BVPS	Rentention Ratio (b)	Equity Return (r)	Growth (b*r)
1996	1.70	1.44	16.06	0.153	10.60%	1.62%
1997	1.71	1.44	12.86	0.158	13.30%	2.10%
1998	1.28	1.44	12.45	-0.125	10.30%	-1.29%
1999	2.01	1.44	13.48	0.284	14.60%	4.14%
2000	2.16	1.46	14.5	0.324	14.80%	4.80%
2001	2.29	1.48	15.62	0.354	12.80%	4.53%
2002	2.43	1.51	19.34	0.379	12.50%	4.73%
2003	2.73	1.56	20.3	0.429	13.50%	5.79%
96-98 Average	1.56	1.44	13.79			
01-03 Average	2.48	1.52	18.42			
Compound Growth	**9.70%**	**1.04%**	**5.96%**			

			s	v
Avg. Internal Growth (b*r):	3.96%			
ADD: External Growth (sv):	1.92%		3.82%	0.5025
Historic "br+sv" Growth	**5.88%**			

Value Line	EPS	DPS	BVPS
Historic Growth	**5.75%**	**0.50%**	**2.25%**

(Avg. of 5 and 10 yr. If both are available)

Projected Growth

Retention Growth Calculation

Value Line	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)
2004 est'd	$2.85	$1.62	$22.50	0.432	13.00%	5.62%
2005 est'd	$2.90	$1.67	$24.65	0.424	12.00%	5.09%
2007-2009 est'd	$3.40	$1.77	$32.35	0.479	10.50%	5.03%

Analyst's Estimates	EPS	DPS	BVPS
Value Line	6.00%	2.20%	10.00%
Thomson	5.00%	n/a	n/a
Average Proj'd Growth	**5.50%**	**2.20%**	**10.00%**

		s	v
Projected Growth (br)	5.25%		
ADD: External Growth (sv)	0.38%	0.76%	0.5025
Projected "br+sv" Growth	**5.63%**		

Note: Negative (b*r) growth is not included in retention growth averages.
Source: The Value Line Investment Survey, February 2004 C.A. Turner Utility Reports
Thomson Financial

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Discounted Cash Flow Growth Parameters
N.W. NAT'L GAS

Historic Growth

Historic Data	EPS	DPS	BVPS	Rentention Ratio (b)	Equity Return (r)	Growth (b*r)		
	Compound Growth			Retention Growth				
1996	1.97	1.2	15.37	0.391	12.70%	4.96%		
1997	1.76	1.21	16.02	0.313	11.00%	3.44%		
1998	1.02	1.22	16.59	-0.196	6.00%	-1.18%		
1999	1.70	1.23	17.12	0.276	9.90%	2.74%		
2000	1.79	1.24	17.93	0.307	10.00%	3.07%		
2001	1.88	1.25	18.56	0.335	10.20%	3.42%		
2002	1.62	1.26	18.88	0.222	8.50%	1.89%		
2003	1.76	1.27	19.35	0.278	9.00%	2.51%		
96-98 Average	1.58	1.21	15.99		Avg. Internal			
01-03 Average	1.75	1.26	18.93		Growth (b*r):	3.15%		
							s	v
					ADD: External		0.87%	0.3939
					Growth (sv):	0.3427%		
Compound Growth	**2.06%**	**0.81%**	**3.43%**					
					Historic			
					"br+sv" Growth	**3.49%**		
Value Line	EPS	DPS	BVPS					
Historic Growth	**5.50%**	**1.00%**	**4.00%**					

(Avg. of 5 and 10 yr. If both are available)

Projected Growth

Retention Growth Calculation

Value Line	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)		
2004 est'd	$ 1.95	$ 1.30	$ 20.15	0.333	9.50%	3.16%		
2005 est'd	$ 2.05	$ 1.33	$ 20.85	0.351	9.50%	3.33%		
2007-2009 est'd	$ 2.40	$ 1.45	$ 23.20	0.396	10.05%	3.98%		
Analyst's Estimates					Projected			
Value Line	4.50%	2.00%	3.50%		Growth (br)	3.98%		
Thomson	4.50%	n/a	n/a		ADD: External		s	v
					Growth (sv)	0.48%	1.22%	0.3939
Average								
Proj'd Growth	**4.50%**	**2.00%**	**3.50%**		Projected			
					"br+sv" Growth	**4.46%**		

