Exhibit No.:
Issue(s): Rate of Return
Witness/Type of Exhibit: Burdette/Direct
Sponsoring Party: Public Counsel
Case No.: GR-99-315

DIRECT TESTIMONY

OF

MARK BURDETTE

Submitted on Behalf of
the Office of the Public Counsel

LACLEDE GAS COMPANY

Case No. GR-99-315

June 28,1999

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LACLEDE GAS COMPANY

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June 28,1999

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Laclede Gas Company's	)	
Tariff Sheets to Revise Natural Gas Rates	)	Case No. GR-99-315

AFFIDAVIT OF MARK BURDETTE

STATE OF MISSOURI	)	
	)	ss
COUNTY OF COLE	)	

Mark Burdette, of lawful age and being first duly sworn, deposes and states:

1. My name is Mark Burdette. 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 42 and Schedules MB-1 through MB-12.

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.

Mark Burdette

Subscribed and sworn to me this 28th day of June, 1999.

Mary S. Koestner
Notary Public

My commission expires August 20, 2001.

DIRECT TESTIMONY

OF

MARK BURDETTE

LACLEDE GAS COMPANY

CASE NO. GR-99-315

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Mark Burdette, P.O. Box 7800, Ste. 250, Jefferson City, Missouri 65102-7800.

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.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

A. I received a Bachelor of Science in Electrical Engineering from the University of Iowa in Iowa City, Iowa in May 1988. I received a Master's in Business Administration with an emphasis in Finance from the University of Iowa Graduate School of Management in December 1994.

Additionally, I have been awarded the professional designation Certified Rate of Return Analyst (CRRA) by the Society of Utility and Regulatory Financial Analysts. This designation is awarded based upon work experience and successful completion of a written examination.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION?

A. Yes.

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. I will present a cost-of-capital analysis for the Laclede Gas Company (Laclede, the Company). I will recommend and testify to the capital structure, embedded cost rates, fair return on common equity, and weighted average cost of capital.

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

A. Yes. I have prepared an analysis consisting of 12 Schedules that is attached to this testimony (MB-1 through MB-12). This analysis was prepared by me and is correct to the best of my knowledge and belief.

SUMMARY OF FINDINGS

Q. PLEASE SUMMARIZE YOUR FINDINGS CONCERNING THE OVERALL COST OF CAPITAL FOR THE LACLEDE GAS COMPANY.

A. Laclede Gas Company should be allowed an overall return of 8.34% on its net original cost rate base. This return has been determined using Laclede's capital structure at 31 March 1999. Selected historical financial information for Laclede is shown on Schedule MB-1.

CAPITAL STRUCTURE

Q. HOW IS LACLEDE GAS COMPANY CURRENTLY CAPITALIZED?

A. At 31 March 1999, Laclede's capital structure consisted of 49.97% common equity, 0.37% preferred stock, 33.78% long term debt, and 15.88% short term debt. This capital structure was utilized for calculations and is shown on schedule MB-2.

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

A. Generally, yes. Not including short term debt, Laclede's end-of-year common equity level over the past 5 years has averaged 58.4% (see Schedule MB-3). The common equity ratio

has been variable over that time, ranging from a high of 61.6% in 1997 to a low of 55.5% in 1994. If short term debt is not included as part of Laclede's capital structure, the Company tends to have a relatively high common equity ratio, and the current capital structure continues that trend.

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

A. Laclede has a higher common equity ratio than the Value Line average for LDCs, and a correspondingly lower ratio of long term debt. According to Value Line Composite Statistics, the common equity ratio for Natural Gas (Distribution) companies has averaged 49.1% for the four years 1995 through 1998 (the years data are available, see Schedule MB-3). Over these same years, Laclede's common equity ratio has averaged 59.2%. The 45 Natural Gas Distribution and Integrated Natural Gas Companies covered by C.A. Turner Utility Reports have an average common equity ratio of 45.6%.

This higher level of common equity for Laclede indicates a relatively lower level of financial risk due to capital structure for Laclede's shareholders than the average LDC covered by Value Line and C.A. Turner.

Q. HOW DOES LACLEDE'S CAPITAL STRUCTURE COMPARE WITH THE CAPITAL STRUCTURE OF YOUR GROUP OF COMPARISON COMPANIES?

A. As shown on Schedule MB-3, over the past five years Laclede has had a higher common equity ratio every year than the average for the six comparison companies. The difference peaked in 1997 when Laclede had a common equity ratio 9.3 percentage points greater than the six-company average. A higher common equity ratio tends to indicate a relatively lower level of financial risk due to capital structure for Laclede's shareholders as compared to the group of six comparison LDCs. Including Laclede's high level of short term debt in

the capital structure lowers the common equity ratio to a level more in-line with the comparison companies.

Q. COULD YOU DEFINE RISK AND EXPAND ON THE CONCEPT OF RISK?

A. Yes. Risk can be defined as the possibility that actual earnings from an asset or an investment may differ from expected earnings. The wider the range of possible earnings, the greater the risk associated with that asset or investment.

Total risk can be divided into two categories: business risk and financial risk.

Business risk is the uncertainty (variability) associated with earnings due to fundamental business conditions faced by the company, such as cyclical markets, weather-sensitive sales, changing technology, unforeseen events, or competition. Business risk is the *inherent riskiness of a firm's assets* due to the operations of the company and the industry in which in operates. In other words, business risk is not connected to the way the firm finances its assets.

Financial risk is the uncertainty associated with earnings available to common shareholders due to debt and/or preferred stock being used to finance the firm's assets. This additional risk stems from the fact that cash flows to common shareholders are subordinate to a firm's required debt service (i.e. a firm must pay its debt service and any preferred dividends before it can pay common dividends.) From a common shareholder's perspective, a firm with less debt and preferred stock in its capital structure has fewer bills to pay before it can allocate earnings to common dividends, and is therefore less risky.

Q. PLEASE SHOW THE CAPITAL STRUCTURE THAT YOU RECOMMEND.

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

	Percent
Common Equity	49.97%
Preferred Stock	0.37%
Long term debt	33.78%
Short term debt	15.88%

Q. DO YOU HAVE SPECIFIC CRITERIA TO DETERMINE WHETHER TO INCLUDE SHORT TERM DEBT IN A COMPANY'S CAPITAL STRUCTURE?

A. Yes. When determining whether to include short term debt, I consider the level of short term debt in the capital structure (less construction work in progress (CWIP) amounts) and whether the level of short term debt is consistent. Laclede not only has a significant portion of its capital structure as short term debt on 31 March 1999 ($74.1M), but maintains a significant level throughout the year (as opposed to having just a couple of months with a short term debt balance). I included the twelve-month average level of short term debt (less CWIP) in Laclede's 31 March 1999 capital structure.

Q. IS THERE SUPPORT IN FINANCIAL LITERATURE FOR INCLUSION OF SHORT TERM DEBT CAPITAL STRUCTURE?

A. Yes. Standard & Poor's Corporate Finance Criteria states:

> Seasonal, self-liquidating debt is excluded from the permanent debt amount, but this situation is rare - with the exception of certain gas utilities. Given the long life of almost all utility assets, short-term debt may expose these companies to interest-rate volatility, remarketing risk, bank line backup risk, and regulatory exposure that cannot be readily offset. The lower cost of short-term obligations (assuming a positively sloped yield curve) is a positive factor that partially mitigates the risk of interest-rate volatility. As a rule of thumb, a level of short-term debt that exceeds 10% of total capital is cause for concern. [S&P Corporate Ratings Criteria, 1996]

Also,

> Traditional measures focusing on long-term debt have lost much of their significance, since companies rely increasingly on short-term borrowings.