Note: Negative (b*r) growth is not included in retention growth averages.
Source: The Value Line Investment Survey, February 2004 C.A. Turner Utility Reports
Thomson Financial

Discounted Cash Flow Growth Parameters
CASCADE NAT'L GAS

Historic Growth	Compound Growth			Retention Growth				
Historic Data	EPS	DPS	BVPS	Rentention Ratio (b)	Equity Return (r)	Growth (b*r)		
1996	0.39	0.72	10.09	-0.846	3.50%	-2.96%		
1997	0.93	0.96	10.16	-0.032	9.10%	-0.29%		
1998	0.84	0.96	10.07	-0.143	8.30%	-1.19%		
1999	1.24	0.96	10.36	0.226	12.00%	2.71%		
2000	1.39	0.96	10.79	0.309	12.90%	3.99%		
2001	1.47	0.96	11.01	0.347	13.30%	4.61%		
2002	1.13	0.96	10.34	0.150	10.90%	1.64%		
2003	0.87	0.96	10.11	-0.103	8.60%	-0.89%		
96-98 Average	0.72	0.88	10.11		Avg. Internal			
01-03 Average	1.16	0.96	10.49		Growth (b*r):	3.24%		
							s	v
					ADD: External		0.14%	0.5434
					Growth (sv):	0.0761%		
Compound Growth	**9.94%**	**1.76%**	**0.74%**					
					Historic			
					"br+sv" Growth	**3.32%**		
Value Line	EPS	DPS	BVPS					
Historic Growth	**6.00%**	**1.25%**	**1.00%**					
(Avg. of 5 and 10 yr. If both are available)								
Projected Growth								
Retention Growth Calculation				Retention	Equity	Growth		
Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)		
2004 est'd	$ 1.35	$ 0.96	$ 11.15	0.289	12.00%	3.47%		
2005 est'd	$ 1.45	$ 0.96	$ 11.60	0.338	12.50%	4.23%		
2007-2009 est'd	$ 1.95	$ 0.98	$ 13.75	0.497	15.00%	7.46%		
Analyst's Estimates					Projected			
Value Line	9.00%	0.50%	4.50%		Growth (br)	4.23%		
Thomson	4.00%	n/a	n/a		ADD: External		s	v
					Growth (sv)	0.00%	0.00%	0.5434
Average								
Proj'd Growth	**6.50%**	**0.50%**	**4.50%**		Projected			
					"br+sv" Growth	**4.23%**		

Note: Negative (b*r) growth is not included in retention growth averages.
Source: The Value Line Investment Survey, February 2004 C.A. Turner Utility Reports
Thomson Financial

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Discounted Cash Flow Growth Parameters
NICOR, INC.

Historic Growth

	Compound Growth				Retention Growth			
Historic Data	EPS	DPS	BVPS	Rentention Ratio (b)	Equity Return (r)	Growth (b*r)		
1996	2.42	1.32	14.74	0.455	16.60%	7.55%		
1997	2.55	1.4	15.43	0.451	16.70%	7.53%		
1998	2.31	1.48	15.97	0.359	14.60%	5.25%		
1999	2.57	1.54	16.8	0.401	15.40%	6.17%		
2000	2.94	1.66	15.56	0.435	19.20%	8.36%		
2001	3.01	1.76	16.39	0.415	18.70%	7.77%		
2002	2.88	1.84	16.55	0.361	17.50%	6.32%		
2003	2.11	1.86	17.15	0.118	12.40%	1.47%		
96-98 Average	2.43	1.40	15.38		Avg. Internal			
01-03 Average	2.67	1.82	16.70		Growth (b*r):	6.30%		
							s	v
					ADD: External		0.00%	0.4949
					Growth (sv):	0.0000%		
Compound Growth	**1.90%**	**5.39%**	**1.66%**					
					Historic			
					"br+sv" Growth	**6.30%**		

Value Line	EPS	DPS	BVPS
Historic Growth	**4.75%**	**5.00%**	**2.50%**

(Avg. of 5 and 10 yr. If both are available)

Projected Growth

Retention Growth Calculation

Value Line	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)		
2004 est'd	$2.20	$1.86	$17.50	0.1545	12.50%	1.93%		
2005 est'd	$2.30	$1.86	$17.95	0.1913	12.50%	2.39%		
2007-2009 est'd	$2.70	$2.00	$18.30	0.2593	14.50%	3.76%		
Analyst's Estimates					Projected			
Value Line	0.50%	3.00%	2.50%		Growth (br)	3.76%		
Thomson	3.00%	n/a	n/a		ADD: External		s	v
					Growth (sv)	-0.0023%	-0.4587%	0.4949
Average								
Proj'd Growth	**1.75%**	**3.00%**	**2.50%**		Projected			
					"br+sv" Growth	**3.76%**		

Note: Negative (b*r) growth is not included in retention growth averages.
Source: The Value Line Investment Survey, February 2004 C.A. Turner Utility Reports
Thomson Financial

Allen - Direct
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Discounted Cash Flow Growth Parameters
WGL HOLDINGS

Historic Growth

	Compound Growth			Retention Growth				
Historic Data	EPS	DPS	BVPS	Rentention Ratio (b)	Equity Return (r)	Growth (b*r)		
1996	1.85	1.14	12.79	0.384	14.40%	5.53%		
1997	1.85	1.17	13.48	0.368	13.70%	5.04%		
1998	1.54	1.2	13.86	0.221	11.10%	2.45%		
1999	1.47	1.22	14.72	0.170	9.90%	1.68%		
2000	1.79	1.24	15.31	0.307	11.70%	3.59%		
2001	1.88	1.26	16.24	0.330	11.20%	3.69%		
2002	1.14	1.27	15.78	-0.114	7.20%	-0.82%		
2003	2.3	1.28	16.25	0.443	14.00%	6.21%		
96-98 Average	1.75	1.17	13.38		Avg. Internal			
01-03 Average	1.77	1.27	16.09		Growth (b*r):	4.03%		
							s	v
					ADD: External		2.10%	0.3939
					Growth (sv):	0.8272%		
Compound Growth	**0.30%**	**1.65%**	**3.76%**					
					Historic			
					"br+sv" Growth	**4.86%**		
Value Line	EPS	DPS	BVPS					
Historic Growth	**2.00%**	**1.75%**	**4.25%**					
(Avg. of 5 and 10 yr. If both are available)								
Projected Growth								
Retention Growth Calculation				Retention	Equity	Growth		
Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)		
2004 est'd	$1.90	$1.30	$18.45	0.316	10.00%	3.16%		
2005 est'd	$2.00	$1.30	$19.10	0.350	10.00%	3.50%		
2007-2009 est'd	$2.15	$1.34	$21.25	0.377	9.50%	3.58%		
Analyst's Estimates					Projected			
Value Line	3.50%	1.00%	4.50%		Growth (br)	3.58%		
Thomson	4.00%	n/a	n/a		ADD: External		s	v
					Growth (sv)	-0.1807%	-0.4587%	0.3939
Average								
Proj'd Growth	**3.75%**	**1.00%**	**4.50%**		Projected			
					"br+sv" Growth	**3.58%**		

Note: Negative (b*r) growth is not included in retention growth averages.
Source: The Value Line Investment Survey, February 2004 C.A. Turner Utility Reports
Thomson Financial

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Discounted Cash Flow Growth Parameters
PEOPLES ENERGY