> It is now commonplace to find permanent layers of short-term debt, which finances not only seasonal working capital but also an ongoing portion of asset base. [S&P Corporate Ratings Criteria, 1999]

As shown on Schedule MB-2 (and calculated on Schedule MB-6), Laclede's short term debt is consistently a significant part of the capital structure, and is therefore appropriately included.

EMBEDDED COST RATES

Q. WHAT IS THE APPROPRIATE EMBEDDED COST RATE FOR LACLEDE'S PREFERRED STOCK?

A. The embedded cost rate is 4.96% for Laclede's preferred stock. Calculation of the embedded cost of preferred stock is shown on Schedule MB-4.

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

A. The embedded cost rate is 7.78% for Laclede's long term debt. Calculation of the embedded cost of long term debt is shown on Schedule MB-5.

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

A. The embedded cost rate is 5.34% for Laclede's short term debt. Calculation of the embedded cost of short term debt is shown on Schedule MB-6.

COST OF COMMON EQUITY

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

A. Laclede Gas Company should be allowed a return on common equity of 9.70%.

Q. PLEASE EXPLAIN IN DETAIL HOW YOU ARRIVED AT YOUR RECOMMENDED COST OF COMMON EQUITY FOR LACLEDE.

A. I relied primarily on a Discounted Cash Flow (DCF) analysis to calculate a cost of common equity for Laclede.

The reasonableness of my calculation was substantiated by performing a similar DCF analysis on a group of six comparison LDCs.

Additionally, I checked the reasonableness of my calculated cost of common equity by performing a Capital Asset Pricing Model analysis for Laclede and the group of comparison companies.

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 commonly used in the regulatory arena and 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.

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 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 Brealey and Myers:

> 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. (Principles of Corporate Financing, 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.

METHODOLOGY FOR DETERMINATION OF SUSTAINABLE GROWTH

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 sustainable growth rate).

Q. HOW IS THE SUSTAINABLE GROWTH RATE DETERMINED?

A. The sustainable growth rate is determined by analyzing historical and projected financial and economic information for the Company. A variety of growth rate parameters and calculation methods are sometimes used by analysts to measure and forecast growth.

Q. COULD YOU DESCRIBE THE VARIOUS PARAMETERS AND METHODS WHICH CAN BE USED TO CALCULATE SUSTAINABLE GROWTH?

A. Yes. Methods sometimes used 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 (EPS), 2) dividends per share (DPS), and 3) book

value per share (BVPS). 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, I utilized **all** of the above-mentioned techniques for measuring growth in order to calculate a sustainable growth rate.

Q. DID YOU USE ANY OTHER METHODS OF CALCULATING GROWTH?

A. Yes, I did. I calculated both historical and projected retention growth. 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 (I). This external growth factor has been included in all historic and projected retention growth rate calculations for the group of comparable utilities.

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

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

Also, I excluded any compound earnings per share (EPS) growth rates which included a year when the payout ratio was greater than one (the dividend paid out was greater than earnings for that year.) In those circumstances, the calculated compound growth rate was artificially high. Any particular growth rate excluded from calculations is shown in italics on Schedules MB-8.

Q. IS THE HISTORIC GROWTH RATE IN DIVIDENDS PER SHARE AN APPROPRIATE PROXY FOR DETERMINING THE SUSTAINABLE GROWTH RATE?

A. Not usually. The historic growth rate in dividends per share will tend to overstate (understate) the sustainable growth rate when the dividend payout ratio has increased (decreased) over the measurement period. For an extended discussion and illustration of this phenomenon, please see Appendix I.

SUSTAINABLE GROWTH ANALYSIS

Q. WHAT GROWTH RATE DO YOU CONSIDER TO BE REFLECTIVE OF THE INVESTOR-EXPECTED GROWTH FOR LACLEDE GAS COMPANY?

A. I believe a growth rate of 3.0% - 3.5% is a reasonable representation of investors' expectations for Laclede's sustainable growth rate. I chose to use a rate at the high end of this range for my DCF calculation for Laclede.

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

A. The following growth parameters have been reviewed for Laclede: 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 EPS, DPS, and BVPS; 3) projected growth rate in EPS, DPS, and BVPS; 4) historic retention growth rate; and 5) projected retention growth rate.

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

Q. DID YOU RELY ON DATA FROM LACLEDE ONLY TO ARRIVE AT A RECOMMENDATION OF SUSTAINABLE GROWTH?

A. No. I analyzed a group of utilities with similar characteristics and risk profiles to Laclede to provide some insight as to the reasonableness of the sustainable growth rate calculated for Laclede. Schedule MB-7 shows a comparison of some risk factors for Laclede and my group of comparison companies.

Appendix G, attached to this testimony, describes the selection criteria used to develop a group of LDCs with risk characteristics similar to those of Laclede. The following companies met the selection criteria: 1) AGL Resources, Inc; 2) Connecticut Energy Corporation; 3) Indiana Energy, Inc.; 4) Peoples Energy Corporation; 5) Piedmont Natural Gas Company; and 6) Washington Gas Light Company. Schedule MB-8 contain

growth rate calculations for Laclede and the group of comparison companies. These calculations are summarized on Schedule MB-8.

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 five-year periods ending 1996, 1997, and 1998. These three five-year compound growth rates were then averaged and are labeled "Ave. Compound Gr." on line 16 of Schedule MB-8, pages 2-8.

The second measure of historic growth was taken from Value Line. 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; and

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

The Value Line growth rates are found on line 19 of Schedule MB-8, pages 2-8.

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 30 of Schedule MB-8, pages 2-8. Projected growth in EPS was also taken from First Call Corporation (line 32) and Zack's Analyst Watch, Inc. (line 33). If First Call or Zack's did not issue a projection for a particular company, those spaces contain n/a. Information from both First Call and Zack's is available to the average investor. The projected growth in EPS found on line 36 is the average of earnings growth projections

furnished by Value Line, First Call and Zack's. Value Line's projected growth in dividends and book value are listed again on line 36.

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 1994-98, and the average was calculated (line 10, final column). The projected retention growth data, found on lines 25-27 of Schedule MB-8, pages 2-8 is based on information from Value Line. Projected retention growth was calculated for 1999, 2000 and the period 2002-04. An average of these growth rates was calculated and compared to the growth rate for the 2000-02 period alone. The *larger* value, either the average or the 2000-02 rate was utilized 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 (lines 13 and 33, respectively).

Q. PLEASE SUMMARIZE YOUR HISTORIC AND PROJECTED GROWTH RATE ANALYSIS FOR LACLEDE GAS COMPANY.

A. The following table outlines the results of the analysis of growth rates for Laclede found on Schedule MB-8, page 2. The overall average of all analyzed growth rates for Laclede is 2.92%.

Growth rate summary for Laclede:

	EPS	DPS	BVPS
Historic Compound Growth	2.65%	1.61%	3.96%
Historic Value Line Growth	3.25%	1.75%	3.00%
Projected Growth	2.85%	2.00%	3.00%

	Historic	Projected
Retention Growth	3.08%	4.92%

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

A. The following table outlines the results of the analysis of growth rates for the comparison group. The high average growth rate is 6.41% (compound EPS) and the low average growth rate is 2.43% (compound DPS). The overall average of all growth rates for all six companies is 4.42% (Schedule MB-8). In all cases, negative growth rates were *not* included in the calculation of averages.