Historic Growth								
	Compound Growth				Retention Growth			
Historic Data	EPS	DPS	BVPS	Rentention Ratio (b)	Equity Return (r)	Growth (b*r)		
1996	2.96	1.82	19.49	0.385	15.20%	5.85%		
1997	2.81	1.87	20.43	0.335	13.70%	4.58%		
1998	2.25	1.91	21.03	0.151	10.70%	1.62%		
1999	2.39	1.95	21.66	0.184	11.00%	2.03%		
2000	2.71	2.00	22.02	0.262	12.40%	3.25%		
2001	3.16	2.04	22.76	0.354	13.90%	4.93%		
2002	2.80	2.07	22.74	0.261	12.30%	3.21%		
2003	2.87	2.12	23.11	0.261	12.30%	3.21%		
96-98 Average	2.67	1.87	20.32		Avg. Internal			
01-03 Average	2.94	2.08	22.87		Growth (b*r):	4.03%		
							s	v
					ADD: External		0.80%	0.4565
					Growth (sv):	0.3652%		
Compound Growth	**1.94%**	**2.16%**	**2.40%**					
					Historic			
					"br+sv" Growth	**4.40%**		
Value Line	EPS	DPS	BVPS					
Historic Growth	**2.75%**	**1.75%**	**2.50%**					
(Avg. of 5 and 10 yr. If both are available)								
Projected Growth								
Retention Growth Calculation				Retention	Equity	Growth		
Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)		
2004 est'd	$2.80	$2.16	$23.80	0.229	12.00%	2.74%		
2005 est'd	$2.90	$2.20	$25.40	0.241	11.50%	2.78%		
2007-2009 est'd	$3.20	$2.24	$29.55	0.300	10.50%	3.15%		
Analyst's Estimates					Projected			
Value Line	4.00%	1.50%	6.00%		Growth (br)	3.15%		
Thomson	5.00%	n/a	n/a		ADD: External		s	v
					Growth (sv)	-0.0111%	-0.0111%	0.4565
Average								
Proj'd Growth	**4.50%**	**1.50%**	**6.00%**		Projected			
					"br+sv" Growth	**3.15%**		

Note: Negative (b*r) growth is not included in retention growth averages.
Source: The Value Line Investment Survey, February 2004 C.A. Turner Utility Reports
Thomson Financial

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Average Weekly Prices

	Average Weekly Price							
Date	**SWX**	**ATG**	**SJI**	**NWN**	**CGC**	**GAS**	**WGL**	**PGL**
02-17-04 / 02-20-04	$ 23.31	$ 28.33	$ 41.79	$ 31.24	$ 21.94	$ 34.85	$ 28.27	$ 43.45
02-23-04 / 02-27-04	$ 23.27	$ 28.36	$ 41.59	$ 31.57	$ 21.42	$ 35.49	$ 28.52	$ 43.61
03-01-04 / 03-05-04	$ 23.40	$ 28.67	$ 41.99	$ 32.63	$ 22.36	$ 36.82	$ 29.28	$ 45.10
03-08-04 / 03-12-04	$ 23.27	$ 28.54	$ 41.56	$ 32.18	$ 21.88	$ 36.80	$ 29.55	$ 45.25
03-15-04 / 03-19-04	$ 23.27	$ 28.49	$ 40.73	$ 31.90	$ 21.39	$ 36.59	$ 29.47	$ 45.22
03-22-04 / 03-26-04	$ 22.96	$ 28.17	$ 39.99	$ 31.20	$ 20.98	$ 35.67	$ 29.53	$ 43.87
Avg. Close	**$ 23.25**	**$ 28.43**	**$ 41.28**	**$ 31.79**	**$ 21.66**	**$ 36.04**	**$ 29.10**	**$ 44.42**

Source: http://moneycentral.msn.com/home.asp

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DCF Analysis:

[(Q1 * 4) * (1+.5G)]

Company	Q1 Dividend	Expected '04-'05 Dividend Low	Expected '04-'05 Dividend Projected br+sv	Expected '04-'05 Dividend High	Average Stock Price	Dividend Yield Low	Dividend Yield Projected	Dividend Yield High	Expected Growth Low	Expected Growth Projected br+sv	Expected Growth High	DCF Cost of Equity Low	DCF Cost of Equity Projected br+sv	DCF Cost of Equity High
Southwest Gas	$ 0.205	$ 0.839	$ 0.844	$ 0.844	$ 23.25	3.61%	3.63%	3.63%	4.65%	5.87%	5.87%	8.26%	9.50%	9.50%
AGL Resources	$ 0.280	$ 1.140	$ 1.155	$ 1.155	$ 28.43	4.01%	4.06%	4.06%	3.66%	6.28%	6.28%	7.67%	10.34%	10.34%
South Jersey Inds.	$ 0.405	$ 1.660	$ 1.666	$ 1.666	$ 41.28	4.02%	4.04%	4.04%	4.95%	5.63%	5.63%	8.97%	9.67%	9.67%
N.W. Nat'l Gas	$ 0.325	$ 1.321	$ 1.329	$ 1.329	$ 31.79	4.15%	4.18%	4.18%	3.16%	4.46%	4.50%	7.31%	8.64%	8.68%
Cascade Nat'l Gas	$ 0.240	$ 0.977	$ 0.980	$ 0.984	$ 21.66	4.51%	4.53%	4.54%	3.61%	4.23%	5.00%	8.12%	8.76%	9.54%
Nicor Inc.	$ 0.465	$ 1.893	$ 1.895	$ 1.895	$ 36.04	5.25%	5.26%	5.26%	3.50%	3.76%	3.76%	8.75%	9.02%	9.02%
WGL Holdings	$ 0.320	$ 1.298	$ 1.303	$ 1.306	$ 29.10	4.46%	4.48%	4.49%	2.85%	3.58%	4.00%	7.31%	8.06%	8.49%
Peoples Energy	$ 0.540	$ 2.192	$ 2.194	$ 2.209	$ 44.42	4.94%	4.94%	4.97%	3.00%	3.15%	4.50%	7.94%	8.09%	9.47%
					Average	4.37%	4.39%	4.40%	3.67%	4.62%	4.94%	8.04%	9.01%	9.34%

Source: Schedules TA-6, TA-7;
Value Line Investment Survey

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Capital Asset Pricing Model:

$E(R_i) = R_f + [E(R_m) - R_f] \times \beta$

E(Ri): Expected Company Return
Rf: Risk-Free Rate of Interest
E(Rm) - Rf: Market Risk Premium
ß: Company Specific Beta (Measure of Risk)

Risk-Free Rate: (Gathered on 4-9-04)
Avg. 3 Mo. T-Bill 0.917% (From 01-01-04 to 04-02-04)
10 Year T-Note 4.19%
30 Year T-Note 5.03%

Arithmetic Mean Market Return = 12.2%
(calculated from 1926-2002 by Ibbotson Associates)

	Beta	Rf	E(Ri) Based on Arithmetic Mean
SWX	0.75	0.917%	9.38%
ATG	0.75	0.917%	9.38%
SJI	0.55	0.917%	7.12%
NWN	0.65	0.917%	8.25%
CGC	0.70	0.917%	8.82%
GAS	1.00	0.917%	12.20%
WGL	0.70	0.917%	8.82%
PGL	0.75	0.917%	9.38%
	Average		***9.17%***

	Beta	Rf	E(Ri) Based on Arithmetic Mean
SWX	0.75	4.190%	10.20%
ATG	0.75	4.190%	10.20%
SJI	0.55	4.190%	8.60%
NWN	0.65	4.190%	9.40%
CGC	0.70	4.190%	9.80%
GAS	1.00	4.190%	12.20%
WGL	0.70	4.190%	9.80%
PGL	0.75	4.190%	10.20%
	Average		***10.05%***

	Beta	Rf	E(Ri) Based on Arithmetic Mean
SWX	0.75	5.030%	10.41%
ATG	0.75	5.030%	10.41%
SJI	0.55	5.030%	8.97%
NWN	0.65	5.030%	9.69%
CGC	0.70	5.030%	10.05%
GAS	1.00	5.030%	12.20%
WGL	0.70	5.030%	10.05%
PGL	0.75	5.030%	10.41%
	Average		***10.27%***