Comparison group growth rate summary:

	EPS	DPS	BVPS
Historic Compound Growth	6.41%	2.43%	4.26%
Historic Value Line Growth	5.38%	3.08%	4.29%
Projected Growth	5.17%	3.17%	4.75%

	Historic	Projected
Retention Growth	4.20%	5.51%

Q. WHAT GROWTH RATE DO YOU CONSIDER TO BE REFLECTIVE OF THE INVESTOR-EXPECTED GROWTH FOR YOUR COMPARISON COMPANIES?

A. I would expect a sustainable growth rate for this group of traditional gas utilities to be in the range of 4.0% to 5.0%.

STOCK PRICE AND 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 a current stock price and the expected dividend.

Q. PLEASE EXPLAIN YOUR CALCULATION OF THE DIVIDEND YIELD.

A. Dividend yield is equal to the expected dividend divided by stock price. Schedule MB-20 shows the average stock prices for a recent six-week period, the expected 1999 dividends

(as taken from Value Line), and the calculation of the dividend yields for Laclede and the group of comparison companies.

I used a six-week period for determining the average stock price because I believe that 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 stock price for each company is the average of the Friday closing price from 5/7/99 through 6/11/99. This time period accurately reflects investor's current expectations for the companies' stock. Non-current stock prices simply do not capture investor's current expectations and are inappropriate to use in the DCF.

Q. WHAT IS THE APPROPRIATE DIVIDEND YIELD FOR LACLEDE?

A. The expected dividend yield for Laclede is 6.21%, based on expected 2000 dividend of $1.36 and Laclede's average stock price of $21.8875. Laclede's average stock price calculation is shown on Schedule MB-20.

Q. HAVE YOU CALCULATED THE DIVIDEND YIELDS FOR THE COMPARISON GROUP?

A. Yes. The average expected dividend yield for my comparison group is 4.77%, shown on Schedule MB-9. For the group, the high dividend yield was 5.93% (AGL Resources) and the low was 3.64% (Connecticut Energy).

COST OF EQUITY

Q. WHAT IS THE COST-OF-EQUITY RANGE FOR LACLEDE BASED ON THE PREVIOUSLY DETERMINED DIVIDEND YIELD AND YOUR GROWTH RATE RANGE?

A. The following table, using data from Schedule MB-10, outlines the cost of equity range for Laclede using my recommended growth rate range:

	Dividend Yield	Growth	Cost of Equity
Low	6.21%	3.00%	9.21%
Mid	6.21%	3.25%	9.46%
High	6.21%	3.50%	9.71%

The midpoint of the DCF cost of equity for Laclede using my *overall* calculated growth rate range, rather than my chosen range, is 9.48% (as shown on Schedule MB-10).

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

A. I believe Laclede's allowed return on common equity should be 9.70% which is based on a dividend yield of 6.21% and an investor-expected sustainable growth rate at the high end of my range of 3.00% - 3.50%.

Q. WHAT IS THE DCF COST OF EQUITY FOR YOUR COMPARISON GROUP BASED ON THE PREVIOUSLY DETERMINED DIVIDEND YIELDS AND GROWTH RATES?

A. The DCF cost of equity capital for the comparison group is found on Schedule MB-10. The following table shows the average high and low cost of common equity for my comparable group:

	Dividend Yield	Growth	Cost of Equity
Low	4.77%	2.24%	7.01%
High	4.77%	6.74%	11.51%

The average DCF cost of common equity for the group is 9.26%.

Q. DOES THE COST OF EQUITY CALCULATED FOR YOUR COMPARISON GROUP SUPPORT THE REASONABLENESS OF YOUR RECOMMENDATION FOR LACLEDE?

A. Yes, I believe the cost of equity calculated for my comparison group supports my recommendation for Laclede. The group of LDCs in my comparison group are similar in risk to Laclede. In general, the growth rate averages for the comparison group are higher than those for Laclede. However, Laclede's dividend yield is 144 basis points (1.44%) greater than the average for the group. This flows directly to the DCF cost of equity.

CAPITAL ASSET PRICING MODEL

Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A. As can be seen on Schedule MB-11, I performed a CAPM analysis on Laclede and the group of six comparison LDCs. The CAPM cost of common equity for Laclede is 9.17%. The average CAPM cost of common equity for the group is 9.79%, with a high of 10.65% and a low of 9.54%.

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 premium).

The formula says that the cost of common equity is equal to the risk free rate plus some proportion of the market premium - that proportion being equal to beta. The market overall has a beta of 1.0. Firms with 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 company (or project) being analyzed. Laclede Gas Company's beta is 0.55. Beta for my group of comparison companies ranges from 0.60 to 0.75, with an average of 0.63. Gas utilities are generally viewed as relatively safe investments, and this is reflected in beta values below 1.0.

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. The 5.10% risk free rate I utilized for my CAPM analysis is the 1-year U.S. Government T-bill rate as reported by the Value Line Investment Survey (June 18, 1999). The 7.4% value I used for the market premium (Rm-Rf) is equal to the market premium calculated by Ibbottson and Associates, calculated using arithmetic means.

Some financial analysts utilize the 30-year U.S. Government Bond rate for the risk free rate in the CAPM. I have used this rate myself in past proceedings before the MPSC. However, I believe the 1-year rate is more reflective of the actual risk-free rate available to investors and that is the risk free rate I will use for the CAPM.

Q. DO YOU SUBSCRIBE TO THE CAPM AS AN ACCURATE MEASURE OF MARKET-BASED COST OF EQUITY?

A. I believe the CAPM - and its dependence on the single risk measure, beta - has limitations in its ability to accurately take into account the risk factors faced by a company, and therefore that company's cost of equity. However, some investors continue to rely on the CAPM. Therefore, I included the analysis as a check on and to provide support for my DCF analysis.

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 I calculated for Laclede is 8.34% (Schedule MB-12). I would note that the weighted average cost of capital for Laclede is lower than it would be if the Company did not carry such a large percentage of short term debt in it's capital structure. Any comparisons of my current ROR recommendation to past Laclede RORs or other companies' RORs must take this fact into consideration.

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

A. Based on a WACC of 8.34% and an assumed tax factor of 1.62, the pre-tax coverage ratio (for both long AND short term debt) is approximately 3.27 times. The pre-tax coverage ratio for long term debt only is 4.32 times. The derivation of pre-tax coverage is shown on Schedule MB-12.

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 and these two items

are normally similar in size. 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

ECONOMIC PRINCIPLES OF REGULATION

Q. BRIEFLY DESCRIBE THE ECONOMIC RATIONALE FOR RATE BASE-RATE OF RETURN REGULATION.

A. Rate base-rate of return regulation is based, in part, on basic economic and financial theory that applies to both regulated and unregulated firms.

> Although it is well recognized that no form of economic regulation can ever be a perfect substitution for competition in determining market prices for goods and services, there is nearly unanimous acceptance of the principle that regulation should act as a substitute for competition in utility markets. (Parcell, The Cost of Capital Manual p.1-4).

It is the interaction of competitive markets forces that holds the prices an unregulated firm can charge for its products or services in line with the actual costs of production. In fact, competition between companies is generally viewed as the mechanism that allows consumers to not only purchase goods and services at prices consistent with the costs of production but also allows consumers to receive the highest quality product. Since regulated utilities are franchised monopolies generally immune to competitive market forces, a primary objective of utility regulation is to produce results that closely approximate the conditions that would exist if utility rates were determined in a competitive atmosphere.

Under basic financial theory, it is generally assumed the goal for all firms is the maximization of shareholder wealth. Additionally, capital budgeting theory indicates that, in order to achieve this goal, an unregulated firm should invest in any project which, given a certain level of risk, is expected to earn a rate of return at or above its weighted average cost of capital.

Competition, in conjunction with the wealth maximization goal, induces firms to increase investment as long as the expected rate of return on an investment is greater that the cost of capital. Competitive equilibrium is achieved when the rate of return on the last investment project undertaken just equals the cost of capital. When competitive equilibrium is achieved, the price ultimately received for goods or services reflects the full costs of production. Therefore, not only does competition automatically drive unregulated firms to minimize their capital costs (investment opportunities are expanded and competitive position is enhanced when capital costs can be lowered), it also ensures that the marginal return on investment just equals the cost of capital.

Given that regulation is intended to emulate competition and that, under competition, the marginal return on investment should equal the cost of capital, it is crucial for regulators to set the authorized rate of return equal to the **actual** cost. If this is accomplished, the marginal return on prudent and necessary investment just equals cost and the forces of competition are effectively emulated.

APPENDIX D

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 and, in Permian Basin Area Rate Cases, 390 US 747 (1968), that, while investor interests (profitability) are certainly pertinent to setting adequate utility rates, those interests do not exhaust the relevant considerations.

APPENDIX E

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 1978). 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 F

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 G

DEVELOPMENT OF A COMPARISON GROUP

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

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 90% of total revenues from regulated sales of gas;

4). Total capitalization less than 1.5 billion;

5). Standard & Poor's Bond Rating of at least A-;

6). Payout ratio less than 1.0 for at least past three years;

6). Covered by Value Line;

The following companies met the selection criteria: 1) AGL Resources, Inc; 2) Connecticut Energy Corporation; 3) Indiana Energy, Inc.; 4) Peoples Energy Corporation; 5) Piedmont Natural Gas Company; and 6) Washington Gas Light Company.

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

A. Yes. As shown on Schedule MB-2, 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, many of the selection criteria also act as risk measures, such as the level of revenues from regulated gas operations.

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 Laclede as a regulated natural gas distributor.

APPENDIX H

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,

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

where $P^{\wedge}$= 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 I

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. The problems associated with sole reliance on historic dividend growth has been recognized in the financial literature. According to Brigham and Gapenski,

> If earnings and dividends are growing at the same rate, there is no problem, but if these two growth rates are unequal, we do have a problem. First, the DCF model calls for the expected dividend growth rate. However, if EPS and DPS are growing at different rates, something is going to have to change: these two series cannot grow at two different rates indefinitely (Intermediate Financial Management, p.145).

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Laclede Gas Company
Historical Financial Information

	1998	1997	1996	1995	1994	Average
Return on Equity*	10.80%	12.90%	13.60%	9.20%	11.30%	11.56%
Earnings per share	$ 1.58	$ 1.84	$ 1.87	$ 1.27	$ 1.42	$ 1.60
Dividends per share	$ 1.32	$ 1.30	$ 1.26	$ 1.24	$ 1.22	$ 1.27
Payout Ratio	83.54%	70.65%	67.38%	97.64%	85.92%	81.03%
Book Value per share	$14.57	$14.26	$13.72	$13.05	$12.44	$ 13.61

*Note: Per Company response to data request 2011, based on average equity

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Laclede Gas Company
Capital Structure

	As of 3/31/99	
	Amount	Percent
Common Stock Equity	$263,963,386	49.97%
Preferred Stock	$ 1,959,500	0.37%
Long Term Debt	$178,411,618	33.78%
Short Term Debt	$ 83,871,924	15.88%
	$528,206,428	100.00%

No Short Term Debt
For Historical Comparison Purposes Only

	Without Short Term Debt	
	Amount	%
Common Stock Equity	$263,963,386	59.41%
Preferred Stock	$1,959,500	0.44%
Long Term Debt	$178,411,618	40.15%
	$444,334,504	100.00%

Source: Schedules MB-4, MB-5, MB-6, OPC data request

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Percent Common Equity for Laclede and Comparison Group - No short term debt
Value Line Investment Survey Composite Index

	1998	1997	1996	1995	1994	Average
AGL Resources Inc.	47.1%	45.9%	48.9%	47.6%	45.8%	47.1%
Connecticut Energy Corp.	54.1%	51.9%	49.9%	52.4%	51.2%	51.9%
Indiana Energy	62.5%	65.0%	62.5%	61.4%	63.1%	62.9%
People's Energy Corp.	58.9%	42.4%	43.6%	49.2%	49.4%	48.7%
Piedmont Natural Gas Co.	55.3%	52.4%	49.7%	49.6%	49.1%	51.2%
Washington Gas Light	57.1%	56.2%	59.4%	58.9%	56.7%	57.7%
Average	**55.8%**	**52.3%**	**52.3%**	**53.2%**	**52.6%**	**53.2%**
Laclede Gas Company	**58.6%**	**61.6%**	**57.1%**	**59.3%**	**55.5%**	**58.4%**
(not including short term debt)						

	1998	1997	1996	1995	Average
Laclede Gas Company	**58.6%**	**61.6%**	**57.1%**	**59.3%**	**59.2%**
Value Line Composite Index	**49.5%**	**49.3%**	**49.1%**	**48.3%**	**49.1%**
Natural Gas (Distribution)					

Source: Value Line Investment Survey

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Laclede Gas Company
Embedded Cost of Preferred Stock

Issue:	Amount	Coupon Rate	Dividend Requirement
5.00% Series B	$1,796,750	5.00%	$89,838
4.56% Series C	$162,750	4.56%	$7,421
TOTAL:	$1,959,500		$97,259

Amount Outstanding	$1,959,500
Dividend Requirement:	$97,259
Embedded Cost Rate:	**4.96%**

Source: Company response to OPC data request 2003

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Laclede Gas Company
Embedded Cost of Long Term Debt - 31 March 1999

Description:	Issue Date	Maturity Date	Principal Original Issue	Amount Outstanding	Interest Rate	Annual Interest	Annual Amortization Issuance Expenses Discnts/Prems.	Unamortized Issuance Expense Discnts/Prems.	Annual Cost	Carrying Value
6.25% Series	05/01/93	05/01/03	$25,000,000	$25,000,000	6.25%	$1,562,500	$ 41,902	$ 171,102	$1,604,402	$24,828,898
8.5% Series	11/15/89	11/15/04	25,000,000	25,000,000	8.50%	$2,125,000	$ 23,295	$ 131,036	$2,148,295	$24,868,964
8.625% Series	05/15/91	05/15/06	40,000,000	40,000,000	8.63%	$3,450,000	$ 47,280	$ 336,873	$3,497,280	$39,663,127
7.50% Series	11/01/92	11/01/07	40,000,000	40,000,000	7.50%	$3,000,000	$ 40,487	$ 347,512	$3,040,487	$39,652,488
6.50% Series	11/15/95	11/15/10	25,000,000	25,000,000	6.50%	$1,625,000	$ 13,441	$ 156,255	$1,638,441	$24,843,745
6.50% Series	10/16/97	10/15/12	25,000,000	25,000,000	6.50%	$1,625,000	$ 32,906	$ 445,605	$1,657,906	$24,554,395
Reacquired LTD							$ 225,809	$ 921,023		
							$ 199,312	$ 1,588,382		
TOTAL:			$180,000,000	$180,000,000		$13,387,500	$425,121	$2,509,405	$13,586,812	$178,411,618