Source: Value Line Investment Survey; Ibbotson and Associates;
http://research.stlouisfed.org/fred2/data/DTB3.txt

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Market-To-Book Ratio Proxy Group

	Mkt./Bk Ratio	V = 1-(1/MTB)
SWX	1.33	0.2481
ATG	2.1	0.5238
SJI	2.01	0.5025
NWN	1.65	0.3939
CGC	2.19	0.5434
GAS	1.98	0.4949
WGL	1.65	0.3939
PGL	1.84	0.4565
SUG	1.43	0.3007

Source: February 2004 C.A. Turner Utility Reports

Selection Criteria and Proxy Companies

Selection Criteria

1) At Least 60% of Revenues from Natural Gas Operations
2) At Least a BBB- S&P Bond Rating
3) Total Revenue Less Than Three-Billion Dollars
4) No Missouri Regulated Operations
5) Covered by Value Line Investment Survey

Proxy Companies

1) Southwest Gas
2) AGL Resources
3) South Jersey Inds.
4) N.W. Nat'l Gas
5) Cascade Nat'l Gas
6) Nicor Inc.
7) WGL Holdings
8) Peoples Energy

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Embedded Cost of Long Term Debt as of December 31, 2003

Description:	Issue Date	Maturity Date	1 Principal Original Issue	3 12/31/2003 Amount Outstanding	2 Interest Rate	6 Annual Interest	4 Unamortized Issuance Expense	Annual Issuance Expense	5 Net Proceeds	Embedded Rate
7.6% Senior Notes	2/1/1994	2/1/2024	$ 475,000,000.00	$ 359,765,000.00	7.60%	$ 27,342,140.00	$ (2,766,841.00)	$ 137,768.00	$ 356,998,159.00	7.697%
8.25% Senior Notes	11/4/1999	11/15/2029	$ 300,000,000.00	$ 300,000,000.00	8.25%	$ 24,750,000.00	$ (5,724,512.00)	$ 221,594.00	$ 294,275,488.00	8.486%
PGE MTG Notes 9.34%	11/4/1999	9/1/2019	$ 15,000,000.00	$ 15,000,000.00	9.34%	$ 1,401,000.00	$ (270,839.00)	$ 17,288.00	$ 14,729,161.00	9.629%
Providence Series M 10.25%	8/1/1988	7/31/2008	$ 10,000,000.00	$ 1,363,000.00	10.25%	$ 139,707.50	$ (48,112.00)	$ 10,499.00	$ 1,314,888.00	11.424%
Providence Series N 9.63%	6/1/1990	5/30/2020	$ 10,000,000.00	$ 10,000,000.00	9.63%	$ 963,000.00	$ (244,136.00)	$ 14,871.00	$ 9,755,864.00	10.023%
Providence Series O 8.46%	9/1/1992	9/30/2022	$ 12,500,000.00	$ 11,875,000.00	8.46%	$ 1,004,625.00	$ (587,449.00)	$ 31,331.00	$ 11,287,551.00	9.178%
Providence Series P 8.09%	9/1/1992	9/30/2022	$ 12,500,000.00	$ 12,500,000.00	8.09%	$ 1,011,250.00	$ (284,266.00)	$ 15,161.00	$ 12,215,734.00	8.402%
Providence Series R 7.5%	12/1/1995	12/15/2025	$ 15,000,000.00	$ 15,000,000.00	7.50%	$ 1,125,000.00	$ (330,904.00)	$ 15,098.00	$ 14,669,096.00	7.772%
Providence Series S 6.82%	4/1/1998	4/1/2018	$ 15,000,000.00	$ 14,464,000.00	6.82%	$ 986,444.80	$ (328,976.00)	$ 23,085.00	$ 14,135,024.00	7.142%
Providence Series T 6.5%	2/1/1999	2/1/2029	$ 15,000,000.00	$ 13,802,000.00	6.50%	$ 897,130.00	$ (2,201,910.00)	$ 87,783.00	$ 11,600,090.00	8.491%
Fall River 9.44%	12/20/1989	2/15/2020	$ 6,500,000.00	$ 6,500,000.00	9.44%	$ 613,600.00	$ (189,991.00)	$ 11,755.00	$ 6,310,009.00	9.911%
Fall River 7.99%	9/20/1996	12/15/2026	$ 7,000,000.00	$ 7,000,000.00	7.99%	$ 559,300.00	$ (118,677.00)	$ 5,217.00	$ 6,881,323.00	8.204%
Fall River 7.24%	12/1/1997	12/15/2027	$ 6,000,000.00	$ 6,000,000.00	7.24%	$ 434,400.00	$ (97,057.00)	$ 4,044.00	$ 5,902,943.00	7.428%
Mandatory Convertibles 5.75%	6/11/2003	8/16/2006	$ 125,000,000.00	$ 125,000,000.00	5.75%	$ 7,187,500.00	$ (348,212.00)	$ 130,579.00	$ 124,651,788.00	5.871%
Term Loan	7/15/2002	8/26/2005	$ 311,086,956.00	$ 161,086,956.00	2.21%	$ 3,552,303.00	$ (1,057,448.00)	$ 634,469.00	$ 160,029,508.00	2.616%
Acct. 189 Unamortized Issue Costs							$ (16,317,491.00)	$ 667,308.00		
Acct. 257 Unamortized Premiums							$ 2,096,133.00	$ (104,372.00)		
			$ 1,335,586,956.00	$ 1,059,355,956.00		$ 71,967,400.30	$ (28,820,688.00)	$ 1,923,478.00	$ 1,030,535,268.00	