Total Cost: $13,812,621
Total Carrying Value: $178,411,618

Embedded Cost Rate: 7.78%

Source: Response to OPC data request No. 2002

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Laclede Gas Company
Embedded Cost of Short Term Debt through 6/30/98

	Wtd. Avg. Effective Interest Rate	Balance Outstanding End of Month	Year ended Dec-98 Dec-98 Weight	Dec-98 Weighted Cost	Year ended Mar-98 Mar-98 Weight	Mar-98 Weighted Cost	CWIP	Balance less CWIP
Jan-98	5.797%	$ 89,500,000	8.99%	0.521%			$ 7,266,124	$ 82,233,876
Feb-98	5.630%	$ 63,500,000	6.38%	0.359%			$ 7,197,007	$ 56,302,993
Mar-98	5.647%	$ 34,500,000	3.47%	0.196%			$ 7,337,487	$ 27,162,513
Apr-98	5.643%	$ 33,000,000	3.31%	0.187%	3.38%	0.19%	$ 10,580,902	$ 22,419,098
May-98	5.631%	$ 63,000,000	6.33%	0.356%	6.46%	0.36%	$ 8,482,186	$ 54,517,814
Jun-98	5.652%	$ 65,000,000	6.53%	0.369%	6.67%	0.38%	$ 8,073,592	$ 56,926,408
Jul-98	5.654%	$ 79,500,000	7.98%	0.451%	8.15%	0.46%	$ 9,871,898	$ 69,628,102
Aug-98	5.645%	$ 90,500,000	9.09%	0.513%	9.28%	0.52%	$ 11,076,229	$ 79,423,771
Sep-98	5.635%	$ 98,500,000	9.89%	0.557%	10.10%	0.57%	$ 10,529,007	$ 87,970,993
Oct-98	5.481%	$ 113,000,000	11.35%	0.622%	11.59%	0.64%	$ 11,790,280	$ 101,209,720
Nov-98	5.338%	$ 129,500,000	13.01%	0.694%	13.28%	0.71%	$ 11,019,595	$ 118,480,405
Dec-98	5.340%	$ 136,157,000	13.68%	0.730%	13.97%	0.75%	$ 11,340,555	$ 124,816,445
		$ 995,657,000	100.00%	5.557%				

Average Monthly Level (1998): $ 82,971,417

Average Monthly Level less CWIP (1998): $ 73,424,345

Jan-98	5.173%	$ 137,500,000	14.10%	0.73%	$ 12,131,073	$ 125,368,927
Feb-98	4.958%	$ 104,250,000	10.69%	0.53%	$ 12,601,191	$ 91,648,809
Mar-98	4.950%	$ 86,000,000	8.82%	0.44%	$ 11,947,402	$ 74,052,598
		$ 974,907,000	100.00%	**5.34%**		

Average Monthly Level (ending 3/99): $ 94,658,917

Average Monthly Level less CWIP (ending 3/99): $83,871,924

Weighted Cost: 5.34%

Source: Company response to OPC data request 2004

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Comparison Companies

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

	Public	Revenue	% Rev Gas	S&P	Common Equity	Dividend Yield	Payout Ratio	MTB	Missouri Reg.?
AGL Resources Inc.	yes	$ 1,151.4	100.0%	A-	44.0%	5.8%	0.84	1.62	No
Connecticut Energy Corp.	yes	$ 232.9	100.0%	A	50.0%	3.6%	0.79	2.16	No
Indiana Energy	yes	$ 570.5	100.0%	AA-	55.0%	4.4%	0.60	2.07	No
People's Energy Corp.	yes	$ 1,143.1	91.0%	AA-	56.0%	4.9%	0.84	1.88	No
Piedmont Natural Gas Co.	yes	$ 707.8	100.0%	A	53.0%	4.3%	0.65	2.02	No
Washington Gas Light	yes	$ 975.2	100.0%	AA-	57.0%	5.0%	0.64	1.55	No
Average		**$ 796.5**	**98.5%**	**A/AA-**	**52.5%**	**4.7%**	**0.73**	**1.88**	
Laclede		**$ 490.4**	**100.0%**	**AA-**	**51.0%**	**6.1%**	**0.78**	**1.40**	

Value Line Investment Survey

	Beta	Fixed Charge Coverage	Timeliness	Financial Strength	Safety
AGL Resources Inc.	0.65	2.70	4	B++	2
Connecticut Energy Corp.	0.60	2.76	4	B++	2
Indiana Energy	0.60	4.02	4	A	2
People's Energy Corp.	0.75	3.95	3	A	1
Piedmont Natural Gas Co.	0.60	3.90	4	B++	2
Washington Gas Light	0.60	2.29	4	A	1
Average	**0.63**	**3.27**	**3.83**	**B++/A**	**2**
Laclede	**0.55**	**2.54**	**3**	**A**	**1**

Source: C.A. Turner Utility Reports; Value Line Investment Survey

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Summary and Ranges - Growth for Comparison Companies

Historic Growth	Retention	Compound Growth			Value Line		
COMPANY	br + sv	EPS	DPS	BVPS	EPS	DPS	BVPS
Laclede Gas Company	3.08%	2.65%	1.61%	3.96%	3.25%	1.75%	3.00%
AGL Resources Inc.	3.04%	5.53%	0.87%	2.56%	4.25%	2.00%	2.75%
Connecticut Energy Corp.	5.92%	4.08%	0.77%	4.45%	3.75%	1.25%	4.00%
Indiana Energy	4.71%	8.94%	3.81%	4.19%	8.00%	4.50%	5.00%
People's Energy Corp.	2.07%	6.10%	1.19%	3.00%	3.75%	2.25%	3.25%
Piedmont Natural Gas Co.	5.40%	6.85%	6.12%	6.50%	7.00%	6.25%	6.50%
Washington Gas Light	4.06%	6.97%	1.78%	4.84%	5.50%	2.25%	4.25%
Average	**4.20%**	**6.41%**	**2.43%**	**4.26%**	**5.38%**	**3.08%**	**4.29%**

Overall average historic: *4.29%*

Projected Growth	Retention	Value Line/Zack's/FirstCall		
COMPANY	br + sv	EPS	DPS	BVPS
Laclede Gas Company	4.92%	2.85%	2.00%	3.00%
AGL Resources Inc.	5.12%	5.09%	2.00%	5.00%
Connecticut Energy Corp.	4.13%	4.90%	3.50%	4.00%
Indiana Energy	6.18%	5.67%	4.00%	5.00%
People's Energy Corp.	5.13%	3.80%	2.00%	4.00%
Piedmont Natural Gas Co.	6.83%	6.59%	5.00%	5.50%
Washington Gas Light	5.65%	4.99%	2.50%	5.00%
Average	**5.51%**	**5.17%**	**3.17%**	**4.75%**

Overall average projected: *4.65%*

Growth Rate Ranges	Overall			Hi/Low	
COMPANY	Average	Low*	High	Average	Median
Laclede Gas Company	**2.92%**	1.61%	4.92%	3.26%	3.00%
AGL Resources Inc.	3.47%	0.87%	5.53%	3.20%	3.04%
Connecticut Energy Corp.	3.70%	0.77%	5.92%	3.35%	4.00%
Indiana Energy	5.45%	3.81%	8.94%	6.37%	5.00%
People's Energy Corp.	3.32%	1.19%	6.10%	3.64%	3.25%
Piedmont Natural Gas Co.	6.23%	5.00%	7.00%	6.00%	6.50%
Washington Gas Light	4.35%	1.78%	6.97%	4.38%	4.84%
Comparison Company Average	**4.42%**	**2.24%**	**6.74%**	**4.49%**	**4.44%**

Note: Negative growth rates are not included in averages and are excluded from determination of "Low".
Source: Schedules MB-8, pages 2-8

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Discounted Cash Flow Growth Parameters
Laclede Gas Company

Historic Growth

		Compound Growth			Retention Growth		
	Historic Data	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)
1	1992	1.17	1.20	11.79	-0.026		
2	1993	1.61	1.22	12.19	*0.242*		
3	1994	1.42	1.22	12.44	0.143	11.30%	1.61%
4	1995	1.27	1.24	13.05	0.024	9.20%	0.22%
5	1996	1.87	1.26	13.72	0.326	13.60%	4.44%
6	1997	1.84	1.30	14.26	0.293	12.90%	3.79%
7	1998	1.58	1.32	14.57	0.165	10.80%	1.78%
8							
9		Compound Growth Rates				Ave. Internal	
10	'92-96	12.44%	1.23%	3.86%		Growth (br):	2.37%
11							
12	'93-97	3.39%	1.60%	4.00%		ADD: External	
13						Growth (sv):	0.71%
14	'94-98	2.65%	1.99%	4.03%			
15						Historic	
16	Ave.Compound Gr.	**2.65%**	**1.61%**	**3.96%**		"br + sv" Gr.	**3.08%**
17							
18	Value Line	EPS	DPS	BVPS			
19	Historic Gr.	**3.25%**	**1.75%**	**3.00%**			
20	(Avg of 5 and 10 yr. if both are available)						
21							
22	**Projected Growth**						
23	*Retention Growth Calculation*				Retention	Equity	Growth
24	Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)
25	1999 est'd	$1.35	$1.34	$14.70	0.007	9.50%	0.07%
26	2000 est'd	1.80	1.36	15.10	0.244	12.00%	2.93%
27	2002-04 est'd	2.25	1.45	17.10	0.356	13.50%	4.80%
28							
29	*Analyst's Estimates*					Projected	
30	Value Line	4.00%	2.00%	3.00%		Growth (br):	4.80%
31							
32	First Call	4.00%				ADD: External	
33	Zack's	1.70%				Growth (sv):	0.12%
34							
35	Average					Projected	
36	Proj'd Growth	**2.85%**	**2.00%**	**3.00%**		"br + sv" Gr.	**4.92%**

Note: Negative (b*r) growth is not included in retention growth averages.

SOURCE: The Value Line Investment Survey; C.A. Turner Utility Reports; Zack's Analyst Watch; First Call Corporation

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Discounted Cash Flow Growth Parameters
AGL Resources, Inc.

Historic Growth

		Compound Growth			Retention Growth		
	Historic Data	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)
1	1992	1.13	1.03	9.70	0.088		
2	1993	1.08	1.04	9.90	0.037		
3	1994	1.17	1.04	10.19	0.111	11.30%	1.26%
4	1995	1.33	1.04	10.12	0.218	12.50%	2.73%
5	1996	1.37	1.06	10.56	0.226	12.10%	2.74%
6	1997	1.37	1.08	10.99	0.212	11.30%	2.39%
7	1998	1.14	1.08	11.42	0.053	11.30%	0.59%
8							
9		Compound Growth Rates				Ave. Internal	
10	'92-96	4.93%	0.72%	2.15%		Growth (br):	1.94%
11							
12	'93-97	6.13%	0.95%	2.65%		ADD: External	
13						Growth (sv):	1.10%
14	'94-98	*-0.65%*	0.95%	2.89%			
15						Historic	
16	Ave.Compound Gr.	**5.53%**	**0.87%**	**2.56%**		"br + sv" Gr.	**3.04%**
17							
18	Value Line	EPS	DPS	BVPS			
19	Historic Gr.	**4.25%**	**2.00%**	**2.75%**			
20	(Avg of 5 and 10 yr. if both are available)						
21							
22	**Projected Growth**						
23	*Retention Growth Calculation*				Retention	Equity	Growth
24	Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)
25	1999 est'd	$1.40	$1.08	$11.70	0.229	12.00%	2.74%
26	2000 est'd	1.60	1.08	12.30	0.325	13.00%	4.23%
27	2002-04 est'd	1.90	1.20	14.60	0.368	13.00%	4.79%
28							
29	*Analyst's Estimates*					Projected	
30	Value Line	5.50%	2.00%	5.00%		Growth (br):	4.79%
31							
32	First Call	5.00%				ADD: External	
33	Zack's	4.68%				Growth (sv):	0.33%
34							
35	Average					Projected	
36	Proj'd Growth	**5.09%**	**2.00%**	**5.00%**		"br + sv" Gr.	**5.12%**

Note: Negative (b*r) growth is not included in retention growth averages.

SOURCE: The Value Line Investment Survey; C.A. Turner Utility Reports; Zack's Analyst Watch; First Call Corporation

Schedule MB- 8

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Discounted Cash Flow Growth Parameters
Connecticut Energy Corporation

Historic Growth

		Compound Growth			Retention Growth		
	Historic Data	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)
1	1992	1.43	1.26	12.80	0.119		
2	1993	1.50	1.28	13.33	0.147		
3	1994	1.58	1.30	14.45	0.177	10.20%	1.81%
4	1995	1.60	1.30	14.84	0.188	10.70%	2.01%
5	1996	1.70	1.31	15.31	0.229	11.00%	2.52%
6	1997	1.81	1.32	15.76	0.271	11.40%	3.09%
7	1998	1.78	1.33	17.22	0.253	10.20%	2.58%
8							
9		Compound Growth Rates				Ave. Internal	
10	'92-96	4.42%	0.98%	4.58%		Growth (br):	2.40%
11							
12	'93-97	4.81%	0.77%	4.28%		ADD: External	
13						Growth (sv):	3.52%
14	'94-98	3.02%	0.57%	4.48%			
15						Historic	
16	Ave.Compound Gr.	**4.08%**	**0.77%**	**4.45%**		"br + sv" Gr.	**5.92%**
17							
18	Value Line	EPS	DPS	BVPS			
19	Historic Gr.	**3.75%**	**1.25%**	**4.00%**			
20	(Avg of 5 and 10 yr. if both are available)						
21							
22	**Projected Growth**						
23	*Retention Growth Calculation*				Retention	Equity	Growth
24	Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)
25	1999 est'd	$1.95	$1.35	$17.65	0.308	11.00%	3.38%
26	2000 est'd	1.90	1.37	18.05	0.279	10.00%	2.79%
27	2002-04 est'd	2.30	1.60	20.50	0.304	11.50%	3.50%
28							
29	*Analyst's Estimates*					Projected	
30	Value Line	4.00%	3.50%	4.00%		Growth (br):	3.50%
31							
32	First Call	11.00%				ADD: External	
33	Zack's	5.80%				Growth (sv):	0.63%
34							
35	Average					Projected	
36	Proj'd Growth	**4.90%**	**3.50%**	**4.00%**		"br + sv" Gr.	**4.13%**

Note: Negative (b*r) growth is not included in retention growth averages.

SOURCE: The Value Line Investment Survey; C.A. Turner Utility Reports; Zack's Analyst Watch; First Call Corporation

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Discounted Cash Flow Growth Parameters
Indiana Energy, Inc.