$	71,967,400.30	Yearly Interest Expense
$	1,923,478.00	Yearly Amortization: issuance expense and loss on reacquired debt
$	73,890,878.30	**Total Annual Cost**

7.170%	**Embedded Cost Rate**

Company Response to OPC DR2002

Schedule TA-12

Weighted Average Cost of Capital

	Amount	Percent	Cost Rate	Weighted Cost Rate 9.01% ROE
Common Stock Equity	$ 946,502,000.00	25.98%	9.010%	2.34%
Preferred Stock	$ 223,828,509.00	6.14%	7.758%	0.48%
Long Term Debt	$ 2,201,221,491.00	60.42%	7.170%	4.33%
Short Term Debt	$ 271,779,956.00	7.46%	1.890%	0.14%
	$ 3,643,331,956.00	100.00%		7.29%

	Amount	Percent	Cost Rate	Weighted Cost Rate 9.34% ROE
Common Stock Equity	$ 946,502,000.00	25.98%	9.340%	2.43%
Preferred Stock	$ 223,828,509.00	6.14%	7.758%	0.48%
Long Term Debt	$ 2,201,221,491.00	60.42%	7.170%	4.33%
Short Term Debt	$ 271,779,956.00	7.46%	1.890%	0.14%
	$ 3,643,331,956.00	100.00%		7.38%

Pre-Tax Interest Coverage

Tax Factor = 1.6136

	Weighted Cost	Pre-Tax Weighted Cost
Common Stock Equity (Based on 9.01% ROE)	2.34%	3.78%
Preferred Stock	0.48%	0.77%
Long Term Debt	4.33%	6.99%
Short Term Debt	0.14%	0.23%
Total	7.29%	11.76%
Pre-Tax Weighted Cost	11.76%	
Cost of Debt	4.47%	
Pre-Tax Interest Coverage	2.63	

	Weighted Cost	Pre-Tax Weighted Cost
Common Stock Equity (Based on 9.34% ROE)	2.43%	3.92%
Preferred Stock	0.48%	0.77%
Long Term Debt	4.33%	6.99%
Short Term Debt	0.14%	0.23%
Total	7.38%	11.91%
Pre-Tax Weighted Cost	11.91%	
Cost of Debt	4.47%	
Pre-Tax Interest Coverage	2.66	