Historic Growth

		Compound Growth			Retention Growth		
	Historic Data	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)
1	1992	0.87	0.72	7.67	0.172		
2	1993	0.96	0.74	8.64	0.229		
3	1994	1.15	0.77	9.02	0.330	12.70%	4.20%
4	1995	1.10	0.80	9.33	0.273	11.70%	3.19%
5	1996	1.40	0.83	9.89	0.407	14.20%	5.78%
6	1997	1.43	0.86	9.72	0.399	14.80%	5.90%
7	1998	1.33	0.90	10.16	0.323	13.20%	4.27%
8							
9		Compound Growth Rates				Ave. Internal	
10	'92-96	12.63%	3.62%	6.56%		Growth (br):	4.67%
11							
12	'93-97	10.48%	3.83%	2.99%		ADD: External	
13						Growth (sv):	0.04%
14	'94-98	3.70%	3.98%	3.02%			
15						Historic	
16	Ave.Compound Gr.	**8.94%**	**3.81%**	**4.19%**		"br + sv" Gr.	**4.71%**
17							
18	Value Line	EPS	DPS	BVPS			
19	Historic Gr.	**8.00%**	**4.50%**	**5.00%**			
20	(Avg of 5 and 10 yr. if both are available)						
21							
22	**Projected Growth**						
23	*Retention Growth Calculation*				Retention	Equity	Growth
24	Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)
25	1999 est'd	$1.35	$0.94	$10.55	0.304	12.50%	3.80%
26	2000 est'd	1.60	0.97	11.15	0.394	13.50%	5.32%
27	2002-04 est'd	1.95	1.08	13.25	0.446	14.00%	6.25%
28							
29	*Analyst's Estimates*					Projected	
30	Value Line	6.00%	4.00%	5.00%		Growth (br):	6.25%
31							
32	First Call	6.00%				ADD: External	
33	Zack's	5.33%				Growth (sv):	-0.06%
34							
35	Average					Projected	
36	Proj'd Growth	**5.67%**	**4.00%**	**5.00%**		"br + sv" Gr.	**6.18%**

Note: Negative (b*r) growth is not included in retention growth averages.

SOURCE: The Value Line Investment Survey; C.A. Turner Utility Reports; Zack's Analyst Watch; First Call Corporation

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Discounted Cash Flow Growth Parameters
People's Energy Company

Historic Growth

		Compound Growth			Retention Growth		
	Historic Data	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)
1	1992	2.06	1.76	17.72	0.146		
2	1993	2.11	1.78	18.02	0.156		
3	1994	2.13	1.80	18.39	0.155	11.60%	1.80%
4	1995	1.78	1.80	18.38	-0.011	9.70%	*-0.11%*
5	1996	2.96	1.82	19.49	0.385	15.20%	5.85%
6	1997	2.81	1.87	20.43	0.335	13.70%	4.58%
7	1998	2.25	1.91	21.03	0.151	10.70%	1.62%
8							
9		Compound Growth Rates				Ave. Internal	
10	'92-96	9.49%	0.84%	2.41%		Growth (br):	1.97%
11							
12	'93-97	7.43%	1.24%	3.19%		ADD: External	
13						Growth (sv):	0.10%
14	'94-98	1.38%	1.49%	3.41%			
15						Historic	
16	Ave.Compound Gr.	**6.10%**	**1.19%**	**3.00%**		"br + sv" Gr.	**2.07%**
17							
18	Value Line	EPS	DPS	BVPS			
19	Historic Gr.	**3.75%**	**2.25%**	**3.25%**			
20	(Avg of 5 and 10 yr. if both are available)						
21							
22	**Projected Growth**						
23	*Retention Growth Calculation*				Retention	Equity	Growth
24	Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)
25	1999 est'd	$2.25	$1.95	$21.45	0.133	10.50%	1.40%
26	2000 est'd	2.65	1.99	22.25	0.249	12.00%	2.99%
27	2002-04 est'd	3.30	2.12	25.65	0.358	13.00%	4.65%
28							
29	*Analyst's Estimates*					Projected	
30	Value Line	3.50%	2.00%	4.00%		Growth (br):	4.65%
31							
32	First Call	4.00%				ADD: External	
33	Zack's	4.10%				Growth (sv):	0.48%
34							
35	Average					Projected	
36	Proj'd Growth	**3.80%**	**2.00%**	**4.00%**		"br + sv" Gr.	**5.13%**

Note: Negative (b*r) growth is not included in retention growth averages.

SOURCE: The Value Line Investment Survey; C.A. Turner Utility Reports; Zack's Analyst Watch; First Call Corporation

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Discounted Cash Flow Growth Parameters
Piedmont Natural Gas Company

Historic Growth

		Compound Growth			Retention Growth		
	Historic Data	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)
1	1992	1.40	0.91	10.27	0.350		
2	1993	1.45	0.95	10.90	0.345		
3	1994	1.35	1.01	11.36	0.252	13.20%	3.32%
4	1995	1.45	1.09	12.31	0.248	11.80%	2.93%
5	1996	1.67	1.15	13.07	0.311	11.40%	3.55%
6	1997	1.85	1.21	13.90	0.346	12.60%	4.36%
7	1998	1.96	1.28	14.91	0.347	13.10%	4.54%
8							
9		Compound Growth Rates				Ave. Internal	
10	'92-96	4.51%	6.03%	6.21%		Growth (br):	3.74%
11							
12	'93-97	6.28%	6.23%	6.27%		ADD: External	
13						Growth (sv):	1.66%
14	'94-98	9.77%	6.10%	7.03%			
15						Historic	
16	Ave.Compound Gr.	**6.85%**	**6.12%**	**6.50%**		"br + sv" Gr.	**5.40%**
17							
18	Value Line	EPS	DPS	BVPS			
19	Historic Gr.	**7.00%**	**6.25%**	**6.50%**			
20	(Avg of 5 and 10 yr. if both are available)						
21							
22	**Projected Growth**						
23	*Retention Growth Calculation*				Retention	Equity	Growth
24	Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)
25	1999 est'd	$2.05	$1.36	$15.55	0.337	13.00%	4.38%
26	2000 est'd	2.20	1.42	16.40	0.355	13.50%	4.79%
27	2002-04 est'd	2.75	1.60	19.30	0.418	14.00%	5.85%
28							
29	*Analyst's Estimates*					Projected	
30	Value Line	7.00%	5.00%	5.50%		Growth (br):	5.85%
31							
32	First Call	7.00%				ADD: External	
33	Zack's	6.18%				Growth (sv):	0.97%
34							
35	Average					Projected	
36	Proj'd Growth	**6.59%**	**5.00%**	**5.50%**		"br + sv" Gr.	**6.83%**

Note: Negative (b*r) growth is not included in retention growth averages.

SOURCE: The Value Line Investment Survey; C.A. Turner Utility Reports; Zack's Analyst Watch; First Call Corporation

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Discounted Cash Flow Growth Parameters
Washington Gas Light Company

Historic Growth

		Compound Growth			Retention Growth		
	Historic Data	EPS	DPS	BVPS	Retention Ratio (b)	Equity Return (r)	Growth (b*r)
1	1992	1.27	1.07	10.66	0.157		
2	1993	1.31	1.09	11.04	0.168		
3	1994	1.42	1.11	11.51	0.218	12.20%	2.66%
4	1995	1.45	1.12	11.95	0.228	12.00%	2.73%
5	1996	1.85	1.14	12.79	0.384	14.40%	5.53%
6	1997	1.85	1.17	13.48	0.368	13.70%	5.04%
7	1998	1.54	1.20	13.86	0.221	11.10%	2.45%
8							
9		Compound Growth Rates				Ave. Internal	
10	'92-96	9.86%	1.60%	4.66%		Growth (br):	3.68%
11							
12	'93-97	9.01%	1.79%	5.12%		ADD: External	
13						Growth (sv):	0.38%
14	'94-98	2.05%	1.97%	4.75%			
15						Historic	
16	Ave.Compound Gr.	**6.97%**	**1.78%**	**4.84%**		"br + sv" Gr.	**4.06%**
17							
18	Value Line	EPS	DPS	BVPS			
19	Historic Gr.	**5.50%**	**2.25%**	**4.25%**			
20	(Avg of 5 and 10 yr. if both are available)						
21							
22	**Projected Growth**						
23	*Retention Growth Calculation*				Retention	Equity	Growth
24	Value Line	EPS	DPS	BVPS	Ratio (b)	Return (r)	(b*r)
25	1999 est'd	$1.35	$1.22	$14.55	0.096	9.00%	0.87%
26	2000 est'd	1.85	1.24	15.20	0.330	12.00%	3.96%
27	2002-04 est'd	2.30	1.35	17.75	0.413	13.00%	5.37%
28							
29	*Analyst's Estimates*					Projected	
30	Value Line	4.50%	2.50%	5.00%		Growth (br):	5.37%
31							
32	First Call	5.00%				ADD: External	
33	Zack's	5.48%				Growth (sv):	0.28%
34							
35	Average					Projected	
36	Proj'd Growth	**4.99%**	**2.50%**	**5.00%**		"br + sv" Gr.	**5.65%**

Note: Negative (b*r) growth is not included in retention growth averages.

SOURCE: The Value Line Investment Survey; C.A. Turner Utility Reports; Zack's Analyst Watch; First Call Corporation

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Historical Stock Prices and Calculation of Expected Dividend Yield

	Fri 5/7/99	Fri 5/14/99	Fri 5/21/99	Fri 5/28/99	Fri 6/4/99	Fri 6/11/99	Average
Laclede Gas Company	$ 20.750	$ 22.125	$ 21.188	$ 22.063	$ 22.063	$ 22.000	$21.8875

	Fri 5/7/99	Thu 5/14/99	Fri 5/21/99	Fri 5/28/99	Fri 6/4/99	Fri 6/11/99	Average
AGL Resources Inc.	$ 16.313	$ 16.250	$ 18.563	$ 18.875	$ 18.813	$ 18.625	$18.2250
Connecticut Energy Corp.	$ 37.125	$ 37.313	$ 37.375	$ 37.563	$ 37.938	$ 38.125	$37.6625
Indiana Energy	$ 21.500	$ 21.125	$ 21.875	$ 22.125	$ 22.063	$ 22.563	$21.9500
People's Energy Corp.	$ 38.500	$ 38.625	$ 39.125	$ 38.500	$ 38.812	$ 38.500	$38.7124
Piedmont Natural Gas Co.	$ 32.438	$ 31.563	$ 33.000	$ 33.813	$ 31.875	$ 31.063	$32.2625
Washington Gas Light	$ 23.938	$ 23.938	$ 24.750	$ 24.438	$ 24.187	$ 24.438	$24.3499

Current and Expected Dividends and Dividend Yields

	Average Stock Price	2000 Expected Dividend	Expected Dividend Yield
Laclede Gas Company	$ 21.888	$ 1.36	**6.21%**
AGL Resources Inc.	$ 18.225	$ 1.08	5.93%
Connecticut Energy Corp.	$ 37.663	$ 1.37	3.64%
Indiana Energy	$ 21.950	$ 0.97	4.42%
People's Energy Corp.	$ 38.712	$ 1.99	5.14%
Piedmont Natural Gas Co.	$ 32.263	$ 1.42	4.40%
Washington Gas Light	$ 24.350	$ 1.24	5.09%
Average			**4.77%**

Source: Value Line Investment Survey; Wall Street Journal.

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

DCF Cost of Common Equity Calculations for Laclede and Comparison Group

	Dividend	Growth		Cost of Equity	
	Yield	Low	High	Low	High
Laclede Gas Company	6.21%	1.61%	4.92%	7.82%	11.13%
Midpoint					***9.48%***
Using overall average growth	6.21%		2.92%		***9.13%***

Comparison Group	Dividend	Growth		Cost of Equity	
	Yield	Low	High	Low	High
AGL Resources Inc.	5.93%	0.87%	5.53%	6.80%	11.46%
Connecticut Energy Corp.	3.64%	0.77%	5.92%	4.41%	9.56%
Indiana Energy	4.42%	3.81%	8.94%	8.23%	13.35%
People's Energy Corp.	5.14%	1.19%	6.10%	6.33%	11.24%
Piedmont Natural Gas Co.	4.40%	5.00%	7.00%	9.40%	11.40%
Washington Gas Light	5.09%	1.78%	6.97%	6.88%	12.07%
Average	**4.77%**	**2.24%**	**6.74%**	**7.01%**	**11.51%**
Midpoint					***9.26%***
Using overall average growth	4.77%		4.42%		***9.19%***

BURDETTE - DIRECT
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Capital Assest Pricing Model Cost of Common Equity (Ke)

Formula: $Ke = Rf + beta(Rm - Rf)$

Risk Free Rate (Rf) = 5.10%
Market Premium (Rm - Rf) = 7.40%

	Beta	CAPM Ke
Laclede Gas Company	0.55	**9.17%**
AGL Resources Inc.	0.65	9.91%
Connecticut Energy Corp.	0.60	9.54%
Indiana Energy	0.60	9.54%
People's Energy Corp.	0.75	10.65%
Piedmont Natural Gas Co.	0.60	9.54%
Washington Gas Light Company	0.60	9.54%
Average	**0.63**	**9.79%**

Source: Value Line Investment Survey; Ibbotson and Associates

BURDETTE - DIRECT
GR-99-315 Laclede Gas Company

Laclede Gas Company
Weighted Average Cost of Capital

	Amount	Percent	Cost Rate	Weighted Cost
Common Stock Equity	$263,963,386	49.97%	9.70%	4.85%
Preferred Stock	$1,959,500	0.37%	4.96%	0.02%
Long Term Debt	$178,411,618	33.78%	7.78%	2.63%
Short Term Debt	$83,871,924	15.88%	5.34%	0.85%
	$528,206,428	100.00%		8.34%

Weighted Average Cost of Capital: 8.34%

Pre-Tax Interest Coverage

	Weighted Cost	Pre-tax Weighted Cost	Tax Factor:
Common Stock Equity	4.85%	7.85%	1.62
Preferred Stock	0.02%	0.03%	
Long Term Debt	2.63%	2.63%	
Short Term Debt	0.85%	0.85%	
Total	8.34%	11.36%	

Pre-tax weighted cost: 11.36%
Cost of Debt: 3.48%

Pre-Tax Interest Coverage (Long term and Short term debt): 3.27 times
Pre-Tax Interest Coverage (Long term debt only): 4.32

Pre-Tax Interest Coverage calculated as follows: After-tax costs of common equity and preferred stock were grossed up by the tax rate to arrive at pre-tax weighted costs. Total pre-tax weighted cost of capital was then divided by cost of long and short term debt to calculate number of times total pre-tax return covered debt expense.

Source: Schedules MB-2, MB-4-6, MB-10.